20th Biennial Congress: Cambridge, UK, Thurs 8th - Sat 10th September

Abstract Book

We are pleased to welcome over 320 delegates from across the world to the 20th Congress of the European Psychiatric Association Section of Epidemiology & Social Psychiatry.

Over our 2.5-day programme, delegates will contribute almost 300 presentations at our Congress, from internationally-renowned plenaries through to the latest research presented as part of themed symposia, parallel oral sessions, our Early Career Researcher Rapid-Fire talks or lunchtime posters.

The complete Abstracts, including Lay Summaries, can be found overleaf, organised by Session ID and Presentation ID. **Use the navigation buttons at the top of each page to move easily around the document.**

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PLENARIES

PL1   A strategy of preventive psychiatry: lessons from the pandemic, 'p' and Geoffrey Rose

Peter B Jones[1]
[1] University of Cambridge, UK
Concert Hall, 09:00 – 10:00, Thurs 8 Sep

Psychiatric epidemiology relies on a diagnostic model in crisis: categories have uncertain boundaries and common causes; they are unstable with unpredictable outcomes. An inexorably increasing proportion of the globe is classified as suffering from a mental disorder, accelerating during the Covid-19 pandemic. The whole approach ignores the measurable components of diagnoses distributed throughout the population that, as Geoffrey Rose crystalised thirty years ago, are crucial determinants of both health and the number of people who are ill or disabled. This lecture sees the effects of the pandemic as leading to a largely temporary right-shift in the population distribution of distress, measurable quite simply through the construct of 'p', with rarer items of psychopathology indexing the more severe tail and characterising the dynamic states we call diagnoses. The key to prevention lies in shifting the entire population distribution to the left, alongside other public health and clinical approaches that focus on the most severe end. A number of experiments will be reviewed, but the success of such a strategy will involve a concerted effort beyond the mental health sciences.

PL2   Digital interventions in psychiatry: the road towards personalized care for everyone?

Inez Myin-Germeys[1]
[1] KU Leuven, Belgium
Concert Hall, 13:30 – 14:30, Thurs 8 Sep

Within psychiatry and clinical psychology, service-users are often treated as passive consumers of care. However, this is not leading to good treatment engagement nor efficient care. In my talk, I will discuss how the use of digital technology can aid in personalizing care in the mental health field, putting the individual at the heart of their treatment. I will discuss how digital health technology can aid in developing a much more fine-grained understanding of how psychopathology emerges in the realm of ordinary life. Furthermore, I will discuss how this could be implemented in routine mental health care and how digital interventions may be used to extend psychological interventions to real life. Finally, I will discuss the potential of digital health care to provide care to a wider range of people, thus impacting public mental health.

PL3   Ounces of prevention: Public health approaches to reducing the burden of adolescent mental illness

Ian Colman[1]
[1] University of Ottawa, Canada
Concert Hall, 09:00 – 10:00, Fri 9 Sep

This talk will describe the evidence supporting public health approaches to reducing the burden of mental illness among young people. Evidence will be presented from several studies in Canada, the U.K., Norway, and Australia. Potential targets for intervention that will be presented include diet, parenting practices, physical activity, sleep, social media use, and neighbourhood social cohesion. Additionally, specific populations such as gender and sexual minorities, and those impacted by self-harm or a suicide in their community, will be discussed.

PL4   Social Justice and Mental Health Equity

Michael Marmot[1]

[1] UCL, UK

Concert Hall, 13:30 – 14:30, Fri 9 Sep

Taking action to reduce health inequalities is a matter of social justice. In developing strategies for tackling mental health inequalities we need to confront the social gradient in health not just the difference between the worst off and everybody else. There is clear evidence when we look across countries that national policies make a difference and that much can be done in cities, towns and local areas. But policies and interventions must not be confined to the health care system; they need to address the conditions in which people are born, grow, live, work and age. The evidence shows that economic circumstances are important but are not the only drivers of mental health inequalities. Tackling the health gap will take action, based on sound evidence, across the whole of society.

PL5   Tackling Trauma: adverse childhood experiences and suicidal behaviours

Ann John[1]

[1] Swansea University, UK

Concert Hall, 11:30 – 12:30, Sat 10 Sep

In the decade prior to the pandemic we saw increases in suicide in young people and in self-harm, particularly in older adolescent females. One of the strongest risk factors for self-harm and suicidal behaviours is experiencing adversity early in life. Adverse childhood experiences range from physical, sexual and emotional abuse, neglect, and bullying to witnessing domestic violence, parental criminality and substance use, parental separation or divorce and parent serious mental health problems or suicide attempt. Many would also add poverty. ACES rarely occur in isolation although the majority of people experience at least one type of ACE. Early studies indicated that for each additional ACE the risk of a history of suicide attempt increased by at least 50%.

Understanding the pathways that link ACEs to an increased risk of suicidal behaviours could improve suicide and self-harm prevention and management. However, the underlying psychological and biological mechanisms remain unclear. I'll discuss the latest evidence and challenges in research, practice and policy in relation to ACEs and suicidal behaviour. A timely focus as nations in the UK develop their new National Suicide Prevention Strategies.

EARLY CAREER RESEARCHER KEYNOTES

ECR1   Exploring the association between mental disorders and mortality using population-based registers from Denmark

Oleguer Plana-Ripoll[1]

[1] Aarhus University, Denmark
Concert Hall, 08:00 – 08:30, Fri 9 Sep

Individuals diagnosed with mental disorders have an increased risk of premature mortality. The focus of this talk is to present a summary of key findings based on administrative and healthcare registers from approximately 8 million people living in Denmark between 1995 and 2018. Besides estimates linked to mortality rates and life expectancy for different types of mental disorders, the contribution of comorbid psychiatric and somatic conditions will be explored. Additionally, preliminary results looking into the lifespan variation (i.e., the variability of age at death and not just the average) will be discussed. These findings can provide new insights into the most important causes of death that contribute to a shorter and more unequal average life expectancy for people with mental disorders. Interactive data visualization websites with the main findings will be presented during the talk to allow the audience to explore the results in more detail.

ECR2   Genetics and causal inference in psychiatric epidemiology

Jean-Baptiste Pingault[1]

[1] UCL, UK
Concert Hall, 08:30 – 09:00, Fri 9 Sep

Research in epidemiology and social psychiatry aims to discover risk factors for the development of mental illness. In that context, genetics is a challenge as epidemiological associations can be confounded by genetic influences shared by risk factors and outcomes, i.e. genetic confounding. However, genetics can also be part of the solution as genetically informed designs can strengthen causal inference to help uncover (environmental) risk factors for diseases. I will present studies using a range of these genetically informed causal inference designs, from family-based designs to designs based on molecular genetic data. In addition, I will present recent findings in intergenerational psychiatry aiming to understand how much of the transmission of psychiatric risk across generations is due to genetic transmission or environmental transmission. Finally, given the focus of the conference on equity, I will conclude on whether and how genetic research has anything potentially meaningful to say about equity.

ECR3   Violent experiences and neighbourhoods during adolescence: understanding and mitigating the impact on later mental health

Rachel Latham[1]; Louise Arseneault[1]; Bianca Alexandrescu[2]; Saffron Baldoza[2]; Alysha Carter[2]; Terrie Moffitt[3]; Joanne Newbury[4]; Helen Fisher[1]

[1] King's College London, UK; [2] Independent peer researcher, UK; [3] Duke University, United States; [4] University of Bristol, UK
Concert Hall, 10:30 – 10:45, Sat 10 Sep

Lay Summary: We investigated (i) how experiencing physical violence and living in a violent neighbourhood during adolescence combine to impact the development of mental health problems and (ii) factors that might help protect against poor mental health. Adolescents who experienced physical violence and lived in a violent neighbourhood had the highest risk of problems like anxiety and depression. Supportive relationships helped them to maintain better mental health. Adolescents who experience physical violence and live in violent neighbourhoods may benefit from help such as increasing their support network.

Background: Violence occurs at different as well as multiple ecological levels and can harm mental health. At the inter-personal level, violence may be experienced personally (e.g., physical victimisation) and at the community level, individuals may live in neighbourhoods where there is violence. However, studies of the impact of adolescents' experience of violence have often ignored the community context of violence, and vice versa. Collaborating with peer researchers with lived experience of violence and mental health problems, we examined how personal experience of severe physical violence and living in areas with high levels of neighbourhood disorder (i.e., physical and social signs of violence, threat, and danger) during adolescence combine to affect mental health at the transition to adulthood and which factors might mitigate this.

Methods: Data were from the Environmental Risk (E-Risk) Longitudinal Twin Study, a nationally representative birth cohort of 2,232 British twins. Participants' experience of severe physical violence during adolescence and past-year symptoms of psychiatric disorders (including any internalising, externalising, and thought disorder) were assessed via interviews at age 18. Neighbourhood disorder was reported by residents when participants were aged 13-14. Potential protective factors of maternal warmth, sibling warmth, IQ, and family socio-economic status were assessed during childhood, and perceived social support at age 18. The views of young people (aged 18-25) with lived experience of mental health problems were embedded throughout this research project. Focus group discussions informed the potential protective factors we focused on and we recruited and trained 4 peer researchers to partner with the academic researchers to help interpret and co-author the study findings.

Results: Personal experience of severe physical violence during adolescence elevated the risk of age-18 psychiatric disorder regardless of neighbourhood disorder exposure. Cumulative effects of exposure to both were evident for internalising and thought disorders, but not externalising disorders. For adolescents exposed to severe physical violence only, higher levels of perceived social support (including from family and friends) lowered the odds of psychiatric disorder. For those who also lived in areas with high neighbourhood disorder, only family support mitigated their risk.

Conclusion: Findings reaffirm the need for early intervention to support adolescents who experience violence and highlights the vulnerability of those whose personal experience takes place in the context of community level violence. Increasing support or boosting adolescents' perceptions of their existing support network may be effective in promoting mental health following violence exposure.

ECR4   Multilevel interactions between family and neighbourhood socioeconomic indices in childhood and later risks of self-harm and violent criminality

<u>Linda Ejlskov</u>[2]; Sussie Antonsen[2]; Jesper Wulff[3]; Esben Agerbo[2]; Oleguer Plana-Ripoll[1]; Clive Sabel[3]; Chun Chieh Fan[4]; Wesley Thompson[4]; Pearl Mok[5]; Carsten Bøcker Pedersen[2]; Roger Webb[5]

[1] Aarhus University Hospital, Denmark; [2] National Centre for Register- based Research, Aarhus University, Denmark; [3] Aarhus University, Denmark; [4] University of California San Diego, United States; [5] The University of Manchester, UK

Concert Hall, 10:45 – 11:00, Sat 10 Sep

Lay Summary: We compared risks of either self-harming or committing violent crimes among deprived young people raised in deprived areas versus similarly deprived young people raised in affluent areas. We found that growing up in affluent neighbourhoods seems to partially protect deprived young residents against risks of self-harm and committing violent crimes. Our results provide important new insight relevant for development of area-based and mixed-community policies, indicating that interventions aimed at improving neighbourhood characteristics may reduce self-harm and violent crime risks.

Background: Self-harm and interpersonal violence are among the leading causes of death among young adults. These two harmful behaviours are strongly socially patterned, with increasing incidence among people of lower socioeconomic position. This arises partly because individuals who grow up in deprived families have greatly raised prevalence across a range of risk factors for these outcomes. Enhanced knowledge of contextual factors that may lessen the adverse effects of growing up in poverty is therefore of considerable importance.

This study aimed to compare risks of self-harm or violent criminality among deprived young people who grew up in deprived areas compared to similarly deprived people raised in affluent areas.

Methods: Utilising interlinked national registers, we delineated a longitudinal cohort of 1,084,047 persons born in Denmark between January 1, 1981, through December 31, 2001. From their 15th birthday onwards, cohort members were followed up for a hospital-treated self-harm episode or violent crime conviction, respectively, or emigration, death, or end of follow-up on 31st December 2016, whichever came first. Using gender-specific Bayesian multilevel survival analyses, we examined moderating influences of neighbourhood affluence on associations between family socioeconomic position and risks for the two adverse outcomes examined. An affluent neighbourhood indicator was derived based on nationwide income quartiles, with parental income and educational attainment indicating the socioeconomic position of each cohort member's family.

Results: Across 1885 neighbourhoods of varying affluence profiles, the study cohort contributed 10.7 million person-years at risk in aggregate. During follow-up, 28,393 cohort members received a violent crime conviction (87.3% males), and 25,485 (40.0% males) had a hospital-treated self-harm episode. After adjusting for potential confounding influences, there was a marked social gradient in the incidence of self-harm and violent criminality. Cohort members with equivalent family socioeconomic position levels had lower incidence rates of self-harm and violent criminality according to higher levels of affluence in their residential neighbourhood. We observed larger absolute reductions in self-harm risk for deprived females (on average 147 vs. 210 episodes per 10,000 person-years) and larger absolute reductions of violent criminality risk for deprived males (220 vs 270 convictions per 10,000 person-years).

Conclusion: Even in a prosperous western European country like Denmark, with relatively high expenditure on social welfare and relatively low levels of poverty and inequality, growing up in an affluent neighbourhood seems to partially protect deprived young residents against risks of self-harm and violent criminality on reaching adolescence and young adulthood.

ECR5   The hidden burden of eating disorders: implications for preventative interventions

<u>**Francesca Solmi**</u>[1]

[1] UCL, UK

Concert Hall, 11:00 – 11:30, Sat 10 Sep

The incidence of eating disorders has increased over the past 20 years; since the start of the Covid-19 pandemic services have faced enormous pressures to tackle large increases in eating disorder referrals particularly among young people. Nevertheless, eating disorders remain underfunded, understudied, and poorly understood. In this talk, I will present findings from a range of studies using both large general population datasets and electronic health records to attempt to shine a light on the substantial burden of disease associated with eating disorders and potential reasons behind the increase in their incidence. In particular, I will focus on the often overlooked link between eating disorders, obesity, and weight stigma and what this means for the development of future preventative public health interventions.

SYMPOSIA

S01 The clinical high risk paradigm for psychosis – time for a new approach to prevention

Thurs 8 Sep, 10:30 – 12:00
Concert Hall
Chair & Discussant: David Cotter, Royal College of Surgeons in Ireland, Ireland

Abstract: The clinical high risk paradigm of psychosis was transformative and identified that among people who met the criteria for CHR, up to 40% would transition to psychotic disorder. However, as discussed by in this symposium by Sinan Guloksuz there are questions concerning the validity of the paradigm and possibilities that we could do more to identify and treat subjects that ultimately present with psychotic disorder. Is the focus on PEs as a risk factor for later psychotic disorder distracting us from other clinical presentations that may perhaps allow us to identify more subjects who will later develop psychotic disorder and to do so in a more efficient manner? Is our focus on prediction from the CHR obscuring our focus on the very nature of the CHR itself?

One of the first clues that this may be the case came from Ajnakina and colleagues (2018), presented by Robin Murray, who observed that only 4% of presentations with FEP has passed through this ARMS service. Thus, even though the CHR model is effective at identifying some subjects at risk of psychotic disorder, it is inefficient. David Mongan, symposium presenter, studied subjects in the Avon Longitudinal Study of Parents and Children who reported ideas of self harm at age 18 and observed highly significant increases in risk for psychotic disorder among these subjects at age 24 and further observed that over 40% of those who developed psychotic disorder has reported ideas of self harm at age 18. These rates of transition to psychotic disorder are greater than those now seen among most current CHR populations (Fusar Poli).

So, in order to identify and treat the greatest proportion of those who ultimately present with psychotic disorder our focus may need to broaden to include the screening not just of PEs, but of suicidal ideation, attendance at CAMHS services and other potential high risk groups. What this will mean to our understanding of the biological, neuropsychological, and psychopathological underpinnings of the CHR remains to be seen. This potential broadening of our understanding of the CHR offers opportunities including improved primary prevention as will be discussed by Mary Cannon.

S01.01   Early identification and enhancing protective factors are the key to prevention

Mary Cannon[1]; Colm Healy[1]

[1] Royal College of Surgeons in Ireland, Ireland

Lay Summary: We Investigated protective factors for mental health in youth with a particular emphasis on psychotic experiences. These data show that fostering self-esteem, improving parent-child relationships, promoting secure attachment relationships with trusted others and reducing bullying all play a part in improving outcomes for young people at-risk of mental disorder. These findings will help us to design the most effective interventions relevant to public mental health

Background: Prevention is the new frontier for psychiatry. We cannot continue to ignore the example set by other medical fields, such as cardiology, and oncology and their outstanding achievement in reducing the toll of cancer and heart disease in the population. The dividends of prevention are potentially much greater for mental health than for physical health because mental illness has its onset in youth and the "knock-on" effects on social, health and justice systems are substantial. The field of psychiatry should now shift its focus to a public mental health approach and face up to the "grand challenge" of prevention for the sake of our youth and future generations In order to initiate preventive measures we must know more about the risk and protective factors for mental illness in young people. Using data from Irish population-based studies,

Methods: I will present our recent findings on protective factors for mental health in youth with a particular emphasis on psychotic experiences. These findings give a blueprint to how to approach prevention.

Results: These data will show that fostering self-esteem, improving parent-child relationships, promoting secure attachment relationships with trusted others and reducing bullying will all play a part in improving outcomes for young people at-risk of mental disorder.

Conclusion: I will discuss how we can build on this work to intervene in those showing early signs of psychopathology.

S01.02   Psychosis: Moving on from Selective to Universal Prevention

Robin Murray[1]; Olesya Ajnakina[1]; Anthony David[2];

[1] Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK; [2] UCL, UK

Lay Summary: We investigated the presentations to a South London with first episode psychosis that had earlier presented with the CHR state to our local South London designated prodromal clinic. We found that only 4% of all people with first episode psychosis had earlier presented with the CHR state to our designated prodromal clinic. Clearly there is no possibility that focussing interventions on such a small group will be of public health value. A more appropriate approach is to attempt to decrease exposure to well established environmental risk factors for psychosis. The best replicated risk factor is cannabis use.

Background: In recent years, much effort has been put into the prevention of psychosis by setting up clinics for those presenting with the so-called "clinical high risk" (CHR) mental state. However, there is no definitive evidence that intervention at this late point actually prevents the onset of psychosis.

Methods: We investigated the presentations to a South London with first episode psychosis that had earlier presented with the CHR state to our local South London designated prodromal clinic

Results: We found that only 4% of all people with first episode psychosis had earlier presented with the CHR state to our designated prodromal clinic.

Conclusion: Clearly there is no possibility that focussing interventions on such a small group will be of public health value. A more appropriate approach is to attempt to decrease exposure to well established environmental risk factors for psychosis. The best replicated risk factor is cannabis use. Our work shows that geographic variation in the prevalence of use of high potency cannabis is associated with variation in the incidence of psychosis. Our Trans-European study of 16 sites demonstrated that daily use of high potency cannabis had a significant impact on the incidence of psychosis; the greatest effects were in the cities where high potency cannabis was most available, Amsterdam and London, where 50% and 32% respectively of first episode cases of psychosis could be attributed to daily use of high potency cannabis. Data from South London showed that the incidence of schizophrenia, defined according to RDC criteria, has trebled since 1965, and was paralleled by increase in cannabis use and potency. Other evidence that increased use of cannabis follows decrease in legal penalties for cannabis use. In this way an increase in new cases of psychosis has been shown from Portugal, Denmark, Canada, and US states such as Colorado The evidence that regular use of high potency cannabis is a component cause of psychosis is now sufficient for public health messages outlining the risk in a similar way to public health campaigns regarding the risks of tobacco.

S01.03   Thoughts of self-harm in late adolescence as a risk indicator for mental disorders in early adulthood: evidence from the ALSPAC study

David Mongan[1]; David Cotter[2]

[1] Queens University Belfast, UK; [2] Royal College of Surgeons in Ireland, Ireland

Lay Summary: In this study we investigated whether reporting thoughts of self-harm in late adolescence was associated with psychotic disorder, depressive disorder or generalised anxiety disorder in early adulthood. There was strong evidence for prospective associations between thoughts of self-harm at age 17 years and psychotic disorder at age 24. Individuals reporting thoughts of self-harm in late adolescence represent a subgroup at enhanced risk of mental disorders, particularly psychotic disorder, in early adulthood.

Background: Early intervention for mental disorders is associated with improved outcomes. Identification of high-risk subgroups enables targeting of preventative interventions. Previous evidence suggests presentation to hospital with self-harm may be a risk indicator for mental disorders in later life.

Methods; In this study we investigated whether reporting thoughts of self-harm in late adolescence was associated with psychotic disorder, depressive disorder or generalised anxiety disorder in early adulthood. The study sample was drawn from the Avon Longitudinal Study of Parents and Children, a UK-based cohort study. Logistic regression was used to evaluate prospective associations between thoughts of self-harm at age 17 and mental disorders at age 24.

Results: There was strong evidence for prospective associations between thoughts of self-harm at age 17 years and psychotic disorder (odds ratio [OR] 7.15; 95% confidence interval [CI] 2.80 – 18.27), depressive disorder (OR: 2.19; 95% CI: 2.12 – 4.78) and generalised anxiety disorder (OR: 3.64; 95% CI: 2.57 – 5.17) at age 24 years.

Conclusion: Individuals reporting thoughts of self-harm in late adolescence represent a subgroup at enhanced risk of mental disorders, particularly psychotic disorder, in early adulthood.

S01.04   A critique of the 'ultra-high Risk' and 'transition' paradigm

Sinan Guloksuz[1]

[1] Maastricht University, Netherlands

Lay Summary: We tested whether the current clinically-oriented early intervention and prevention strategies for psychosis were effective in reducing psychosis at the population level. We found that although identifying high-risk individuals and subsequently treating them appears to offer a large benefit per individual, the impact of this high-risk prevention strategy is considerably lower for preventing psychosis in the population. Our findings show that a public health oriented universal early intervention and prevention program aimed at improving access to psychiatric care for everyone may be a better strategy.

Background: The root problem of the ultra-high risk (UHR) early invention strategy is the exertion of reducing early nonspecific (pluripotent) psychopathology to a unidimensional model restricted only to positive psychotic symptoms, which define the binary categories of UHR and "transition" in help-seeking populations. This major conceptual handicap undermines the validity and clinical utility. The core predictor of the "transition" rate is the degree of the risk-enrichment and not the UHR status. Even with a significant pretest risk enrichment, the prognostic accuracy is mediocre. There is need for research in unbiased general population cohorts to estimate the potential benefit of UHR-oriented early intervention and prevention strategies at the population level.

Methods: We tested the UHR and "transition" framework in the general population cohorts by estimating the population attributable fraction (PAF) of psychosis incidence for the preceding psychosis risk strata and non-psychotic mental disorders. PAF represents the proportion of outcome (e.g. psychosis) that would have been prevented, had the risk factor (e.g. UHR) been eliminated.

Results: In the Netherlands Mental Health Survey and Incidence Study-2 (NEMESIS-2), we previously showed that 85.5% of the psychosis incidence was attributed to preceding psychopathology, with mood disorders (PAF=66.2), psychosis high-risk state (PAF=36.9), and drug use disorders (PAF=18.7) as the most important factors in the general population. The stratified analysis conducted only in the subpopulation of the psychosis high-risk state showed that 87.3% of psychosis incidence in the UHR group could have been avoided, had the UHR been theoretically prevented in those representing UHR. By using the same definitions and analytical strategies, we recently replicated these findings in a representative population sample of adolescents and young adults, aged 14–24, from the general population collected in Germany.

Conclusion: These findings provide evidence for the "prevention paradox". The "prevention paradox" explains why an individual-based prevention approach that aims to identify high-risk individuals and subsequently provide these individuals with an intervention to prevent the outcome may offer a large benefit per individual. However, given the low prevalence of high-risk states in the population, the impact of this high-risk prevention strategy would be considerably lower in reducing the incidence and the disease burden, compared with a population-based strategy that targets the population as a whole. Guided by the public health approach, a universal early intervention framework, aimed at improving access to care, may be a better strategy. In this respect, the overarching multidimensional trans-syndromal psychopathology and functioning are clinically more relevant and service-user-centered measures to calculate risk and predict outcome trajectories than categorical UHR-transition definitions.

S02   Multimorbidities and mental health: How are excluded and marginalised communities impacted?

Thurs 8 Sep, 10:30 – 12:00
Lecture Room 1
Chair: <u>Jayati Das-Munshi</u>, King's College London, UK. **Discussant:** <u>Matthew Hotopf</u>, King's College London, UK

Abstract: Multimorbidity, defined as two or more longterm conditions, are known to exist on a social gradient: people living in deprived areas experience an onset of multimorbidities 10-15 years earlier than people living in the most affluent areas, particularly for mental and physical health multimorbidity. However, research examining inequalities in multimorbidity with respect to mental health remains under-developed, particularly for socially excluded or marginalised and racialised communities. It is important to address this gap to better design effective and integrated health services for all.

S02.01   Inequalities in multimorbidity for people who have experienced homelessness: Analysis of the Adult Psychiatric Morbidity Surveys

Natasha Chilman[1]; Peter Schofield[1]; Sally McManus[2]; Jayati Das-Munshi[1]

[1] King's College London, UK; [2] NatCen, UK

Lay Summary: We analysed data from a nationally representative household survey in England. We found that people who had experienced homelessness had substantially higher odds of multimorbidity (multiple mental/physical conditions) and tri-morbidity (multiple mental/physical/substance use problems), after accounting for age and sex. This highlights the severe inequalities in multimorbidity for this socially excluded group.

Background: It is well established that people who experience homelessness also experience severe health inequities, and this is a growing public health concern worldwide. In this study, we utilise data from two waves of a nationally representative survey in England to determine the prevalence of mental, physical, and substance use problem multimorbidities in individuals who have experienced homelessness, compared to people who have not experienced homelessness.

Methods: Cross-sectional data from the Adult Psychiatric Morbidity Surveys from 2007 and 2014 with a nationally representative random sample of individuals living in private households was used for the analysis. Participants were asked if they had experienced homelessness. Common mental disorders were assessed by a structured validated scale (the CIS-R). The presence of 21 physical health conditions – including conditions such as asthma, diabetes, and epilepsy - were self-reported by participants. Alcohol problems were ascertained through a structured validated scale (the AUDIT), and participants were asked questions on substance dependency based on the Diagnostic Interview Schedule. Age and sex adjusted logistic regression models were applied to compare multimorbidities for participants who had experienced homelessness to those who did not report homelessness.

Results: Within the total sample (n=14,949), 599 participants reported experiencing homelessness at some point in their life (prevalence=3.7%; 95% CI: 3.4-4.0). Survey-weighted descriptive assessments indicated that people with an experience of homelessness had a higher prevalence of common mental disorders (45.4%; 95% CI: 41.1-49.7, n=295) compared to people who had not experienced homelessness (15.4%; 95% CI: 14.7-16.2, n=2,319). The majority of formerly homeless participants reported two or more physical health conditions (67.5%; 95% CI: 62.8-71.9, n=423). In age and sex adjusted models, participants who reported experiencing homelessness had over 4 times the odds of both a common mental disorder and physical health condition(s), compared to people who did not experience homelessness (aOR: 4.11; 95% CI: 3.39-4.98). Participants with experience of homelessness also had a higher odds of experiencing tri-morbidity (at least one common mental disorder, at least one physical health condition, and at least one substance use problem) relative to the rest of the sample (aOR: 4.14; 95% CI: 3.17-5.40).

Conclusion: Inequalities in multimorbidity for people who had experienced homelessness were evident in this study, highlighting the severe health inequities in this area and the need for co-ordinated and integrated healthcare support for this socially excluded group

S02.02   Ethnic differences in physical and mental multimorbidity in working age adults with a history of common mental health disorders

Amy Ronaldson[1]; Jorge Arias de la Torre[1]; Matthew Broadbent[2]; Mark Ashworth[1] David Armstrong[1]; Ioannis Bakolis[1]; Stephani Hatch[1]; Matthew Hotopf[1]; Alex Dregan[1]

[1] Kings College London, UK; [2] NIHR Maudsley Biomedical Research Centre, UK

Lay Summary: In this study we examined ethnic differences in physical and mental multimorbidity among adults with a history of depression and/or anxiety in a South London borough. We report both ethnic differences in rates of multimorbidity and ethnic differences in the ways in which physical and mental conditions cluster together. We need to develop our understanding of pathways to multimorbidity within specific ethnic groups so that health inequalities can be tackled.

Background: The current study used data from an ethnically diverse population from South London to examine ethnic differences in physical and mental multimorbidity among working age adults in the context of depression and anxiety.

Methods: The study included 44,506 patients who had previously attended Improving Access to Psychological Therapies (IAPT) services in the London Borough of Lambeth. Multinomial logistic regression examined cross-sectional associations between ethnicity with physical and mental multimorbidity. Patterns of multimorbidity were identified using hierarchical cluster analysis.

Results: Within 44,056 working age adults with a history of depression or anxiety from South London there were notable ethnic differences in multimorbidity. Adults of Black Caribbean ethnicity had a higher risk of physical multimorbidity (adjusted relative risk ratio (aRRR)=1.25; 95% confidence interval (CI)=1.15-1.36) compared to adults of White ethnicity. The opposite association was observed for adults of Black African ethnicity (aRRR=0.82; 95% CI: 0.72-0.94). Relative to adults of White ethnicity, adults of Asian ethnicity had a higher risk of physical multimorbidity at higher thresholds only (e.g., 4+ conditions; aRRR=1.53; 95% CI: 1.17-2.00). Three physical (atopic, cardiometabolic, mixed) and three mental (alcohol/substance use, common/severe mental illnesses, personality disorder) multimorbidity clusters emerged. Ethnic minority groups with multimorbidity had a higher probability of belonging to the cardiometabolic cluster.

Conclusion: In an ethnically diverse population with a history of common mental health disorders, we found substantial between- and within-ethnicity variation in rates of physical and mental multimorbidity. The findings emphasised the value of more granular definition of ethnicity when examining the burden of physical and mental multimorbidity.

S02.03   Living 'less safely' in the pandemic for racialised minorities with serious mental and physical health conditions

Josephine Ocloo[1]; Ruth Stuart[1]; Hannah Dasch[1]; Jayati Das-Munshi[1]; Leroy McAnuff[1]; Dina Choudhury[1]; Sandra Jayacodi[1]

[1] King's College London, UK

Lay Summary: We carried out research with racialised groups in partnership with lived experience researchers and 3 hospital Trusts in South London, Manchester, and Birmingham & Solihull to understand the reasons underlying ethnic inequalities in mortality and service use during the Covid-19 pandemic. Our findings suggest that those most affected by health inequalities before the pandemic were impacted even further as a result of it. Strong targeted health and care support is now needed to ensure the health of these groups does not deteriorate even more and is not exacerbated by unsafe and discriminatory service provision. Key to addressing these problems will be targeted and co-produced interventions with these groups to improve their health and the services supporting them.

Background: Racialised minority ethnic groups within the UK mental healthcare system experience stark inequalities, including less access to evidence-based treatments and higher rates of detention. Life expectancy in people with mental disorders is 15-20 years lower than the general population, mostly due to preventable long-term physical health conditions, also noted in minority ethnic groups. The COVID-19 pandemic has magnified inequalities, not fully accounted by COVID-19 infection, with minority ethnic groups with mental disorders disproportionately affected.

Methods: 32 qualitative interviews were conducted in partnership with lived experience researchers to understand the reasons underlying ethnic inequalities in mortality and service use during the Covid-19 pandemic and to understand access and barriers to care and discrimination within health services for service users and carers from Black African, Black Caribbean, Indian, Pakistani, and Bangladeshi descent. We also interviewed 2 community groups for their perspectives. A participatory action research approach was used in conjunction with the qualitative interviews. This method is particularly relevant to co-producing research with patients, publics, and communities. The research was done in collaboration with 3 NHS hospital Trusts (South London, Manchester, and Birmingham & Solihull), developing and piloting the Patient and Carer Race Equality Framework (PCREF) prior to its national roll out through NHS-England and Improvement to tackle race inequalities in mental health.

Results: Key findings showed more than two thirds of participants were negatively impacted with their mental health during the pandemic. Many participants reported that their much needed health and care services were seriously disrupted or unavailable. A number struggled to manage their care properly using online and phone services. Half of the participants saw these disruptions as leading to care that was unsafe for them. More generally, many participants felt that they had received poorer care in the pandemic and in the past, because of their race and ethnicity, whilst never being invited to address race equality or improve health services, despite being very willing to do so.

Conclusion: These findings suggest that those who were most affected by health inequalities before the pandemic were

disproportionately impacted even further as a result of it. Strong targeted health and care support is now needed to ensure the health of these groups does not deteriorate even further, and is not exacerbated by unsafe and discriminatory service provision. Key to addressing these problems will be targeted and co-produced interventions with these groups to improve their health and the services supporting them. This is important as public involvement in mental health has long been criticised for its lack of inclusion of racialised groups and communities.

S02.04   What can primary care data tell us about the mental health of ethnic minority communities with physical Long Term Conditions?

Mark Ashworth[1]; Jamie Scuffell[1]; Peter Schofield[1]

[1] King's College London, UK

Lay Summary: We explored anonymised primary care data to look at rates of both common mental illness and serious mental illness, comparing those with and without a physical long-term condition. We found lower reported rates than expected for patients with physical long-term conditions, although rates differed between different ethnic minority groups. The importance of these findings is that mental health conditions appear to be under-counted in primary care in ethnic minority patients with physical long-term conditions, and if under-counted are likely to be under-recognised and under-treated.

Background: We used data from Lambeth DataNet, a source of anonymised primary care data from all GP practices in the south London borough of Lambeth. Sample: n=826,936 adults (age ≥18 years) registered at 41 GP practices since 2005. Ethnicity: White: 67.1%; Black African: 9.2%; Black Caribbean 5.4%; Asian: 7.5%; South American: 4.0%; Somali: 0.6%.

Methods: We explored prevalence rates for three coded mental health conditions: anxiety, depression, serious mental illness (SMI: schizophrenia and bipolar disorder), categorised by ethnicity. Using Cox regression modelling, we adjusted for age, gender, social deprivation and non-English language preference, using Hazard Ratios to compare rates with the White ethnicity population in those with and without physical Long-Term Conditions (LTCs).

Results: The raw population prevalence for anxiety, depression, serious mental illness (SMI) was 14%, 11% and 1.4%, respectively. For those without physical LTCs, hazard ratios for Black Africans: 0.63, 0.63 and 2.05, respectively; Black Caribbeans: 0.76, 0.88 and 2.89, respectively; Asian ethnicity group: 0.78, 0.80 and 1.53, respectively; South American group: 0.66, 0.65 and 0.83, respectively; Somali group: 1.50, 1.35 and 4.00, respectively. For patients with physical LTCs, hazard ratios for Black Africans: 0.70, 0.65 and 1.59, respectively; Black Caribbeans: 0.64, 0.68 and 1.25, respectively; Asian ethnicity group 0.86, 0.83 and 1.24, respectively; South American group: 0.92, 0.89 and 0.71, respectively; Somali group: 1.12, 0.81 and 2.34, respectively.

Conclusion: Reported anxiety, depression and SMI rates were mostly lower in ethnic minority patients with physical LTCs. This finding applied whether or not patients had physical LTC co-morbidity. SMI rates followed a different pattern in Black ethnicity groups: they were x2 as high in Black Africans, x3 as high in Black Africans and x4 as high in the Somali population. In those with physical LTC co-morbidity, SMI rates were higher than in the White ethnicity population, but not to such a degree as those without LTC co-morbidity. We interpret these findings as evidence of under-reporting of mental health conditions in ethnic minority groups with physical LTCs. Although SMI rates were higher in the non-White population, community studies suggest these reported prevalence rates are under-estimates of prevalence in Black ethnicity communities. We will present further data to support our report of relatively low SMI prevalence in the South American community both with and without co-morbid physical LTCs (a new finding) and relatively high SMI prevalence in the Somali community (the largest refugee community in Lambeth). The unique characteristics of these two communities underline the complex relationship between ethnicity, mental health and physical LTC comorbidity.

S03 Myths and truths about the impact of the COVID-19 pandemic on the mental health of different populations: a global mental health perspective

Thurs 8 Sep, 10:30 – 12:00
Lecture Room 2
Chair: Els van der Ven, Vrije Universiteit Amsterdam, Netherlands. **Discussant:** Cristian Montenegro, University of Exeter, UK

Abstract: Were there any changes in suicide rates due to the COVID-19 pandemic? Did the pandemic lead to higher rates of depression among primary health care workers? Were people with psychosis less likely to be vaccinated against COVID-19?

These are some of the questions that will be addressed in this symposium. Using a global mental health perspective, we will bring the audience on a journey of new research that examines the impact of the COVID-19 pandemic on mental health outcomes among different populations across various regions. In line with the conference theme, we will move beyond the data by discussing tools that promote equitable global mental health collaborations.

Research includes longitudinal survey and registry data from Chile, Puerto Rico, Brazil and Spain, and is presented by a Global South-dominated panel of researchers who are at different career stages. Specifically, the four presenters will focus on core questions around (1) variations in mental health outcomes across different phases of the pandemic; (2) impact of the COVID-19 pandemic on the mental health of highly exposed and vulnerable populations; (3) identification of factors driving elevated risk of adverse mental health outcomes.

S03.01 Changes in suicide trends after the initial COVID-19 pandemic outbreak in Spain

Gonzalo Martinez-Ales[1]

[1] Harvard T.H. Chan School of Public Health, United States

Lay Summary: 1. We examined if the observed number of monthly suicides in Spain during the months following the initial COVID-19 pandemic outbreak exceeded the predicted number based on the previous 10 years. 2. We found that suicides increased in Spain between April and September 2020, largely due to marked increases among older adults. 3. These results highlight the dramatic mental health toll that the initial pandemic outbreak may have had among older adults.

Background: The initial COVID-19 pandemic outbreak brought about substantial mental health impact in the general population. A generalized concern is that suicide risk may have increased during the months following the initial pandemic outbreak. Initial results from high-income countries are mixed, suggesting overall no changes in suicide trends with increases in selected countries, such as Japan. No studies have examined trends in Spain, one of the main global initial COVID-19 hotspots, and there is limited evidence on trends by specific sociodemographic markers of risk, such as age group.

Methods: We used 2010-2020 data on monthly suicide deaths from Spain´s National Institute of Statistics. Procedures were conducted in R. We first obtained descriptive plots representing monthly suicides overall and by age group (15-25y, 25-45y, 45-65y, and >65y). Next, we removed the seasonality component in trends using the local regression method (LOESS) for seasonality decomposition (SLT). Then, we implemented Seasonal Autoregressive Integrated Moving Average (SARIMA) models, specified based on observation of sationarity and seasonality as well as on the auto.arima procedure, using January 2010-March2020 data to predict monthly suicide deaths after March 2020. We finally plotted the predicted (95% confidence interval) monthly number of suicides, as well as the observed monthly number of suicides, between March and September 2020.

Results: Between April and September 2020, there was an overall excess of monthly suicide deaths in Spain – that peaked in August 2020 with 396 suicide deaths observed (vs. around 300 suicide deaths predicted). This excess was largely driven by an increase in suicide deaths among individuals aged >65y, with 155 suicides recorded in August (vs. 100 suicide deaths predicted). Evidence regarding increases in suicides in other adults age groups was unclear.

Conclusion: Suicides increased in Spain during the months following the initial COVID-19 pandemic outbreak in Spain. This was driven by increases in suicides among older adults. Potential explanations underlying this phenomenon remain elusive. Important factors to understand these findings may include fear of contagion and loss of spouses and family members in the context of the particularly high mortality rates of older adults during the initial phases of the pandemic in Spain.

S03.02   The impact of the COVID-19 pandemic and previous natural disasters on the mental health of healthcare workers in Puerto Rico

Els van der Ven[1]

[1] Vrije Universiteit Amsterdam, Netherlands

Lay Summary: We conducted an online survey to examine the impact of the COVID-19 pandemic and previous exposure to natural disasters on the mental health Healthcare Workers (HCWs) in Puerto Rico. We found that despite having high resilience, HCWs who reported coping difficulties due to previous disasters were more likely to develop depressive symptoms. These findings are important because they suggest that the current focus of mental health interventions (increasing resiliency) might not be appropriate for specific groups (such as HCWs) in contexts where multiple disasters have previously occurred, such as Puerto Rico.

Background: Re-imagining global mental health requires a discussion about specific examples on how to foster equitable collaborative research initiatives between people in and from the Global South and Global North. The COVID-19 health care workers (HEROES) Study is one such example. Our team's decolonial approach comprised of three underlying principles (epistemic justice, pragmatic solidarity, and sovereign acts), allowed us to engage in a research collaboration that centered those traditionally excluded from meaning- making activities (such as research). The inclusive team structure, the availability of material and human resources and the flexibility regarding data collection and availability for local teams, fostered the engagement of countries and team members who would not have otherwise participated. In this presentation, we will focus on one of these countries, Puerto Rico. Puerto Rico is an archipelago located in the Caribbean region that over the last decade has experienced multiple waves of natural and social disasters. The objective of this study was to assess the impact of COVID-19 pandemic worries (e.g., fear of contagion) and previous exposure to natural disasters (e.g., hurricanes and earthquakes) on Healthcare Workers (HCWs) mental health in Puerto Rico.

Methods: Cross-sectional design as part of the larger prospective HEROES study. Online survey with baseline data collected between June 23, 2020, to October 31, 2020. A socio-demographic questionnaire, Patient Health Questionnaire (PHQ-8) and the Brief Resilience Scale (BRS) were administered. Logistic regressions models were performed to explain the relationship between depressive symptomatology and COVID-19 experiences and worries.

Results: A total of 263 HCWs participated in the study. We found low to severe levels of depressive symptomatology (40.9% of the sample scored PHQ-8 ≥5) and normal to high psychological resilience (BRS; M=3.6, SD=0.7). Participants reported having experienced Hurricane María and the 2020 earthquake sequence made it more (62.0%, n=124) challenging to cope with emotions during the COVID-19 pandemic. The odds of having depressive symptomatology were almost five times higher (OR: 4.79; 95% CI: 1.71- 13.44) among those who reported emotional coping difficulties during the pandemic after experiencing a natural disaster compared to those that did not, when adjusting for psychological resilience and residence region.

Conclusion: Despite high psychological resilience levels, HCWs who reported emotional coping difficulties due to previous disasters had almost five times the odds of developing depressive symptomatology. Findings can inform future research and interventions in contexts where multiple disasters have co-occurred.

S03.03   Exposure to violence and depression among primary care workers during the COVID-19 pandemic in São Paulo, Brazil: a mixed-method study

Andréa Tenório Correia da Silva[1]

[1] University of São Paulo, Brazil

Lay Summary: We conducted a mixed-method study to investigate exposure to violence and depression among primary care workers during the COVID-19 pandemic in São Paulo, Brazil. Having two or more experiences of discrimination/violence/harassment increased the risk of presenting depression. Participants pointed out that violence against PCWs was a consequence of misinformation regarding the COVID-19 pandemic promoted by the Brazilian government. Why it's important: Actions to decrease violence against healthcare workers are among the domains that may be crucial to mitigating depression in PCWs. It is vital for governments and communities to dispel misinformation and in other ways ensure that PCWs are appreciated for their hazardous work rather than be a target of harassment.

Background: The COVID-19 outbreak has overstretched the Brazilian healthcare system, overwhelmed health care workers, and jeopardized their mental health. Brazil is among the epicenters of the COVID-19 pandemic, and within Brazil, Sao Paulo is itself a major epicenter in terms of both cases and deaths. Health care workers in general, and primary care workers (PCWs) in particular, have been largely neglected as reflected in limited government support and unfavorable workplace conditions. Furthermore, Brazil's government has been especially negligent during the pandemic, encouraging people to ignore physical distancing and mask wearing and promoting misinformation regarding the pandemic and vaccines. This disadvantageous context has led to increased discrimination and violence against healthcare workers during the COVID-19

in Brazil.

Methods: Using a random sample, we examined 6 pandemic-related factors among 828 PCWs: job type, insufficient personal protective equipment, experiences of discrimination/violence/harassment, isolation due to COVID-19, financial strain, family support. We used multivariate Poisson regression to estimated prevalence ratios (PR) of depression. We used the PHQ-9 (score 10 or higher) to assess depression. Moreover, we conducted a qualitative study (5 focus groups, n=56 participants) to better understand the relationship between exposure to violence and depression among PCWs during the COVI-19 pandemic.

Results: Prevalence of depression was 25% among participants. Adjusted PRs were significant for insufficient PPE (adjusted PR= 1.53; 95% CI:1.14, 2.04), experiences of discrimination/violence/harassment had two or more experiences of discrimination, violence, or harassment (adjusted PR 2.06; 95% CI: 1.53, 2.78), financial strain (adjusted PR 1.54; 95% CI: 1.22, 1.94), and not receiving family support (adjusted PR 2.48; 95% CI: 1.93, 3.21). In terms of qualitative results, participants indicated that exposure to violence was a consequence of misinformation regarding the COVID-19 pandemic promoted by the Brazilian government.

Conclusion: Depression in PCWs has serious consequences for health care during the pandemic. These findings indicate domains that may be crucial for mitigating depression in PCWs. It is vital for governments and communities to dispel misinformation and in other ways ensure that PCWs are appreciated for their hazardous work rather than targeted for harassment.

S03.04 Examining the relation between early psychosis and COVID-19 hospitalization and vaccination in Chile

Franco Mascayano[1]

[1] Columbia University, United States

Lay Summary: Several reports have noted that individuals with psychosis are at higher risk of suffering COVID-related outcomes (infections, hospitalizations), but report lower vaccination rates compared to the total population. Many of these studies, however, have not used representative samples. Also, we do not know if these results pertain to countries outside Europe and the US. We conducted a cohort, prospective study to examine the association between early psychosis and COVID hospitalization and vaccination. We used a large sample comprised of most individuals who were born in Chile since 1990 (with and without early psychosis). We found that individuals with FEP (especially women and older people) reported higher rates of COVID hospitalization compared to the total population. Although vaccination rates were higher among individuals without FEP compared to those with FEP, these differences were not salient, mostly because people with mental disorders were prioritized for vaccination in Chile.

Background: Individuals with psychosis might be at higher risk of being infected by SARS-CoV-2, have increased COVID-19–associated morbidity and mortality rates, and face individual and structural barriers to participation in vaccination programs. Most evidence on the relation between psychosis and COVID-19 comes from studies that have used health insurance registries, which might not be representative of the general population. Also, to our knowledge, no study to date has examined the association between early psychosis and COVID-19, and none has been done in the Global South. Here we report data from the national, first of its kind, Chilean Mental Health Registry (CMHR), which includes data from a first episode psychosis (FEP) registry and COVID-19 related registries.

Methods: Our goal was to examine the association between FEP and COVID-19 hospitalization and vaccination between 2020-present. The source population includes all individuals who were born since between 1990-2004 in Chile. Individuals with FEP were identified via the FEP registry. The comparison group were drawn from the CMHR, which includes nearly ~95% of the total population. The primary exposure for this study is a clinical diagnosis of FEP according to the ICD-10 (F20–F29). The outcomes of interest included COVID-19 hospitalization (i.e., individuals with a positive RT-PCR admitted to an inpatient facility) and vaccination (i.e., not vaccinated, partially immunized, and fully immunized). Potential confounders included age, gender, and physical comorbidities. We ran descriptive analyses using 2x2 tables and plot visualization. Cox proportional hazard regression modelling was used to detect differences between people with and without FEP, controlling for proposed confounders.

Results: Cases were 28,074 individuals with confirmed diagnosis of FEP, compared to the total population (n=18,846,027). Compared to those without FEP, cases were more likely to be hospitalized due to COVID-19 and less likely to be fully vaccinated against COVID-19. Although these differences were not salient probably due to a national policy that prioritizes immunization for people with severe mental disorders. There were major differences on the two studied outcomes by gender (e.g., women were at higher risk of being hospitalized and reported lower vaccination rates compared to men) and age (e.g., women who were 45 years or older reported higher hospitalization rates compared to men) when comparing the FEP population versus the total population.

Conclusion: Our preliminary results suggest salient gender and age differences on COVID hospitalization and vaccination when comparing FEP individuals to the general population. We discuss these results from a gender-based perspective.

S04   Autism Epidemiology across different Age Groups and Settings

Thurs 8 Sep, 10:30 – 12:00
Lecture Room 3
Chair: Traolach Brugha, University of Leicester, UK. **Discussant:** Sam Tromans, University of Leicester, UK

Abstract: Informed by three decades of the Adult Psychiatric Morbidity Survey programme, this symposium will include findings from children and adults, as well as inpatient and community-based populations.

Symposium Chair Professor Traolach Brugha (University of Leicester) will be providing an overview of autism epidemiology, with a focus on the differences between passive and active case ascertainment. His talk will also include an emphasis on the need for caution in interpreting the findings of autism prevalence studies, particularly those utilising passive case ascertainment approaches.

Associate Professor Samuel Tromans (University of Leicester), will describe his NIHR-supported, multi-site autism prevalence study that employed an active case ascertainment approach, embedded within a multiple phase design. The study aimed to estimate autism prevalence in adults admitted to acute mental health wards, as well as the prevalence of co-occurring physical and mental health conditions, using checklists from the 2014 Adult Psychiatric Morbidity Survey.

Senior Lecturer and Associate Sally McManus (City, University of London; NatCen), will report findings from her research comparing self-reported experiences of bullying and victimisation among autistic and non-autistic children and adults. This study uses findings from several community-based surveys, including the 2007 and 2014 Adult Psychiatric Morbidity Surveys, as well as the 2017 Mental Health of Children and Young People Survey.

S04.01   Autism epidemic, myths, facts, and influencers. The difference between passive and active sampling

Traolach Brugha[1]; Samuel Tromans[1]; Sally McManus[2]; Zoe Morgan[1]
[1] University of Leicester, UK; [2] National Centre for Social Research, UK

Lay Summary: We compared examples of studies, mainly surveys, using active sampling (e.g. community surveys) versus passive (e.g. record analysis) sampling and assessments. We found that repeat assessments of the same population using active sampling showed no significant change in the rate of autism over time; some repeat passive sampling studies suggested rate increases. Importance: passive sampling may bias results and mislead future research and policy priorities.

Background: Since it first entered the ICD, definitions and assessment methods of autism have changed considerably and prevalence estimates (in childhood) have grown. Methods need to be fit for the purpose of estimating rates, recognition, possible causes and determinants of the outcome of autism. General population surveys are very costly and largely undertaken in high income populations. The use of data collected by services dominates the literature but may be subject to bias.

Methods: Comparison of major studies of autism prevalence using repetition of sampling and data collection. Passive sampling uses health and or education records of populations using services to identify cases; in active sampling researchers define the target population including non-service users and can ensure consistent measurement and case definition. Stakeholders include influencers and services (e.g. audit users) and epidemiologists (who use data to reduce uncertainty). Examples of influencers include lobbyists (e.g. charities) and activists, by definition characterised by less uncertainty.

Results: Studies of autism prevalence using repetition of sampling and data collection are rare. The US CDC surveillance programme tracking autism rates based on education and health records in children has suggested a gradual increase in the proportion affected by autism since 2000 and is widely cited as proof of an autism epidemic. UK and Scandinavian research using active sampling and direct assessment methods shows stability in rates over the same time.

Conclusion: Evidence users including policy makers should be cautious when citing studies using passive methods and should both use and advocate for and fund more research and surveillance programmes using active case finding methods. Charities and influencers that cite findings based on passive and less often active methods should be challenged to do the same in the longer term best interests of autistic people and their carers.

S04.02   Autism Prevalence among Adults Admitted to Acute Mental Health Wards

Sam Tromans[1]; Guiqing Yao[1]; Regi Alexander[2]; Reza Kiani[1]; Mohammed Al-Uzri[1]; Zoe Morgan[1]; Rohit Shankar[3]; Traolach Brugha[1]

[1]University of Leicester, UK; [2]University of Hertfordshire, UK; [3]University of Plymouth, UK

Lay Summary: We measured how common autism was among adults admitted to acute mental health wards. We found autism was highly prevalent in this group, with estimated rates of 13.7% in adults without learning disabilities and 53.8% in adults with learning disabilities, with 37.5% of autistic cases being previously undiagnosed. Adults admitted to acute mental health wards have complex needs; autism recognition is key to ensuring such needs are met, and reducing risk of misdiagnosis.

Background: Autism identification and prevalence among adult psychiatric inpatients is poorly understood, with a risk of autistic cases being missed, contributing to their care needs not being comprehensively met. This study aimed to estimate autism prevalence in this patient group, as well as compare rates of co-occurring physical and mental health conditions in autistic and non-autistic adults.

Methods: A multiple phase study design was used. In Phase 1, participants without intellectual (learning) disabilities and corresponding informants underwent questionnaire testing, including with the Autism Quotient (AQ). Phase 2 involved autism diagnostic testing, including the Diagnostic Interview for Social and Communication Disorders, version 2 of the Autism Diagnostic Observation Schedule and the Autism Schedules for Clinical Assessment in Neuropsychiatry interview. Autistic cases were determined through meeting ICD-10- DCR and/or DSM-5 criteria. A sample of Phase 1 participants were invited into Phase 2, with their probability of selected weighted according to AQ score; all participants with intellectual disabilities entered Phase 2 directly. Co-occurring conditions were identified using the 2014 Adult Psychiatric Morbidity Survey checklists. Logistic regression was performed, to control for age and sex.

Results: 103 adults participated in the study. Of the 27 adults without intellectual disabilities taking part in Phase 2, 9 (33%) met autism diagnostic criteria, of which 4 had a previous diagnosis. After adjustment for weighting, non-response, and outliers, the prevalence was 13.7% (95% CI: 6.6-20.7). Of the 13 adults with intellectual disabilities, 7 (53.8%; 95% CI: 22.5-85.2) met autism diagnostic criteria, of which 6 had a previous diagnosis. After controlling for age and sex, cataracts and eyesight problems were significantly more prevalent among autistic participants.

Conclusion: Autism is highly prevalent among adults admitted to acute psychiatric hospitals. Autism identification can be improved using routine screening, helping ensure that many adults in this setting have their complex care needs more comprehensively met.

S04.03   Comparing children and adults with and without autism: using community- based surveys to examine experiences of bullying and victimisation

Sally McManus[1]; Tamsin Ford[2]; Tamsin Newlove-Delgado[3]; Samuel Tromans[4]; Traolach Brugha[4]

[1] City, University of London, UK; [2] University of Cambridge, UK; [3] University of Exeter Medical School, UK; [4] University of Leicester, UK

Lay Summary: We analysed data from surveys of the general population that assessed participants for autism and asked about experiences of bullying and victimisation. We found that autistic children were more likely than other children to have been bullied, but that the picture for autistic adults was more complex and depended on the type of victimisation examined. We show how whole-population samples are useful for enabling groups to be compared, and for the scale of inequalities to be quantified.

Background: Studies of autistic children and adults tend to focus on those who have been diagnosed. Not only are those who have been diagnosed not necessarily representative of autistic children and adults more generally, such studies are not ideal for being able to compare those with and without autism or for quantifying the scale of inequalities faced.

Methods: We drew on two national probability sample survey series of the general population: the 2007 and 2014 Adult Psychiatric Morbidity Surveys (APMS) and the 2017 Mental Health of Children and Young People (MHCYP) survey. To identify participants with autism, APMS included a two-phase study design, with the Autism Diagnostic Observation Schedule (ADOS) administered in the second phase. The MHCYP study included the detailed Development and Wellbeing Assessment (DAWBA). Both asked about demographic and socioeconomic circumstances, as well as a range of adversities, including self-reported experiences of different types of bullying and interpersonal violence and abuse.

Results: [PROVISIONAL RESULTS] In the MHCYP sample, nearly two-thirds of young people with autism (aged 11 to 19 years) reported having been bullied in the past year, compared with just over a third of young people without autism. Among adults, associations with autism varied with type of victimisation considered. There was evidence that rates of intimate partner violence and serious assault were lower in adults with autism than in adults without. This may reflect different life

circumstances, including being less likely to have married or cohabitated. People identified on the surveys with autism were particularly unlikely, compared with the rest of the population, to report having bullied or victimised other people.

Conclusion: Community-based surveys are useful for being able to compare the circumstances of different groups. However, because such surveys are representative, a limitation faced when examining low- prevalence conditions is the small number of positive cases identified.

S05 Pathways To Care And Treatment Following First-Episode Psychosis In Young Refugees And Native-Born Peers: Registry-Based Evidence From The Remain Research Consortium

Thurs 8 Sep, 10:30 – 12:00
Lecture Room 4
Chair: Ellenor Mittendorfer-Rutz, Karolinska Institutet, Sweden. **Discussant:** Alexis Cullen, Karolinska Institutet, Sweden

Abstract: The life circumstances associated with forced migration frequently include exposure to persecution, loss of significant others, and protracted situations of uncertainty. On this background, refugees have been found to be at increased risk of psychosis in several high-income countries. However, little is known about how their pathways into care and their treatment patterns once in care differ from their peers. As timely and appropriate intervention is an important factor for prognosis and treatment outcomes in individuals with first-episode psychosis, addressing this knowledge gap sheds light on an important public health issue.

This symposium brings together four studies from the REfugee Minors And INtegration (REMAIN) research consortium's workgroup on first-episode psychosis. Using nationwide registry data from Denmark and Sweden, these studies were conducted on a harmonized population of young refugees (18-35 year old) and same-aged peers who received treatment for a non-affective psychotic disorder. Only individuals living in Denmark/Sweden during three years prior to diagnosis and who did not receive treatment related to psychosis during this period were included. Additionally, individuals who received anti-psychotic medication between 15-3 months prior to diagnosis were excluded. In this way, an identical registry definition of first-episode psychosis was applied to both native born and refugee youth during the whole follow-up period from 2006-2018.

S05.01 Incidence and age at first contact for non-affective psychotic disorders in young refugees and peers in Denmark and Sweden: a registry linkage study

Christopher de Montgomery[1]; Alexis E. Cullen[2]; Heidi Taipale[2]; Allan Krasnik[1]; Marie Norredam[1]; Ellenor Mittendorfer-Rutz[2]
[1] University of Copenhagen, Denmark; [2] Karolinska Institutet, Sweden

Lay Summary: We compared the incidence of treated non-affective psychotic disorders (NAPD) and age at first contact in young refugees and their peers in Denmark (DK) and Sweden (SE). We found elevated rates among refugees in both countries, but while rate ratios (RRs) increased with age in Denmark they were stable in Sweden. Given the implementation of early intervention services in Denmark but not Sweden, the findings suggest that these services may reach majority youth at younger ages than their majority peers.

Background: Young refugees are at increased risk of NAPD in several countries. However, little is known about how age-specific incidence rates in young refugees differ from their majority peers and the role played by treatment services targeting youth with first-episode psychosis. By comparing the age-specific incidence of NAPD in young refugees and their peers in a context with widely implemented early intervention (EI) services (DK) and in one without (SE), we shed light on how EI services influence age at first treatment for young refugees and their peers. In line with previous research, we hypothesized that incidence rates would be increased among refugees in both countries, but that age at first contact would be younger in Denmark than Sweden among both refugees and their peers.

Methods: Three groups were defined in both countries: refugees who immigrated as children (aged 0-17), ethnic minority youth born in DK/SE to parents from major labor migrant origin countries, and majority youth born in DK/SE to parents also born in DK/SE. All youth aged 18-35 during 2006-2018 were included (N, DK/N, SE=1,606,423/2,614,721) and were followed until first NAPD treatment contact, 36th birthday, emigration or death. Sex-stratified incidence rates and rate ratios were estimated.

Results: We identified 11,615 NAPD cases in Denmark and 8,807 in Sweden. The overall incidence of NAPD was 2-3 times higher in Denmark, but relative differences within countries were similar (refugee men (reference=majority): SIRR=2.6-2.9) or larger in Sweden (refugee women: SIRRSE=2.3 [2.1-2.6] and SIRRDK=1.5 [1.3-1.8]). For the majority group in Denmark, incidence peaked around age 18-20 and declined sharply with age, but this was not the case in Sweden nor among refugee and minority men in Denmark.

Conclusion: Young refugees were at higher risk of NAPD than their ethnic minority and majority peers. Early intervention services were associated with earlier ages for first-time psychosis treatment in majority youth, but not among refugee youth. Further studies should investigate whether especially refugee men experience barriers and longer pathways to care than

their peers in healthcare contexts with well-established early intervention services.

S05.02   Compulsory admissions for non-affective psychotic disorders in young refugees and peers in Denmark

Christopher de Montgomery[1]; Ida Jensen[1]; Alexis E. Cullen[2]; Heidi Taipale[2]; Ellenor Mittendorfer-Rutz[2]; Marie Norredam[1]

[1] University of Copenhagen, Denmark; [2] Karolinska Institutet, Sweden

Lay Summary: We investigated the use of coercive measures in hospital admissions for non-affective psychotic disorders (NAPD) in refugee, minority, and majority youth. Refugee youth were at highest risk of involuntary admissions. These findings indicate that the pathway to care for NAPD may be more problematic for young refugees' than their peers.

Background: Young refugees are at increased risk of psychotic disorders and this health disadvantage may be aggravated by delayed and sub-optimal care. Whilst countries throughout Europe have sought to decrease the number of involuntary psychiatric admissions, studies conducted in Scandinavia, the UK and Canada indicate that migrant and ethnic minority groups are at higher risk for these coercive measures than native-born individuals. However, we know little about how use of coercive measures in the pathway to psychosis treatment differs between the groups. Our study contributes to this literature by investigating whether young refugees treated for their first psychotic episode are at higher risk of involuntary admission than their peers.

Methods: Our study utilized nationwide administrative data from Denmark covering the period 2006-2018 and included inpatient and specialist outpatient treatments for psychotic disorders among youth aged 18-35 years living in Denmark (N=11,394). We used logistic regression yielding odds ratios (OR) with 95% confidence intervals (CI) and Poisson regression to estimate rate ratios (RR) of the total days of involuntary care. Young refugees were compared with both majority peers (individuals born in Denmark to parents born in Denmark) and a specific minority peer group (individuals born in Denmark to labor migrants from Turkey, Morocco and Pakistan).

Results: Compared with majority peers, refugee youth were at increased risk of being involuntarily admitted during their first treatment for psychotic disorder (OR: 2.99; 95% CI: 2.30-3.88) as were ethnic minority youth (OR: 2.16; 95% CI: 1.48-3.16). Differences in sex, age, education, household income and family situation did not explain these disparities. In contrast, the number of days in involuntary care was shorter for both refugees and minority youth (RR: 0.85; 95% CI: 0.83-0.88 and RR: 0.93; 95% CI: 0.89-0.97, respectively).

Conclusion: Refugee and ethnic minority youth were at increased risk of entering psychosis treatment for the first time through involuntary hospital admissions. Further studies should replicate these findings and investigate the factors contributing to risk and duration of involuntary admissions.

S05.03   Psychiatric healthcare use among refugee, non-refugee migrant, and Swedish-born youth with psychotic disorders: Findings from the REMAIN study

Alexis E. Cullen[1]; Christopher de Montgomery[2]; Heidi Taipale[1]; Allan Krasnik[2]; Marie Norredam[2]; Ellenor Mittendorfer-Rutz[1]

[1] Karolinska Institutet, Sweden; [2] University of Copenhagen, Denmark

Lay Summary: Studies conducted throughout the world have shown that refugees and non-refugee migrant groups are more likely to develop psychotic disorders such as schizophrenia, but whether these groups experience poorer outcomes after illness onset is currently unclear. We used Swedish registry data to identify all individuals aged 18-35 years treated for the first-time for a psychotic disorder between 2006-2013 (N=7,713) and compared refugees, non-refugee migrants and Swedish-born youth on the amount of time spent in psychiatric hospital over a 5-year period. We found that both refugee and non-refugee migrant groups were more likely to be admitted to hospital than Swedish-born youth, and that refugees in particular spent longer in hospital during the follow-up period.

Background: Whilst there is evidence that refugees and non-refugee migrants are at increased risk of developing psychosis, the extent to which they experience poor outcomes post-onset is unclear. Given that psychotic disorders are often lifelong conditions that necessitate high levels of inpatient care, determining whether refugees and non-refugee migrants show different patterns of healthcare use to their native-born peers is an important public health question.

Methods: Using Swedish registry data, we identified 7,713 patients aged 18-35 years (mean age 26.0 years, 64% male) treated for the first time for a psychotic disorder between 2006-2013, of whom 999 (13.0%) were refugees, 857 (11.1%) were non-refugee migrants, and 5,857 (75.9%) were Swedish-born. Individuals were followed for 5-years to determine use of inpatient care. A zero-inflated negative binomial hurdle model was used to compare refugees and non-refugee migrants to native-born youth on the probability of being admitted to hospital (yielding odds ratios: OR), and among those admitted, the number days spent in hospital (yielding incidence rate ratios: IRR).

Results: Relative to Swedish-born youth, the likelihood of being admitted to hospital at least once was higher among both

refugees (OR: 1.29; 95% CI: 1.11-1.49) and non-refugee migrants (OR: 1.45; 95% CI: 1.23-1.70). In contrast, only refugees spent more days in hospital than Swedish-born youth over the 5-year follow-up (IRR: 1.45; 95% CI: 1.26-1.67) with subsequent analyses showing that this was largely due to refugees having longer admissions, as opposed to more frequent admissions. The pattern of results was largely unchanged after adjustment for sociodemographic and clinical factors.

Conclusion: Both refugees and non-refugee migrants with psychotic disorders are at increased risk of being hospitalised, yet only refugees spend longer in hospital than their native-born peers. Further research is needed to establish whether this reflects illness severity or social factors.

S05.04   Antipsychotic treatment patterns in refugees and their Swedish-born peers with first-episode non-affective psychosis -REMAIN study

Julia Spaton Goppers[1]; Ellenor Mittendorfer-Rutz[1]; Alexis E. Cullen[1]; Christopher de Montgomery[2]; Marie Norredam[2]; Allan Krasnik[2]; **Heidi Taipale**[1]

[1] Karolinska Institutet, Sweden; [2] University of Copenhagen, Denmark

Lay Summary: We investigated whether there are differences in the prevalence of antipsychotic use between refugees and their Swedish-born peers after first diagnosis of non-affective psychosis. Initially, refugees were less likely to use antipsychotics but the difference disappeared during the five years of follow-up. These findings indicate that refugees may need targeted interventions early in the illness course to support pharmacotherapy.

Background: Migrants tend to use antipsychotic medications less often than persons born in the host country. However, there is a lack of studies focusing on refugees with psychosis. The objective of this study was to investigate differences in prevalence of antipsychotic use during five years after first-episode non-affective psychosis between refugees and their Swedish-born peers, and to characterize sociodemographic and clinical factors associated with antipsychotic use at one year and at five years.

Methods: The study population included refugees (N=1656) and Swedish-born persons (N=8908) aged 18-35 residing in Sweden between 2007 and 2016 with an incident diagnosis of non-affective psychotic disorder recorded in inpatient or specialized outpatient care registers. To ensure first-episode status, individuals who were dispensed antipsychotics between 15 to 3 months before the first diagnosis were excluded. Point prevalence of use was assessed every six months until five years after diagnosis. Factors associated with antipsychotic use (vs. not using) at one year were studied with logistic regression yielding Odds ratios (OR and 95% Confidence Intervals (CI)).

Results: Refugees were somewhat less likely to use antipsychotics at one year (37.1%) compared with Swedish-born persons (42.2%), age- and sex-adjusted aOR: 0.81; 95% CI: 0.72-0.91. The initial difference in prevalence of use disappeared during the follow-up (after 5 years, 41.1% vs. 40.4% used antipsychotics). Among refugees, high educational level (>12 years), previous antidepressant use and being diagnosed with a severe form of psychotic disorder were associated with an increased odds of antipsychotic use, whereas being born in Afghanistan or Iraq (compared with Former Yugoslavia) was associated with decreased odds of antipsychotic use at one year after first diagnosis.

Conclusion: Refugees with non-affective psychosis may need targeted interventions to ensure adequate antipsychotic use early in the illness course.

S06 Population health perspectives on ADHD

Thurs 8 Sep, 10:30 – 12:00
Lecture Room 5
Chair: Arnstein Mykletun, Haukeland University Hospital, Norway. **Discussant:** Olav Nyttingnes, Akershus Univesitetsskyehus, Norway

Abstract: There is considerable geographical variation in rates of ADHD diagnoses between and within countries. Consequently, treatment rates vary. The variation occurs on a dimension from a liberal to a restrictive perspective on ADHD. The liberal position is concerned about adverse consequences of under-treated ADHD. The restrictive position is concerned about medicalization, and side-effects and stigma related to over-diganosis and over-treatment. In this symposium, we will explore this variation and examine if it is caused by geographical variation in ADHD symptoms. We will explore if attitudes among clinicians to ADHD vary. We will present data on population health aspects of treatment of ADHD. Finally, we will present a protocol for an ongoing study utilizing registry data for causal modelling.

S06.01 Survey on attitudes toward ADHD diagnosis and medication among clinicians in the Norwegian child and adolescent mental health services

Ingvild Lyhmann[1]; Tarjei Widding-Havneraas[1]; Henrik Daae Zachrisson[2]; Ashmita Chaulagain[1]; Ingvar Bjelland[1]; Arnstein Mykletun[1]; Anne Halmøy[1]

[1] Haukeland University Hospital, Norway; [2] University of Oslo, Norway

Lay Summary: Different practice cultures, potentially related to professional background or clinic affiliation, could help explain why ADHD diagnosis and medication rates vary geographically. We constructed a survey to measure clinician attitudes toward ADHD diagnosis and medication on a scale from "restrictive" to "liberal", distributed to all clinicians working in the child and adolescent mental health services outpatient clinics in Norway. Clinicians differed in their attitudes, the general tendency was being "restrictive", and attitudes were only to a small extent related to profession or workplace.

Background: Prevalence and medication rates of attention-deficit/hyperactivity disorder (ADHD) vary geographically, both between and within countries. Since there is no absolute cut-off between ADHD and normal behavior, the diagnostic decision will necessarily be, at least in part, a result of the individual clinicians' judgement. Clinicians' attitudes or local practice cultures regarding ADHD may thus be a potential explanation for the observed variation in diagnosis and medication rates. The aim of this study was to describe variation in attitudes toward ADHD among clinicians working in the Norwegian child and adolescent mental health services (CAMHS). We hypothesized that attitudes toward the diagnosis and treatment of ADHD exist and could be defined along a spectrum from what we defined as "restrictive" to "liberal" attitudes – referring to primarily emphasizing concerns about potential negative consequences of over- versus undertreatment, respectively. We also explored differences in attitudes between clinicians depending on their professional background and workplace (clinic).

Methods: A survey in the form of a web-based questionnaire was developed. All outpatient clinics in the Norwegian CAMHS were invited by email to participate in the survey. Potential respondents were all clinicians (health workers of various professional backgrounds) working with diagnosing and treating ADHD. To investigate the existence of attitudes toward diagnosis and medication as latent constructs, we applied confirmatory factor analysis (CFA). We examined how much variance could be ascribed to profession and clinics by estimating intraclass correlation coefficients (ICC).

Results: 674 respondents representing 77 (87.5 %) of the outpatient clinics in the Norwegian CAMHS completed the survey. We confirmed variation in attitudes toward ADHD diagnosis and medication. Generally, the average responses leaned toward the "restrictive" end of the scale. CFA supported "diagnosis attitude" (DA) and "medication attitude" (MA) as latent variables representing a scale from restrictive to liberal, which were moderately correlated (r=.4). ICC showed that little variance in these attitude variables were explained by professional background or clinic affiliation.

Conclusion: Clinicians working in the outpatient clinics of the Norwegian CAMHS differ in their attitudes toward diagnosis and treatment of ADHD, but the general tendency is having a "restrictive" attitude. The spread in attitudes were mostly on the individual level, with only a small portion being explained by profession or workplace.

S06.02   The epidemiology of Attention Deficit Hyperactivity Disorder: A systematic meta-review of systematic reviews

Ashmita Chaulagain[1]; Ingvild Lyhmann[1]; Tarjei Widding-Havneraas[1]; Anne Halmøy[1]; Ingvar Bjelland[1]; Arnstein Mykletun[1]

[1] Haukeland University Hospital, Norway

Lay Summary: We performed a meta-review to systematically appraise systematic reviews published on ADHD related topics based on PRISMA guidelines and the Joanna Briggs Institute (JBI) methodology for umbrella reviews. Worldwide prevalence of ADHD was 7.2 % for youth and 2.2% for adults; ADHD is associated with several adverse outcomes (education and employment failure, substance abuse, injuries, suicides, crime, and different co-morbid mental and somatic conditions). This meta-review makes more available existing knowledge on prevalence, maternal and perinatal factors, prognosis, and comorbidities associated with ADHD related topics.

Background: There has been a steady increase in published systematic reviews on different aspects of ADHD over the last decade. However, the growing library of systematic reviews may be difficult to navigate for clinicians, researchers, and policy makers. Hence, we aimed to systematically summarize the current evidence on epidemiology of ADHD available from systematic reviews.

Methods: We searched MEDLINE, PubMed, PsycINFO, Cochrane Library, Web of Science, for studies published from January 2010 to February 14, 2021. We included systematic reviews and meta-analyses on any topic of ADHD that had searched for primary studies in more than one database (including at least PubMed or Medline), involved two or more reviewers at any stage of review, and performed quality appraisal of included studies. Two independent reviewers performed quality assessment and extracted data using an adapted version of the Joanna Briggs Institute manual for evidence synthesis. We here present the results of the meta-review pertaining to the following four topics: prevalence of ADHD, maternal and perinatal risk factor associated with ADHD, long term prognosis in ADHD, and ADHD and comorbidities. Data are presented in narrative synthesis and table format. This study is registered with PROSPERO number: CRD42020165638.

Results: ADHD is a common disorder, with a mean worldwide prevalence in children and adolescents estimated to 7.2%, with variation across countries, cultures, diagnostic methods, and sources of information. The prevalence also decreases with age, to estimates around 2% in older adults. ADHD is associated with maternal factors like pre-pregnancy overweight and diabetes; use of acetaminophen and antidepressants; smoking and opioid use during pregnancy. Similarly, perinatal complications like very preterm birth, low birth weight, and maternal preeclampsia were associated with ADHD. In the course of development, ADHD is associated with several adverse long-term outcomes, including education and employment failure; substance abuse; injuries; suicides and crimes; along with co-morbid mental disorders (ASD; BD); and somatic conditions like atopic diseases.

Conclusion: In this meta-review, we present the findings of systematic reviews on different topics of ADHD. There are massive literature on ADHD, but still there exists important knowledge gaps on key aspects of ADHD. Prevalence studies may have been confounded by diagnostic practice, while risk-factors are non- causal. Similarly, there exist limited evidence about the long term prognosis of ADHD and temporality is unclear in reviews of comorbidities. Hence, future studies should aim to address the existing knowledge gap on ADHD.

S06.03   Geographical variation in ADHD: do diagnoses reflect symptom levels?

Tarjei Widding-Havneraas[1]; Simen Markussen[2]; Felix Elwert[3]; Ingvild Lyhmann[1]; Ingvar Bjelland[1]; Anne Halmøy[1]; Ashmita Chaulagain[1]; Eivind Ystrom[4]; Arnstein Mykletun[1]; Henrik Daae Zachrisson[4]

[1] Haukeland University Hospital, Norway; [2] Ragnar Frisch Centre for Economic Research, Norway; [3] University of Wisconsin–Madison, United States; [4] University of Oslo, Norway

Lay Summary: We examined the extent to which geographical variation in ADHD diagnoses is explained by geographical variation in ADHD symptom levels using Norwegian nationwide register and survey data. Geographical variation in ADHD diagnoses is much larger than what can be explained by geographical variation in ADHD symptom levels. Treatment in the Norwegian child and adolescent mental health services is free, universally available upon referral, and practically without competition from the private sector. Factors beyond health care access and unequal symptom levels seem responsible for the geographical variation in ADHD diagnosis.

Background: Diagnosis rates of attention-deficit/hyperactivity disorder (ADHD) vary across many countries. International comparisons suffer validity problems due to differing diagnostic standards and methodology. Similar geographic variation in diagnostic prevalence, however, exists within countries with a uniform diagnostic standard, for example, Norway. Although ADHD symptoms are fundamental in diagnosing ADHD, no prior research investigates the extent to which geographical variation in ADHD symptoms explain geographical variation in ADHD diagnoses. The aim of this study is to examine whether ADHD symptom levels explain variation in ADHD diagnoses among children and adolescents. We explore three research questions: (1) Does between-clinics variation in the incidence rate of ADHD diagnosis exceed chance

variation? (2) Does between-clinics variation in symptom levels of ADHD exceed chance variation? (3) Does between- clinics variation in the incidence rate of ADHD diagnosis, conditional on symptoms levels of ADHD, exceed chance variation?

Methods: We used data on ADHD symptoms from the Norwegian mother, father and child cohort study (MoBa) and incidence of ADHD diagnosis (F90) registered in the Norwegian Patient Registry for 2011-2016. Confirmatory factor analysis (CFA) was applied to measure the latent ADHD symptoms construct from the symptoms score items in The Parent/Teacher Rating Scale for Disruptive Behavior Disorders. ADHD symptom levels was measured as the proportion of children in clinics catchment area with ADHD symptoms ≥ 95% threshold. Fractional response regression models (FRM) were used to test whether ADHD diagnosis were associated with ADHD symptoms. Variation in ADHD diagnosis and symptoms levels was measured using the coefficient of variation (CV). We examined whether between-clinics variation in ADHD diagnosis and symptom levels exceeded chance variation with a bootstrap approach for CV.

Results: There was nearly a tenfold difference in the incidence of ADHD diagnosis proportion from the clinic with the lowest to the highest level. The average marginal effect from FRM shows a 0.26 (95% CI: 0.09 to 0.42) percentage point increase in incidence of ADHD diagnosis when the proportion of children and adolescents with ADHD symptoms ≥ 95% increases with one percentage point. The CV for ADHD diagnosis was much larger than chance variation unconditional and conditional on ADHD symptom levels.

Conclusion: The main question from a health policy perspective is whether the observed variation is unwarranted or fully explained by patient and provider characteristics. The high remaining residual variation in ADHD diagnosis after controlling for ADHD symptoms suggests that other factors are important drivers of between-clinics variation in ADHD diagnosis.

S06.04 Controversies in Psychiatry: Causal Modeling of Variation in Clinical Practice and Long-Term Outcomes of ADHD using Registry Data. A study protocol

Arnstein Mykletun[1]; Tarjei Widding-Havneraas[1]; Ashmita Chaulagain[1]; Ingvild Lyhmann[1]; Ingvar Bjelland[1]; Anne Halmøy[2]; Felix Elwert[3]; Peter Butterworth[4]; Simen Markussen[5]; Henrik Daae Zachrisson[6]; Knut Rypdal[1]

[1] Haukeland University Hospital, Norway; [2] The University of Bergen (UiB), Norway; [3] University of Wisconsin–Madison, United States; [4] The Australian National University, Australia; [5] Ragnar Frisch Centre for Economic Research, Norway; [6] University of Oslo, Norway

Lay Summary: This is a study protocol for a funded registry based study in Norway. We found almost a 10-fold variation in rates of ADHD diagnoses between treatment units within Norway, for which patients and clinicians are almost blinded. This variation is unfortunate in a single-provider health system, but it also creates a unique research opportunity for causal modelling in registry data to determine if the liberal or restrictive approach to ADHD produce favorable patient outcomes. The full protocol is available here: https://pubmed.ncbi.nlm.nih.gov/33468528/

Background: Attention-Deficit/Hyperactivity Disorder (ADHD) is among the most common mental disorders in children and adolescents, and it is a strong risk factor for several adverse psychosocial outcomes over the lifespan. There are large between- and within-country variations in diagnosis and medication rates. The liberal position to ADHD advocates for high rates of diagnosis and treatment, and is concerned about negative patient trajectories related to under-diagnosis and under-treatment of ADHD. The restrictive position to ADHD advocates for low rates of ADHD diagnosis and treatment, and is concerned about medicalization, side-effects of unnecessary medication, and stigma. Due to ethical and practical considerations, few studies have examined the effects of receiving a diagnosis, and there is a lack of research on effects of medication on long-term outcomes. Our project has four aims organized in four work packages: (WP1) To examine the prognosis of ADHD (with and without medication) compared to patients with other psychiatric diagnoses, patients in contact with public sector child and adolescent psychiatric outpatient clinics (without diagnosis), and the general population; (WP2) Examine within-country variation in ADHD diagnoses and medication rates by clinics' catchment area; (WP3) Identify causal effects of being diagnosed with ADHD and (WP4) ADHD medication on long-term outcomes.

Methods: Our project links several nationwide Norwegian registries. The patient sample is all persons aged 5-18 years that were in contact with public sector child and adolescent psychiatric outpatient clinics in 2009-2011. Our comparative analysis of prognosis will be based on survival analysis and mixed-effects models. Our analysis of variation will apply mixed-effects models and generalized linear models. We have two identification strategies for the effect of being diagnosed with ADHD and of receiving medication on long-term outcomes. Both strategies rely on using preference-based instrumental variables, which in our project are based on provider preferences for ADHD diagnosis and medication.

Results: Results describing the geographical variation in ADHD diagnosis and treatment will be presented at the conference.

Conclusion: Children referred to mental health specialist services are currently experiencing a lottery- like situation for getting the ADHD diagnosis and medication. We will explore if a liberal or restrictive position to ADHD provide better prognosis for patients.

S06.05   Prediction of childhood ADHD symptoms from prenatal and perinatal data

Niamh Dooley[1]; Mary Clarke[1]; David Cotter[1]; Mary Cannon[1]; Colm Healy[1]

[1] Royal College of Surgeons in Ireland, Ireland

Lay Summary: We know that there is a strong genetic basis to ADHD. However we also know that environmental factors involved in its development begin at the gestational stage and may interact with genetic susceptibility. We assessed how well we could predict ADHD symptom levels at age 9 purely from data available at the birth in a large population cohort. This included a wide range of complications and maternal substances. We also assessed to what degree predictive accuracy varied across subgroups in the population. We found that we could explain roughly 8% of the variance in age 9 ADHD symptoms at birth. However, this value varied across the sexes, income brackets, families with differing psychiatric histories and racial/ethnic groups.

Results suggest a modest but non-trivial ability to predict ADHD symptoms at birth. Several prenatal factors that reliably contributed to ADHD symptoms in childhood were modifiable and should be targeted by future mental health preventative interventions.

Background: There is now strong evidence that risks for neurodevelopmental disorders like ADHD begin to amass during gestation. It can be difficult to establish causality among known prenatal and perinatal risk factors for ADHD, as many co-occur and are confounded by social and economic factors. Rather than attempt to delineate the causal order of risks, this study investigates how well we can predict ADHD symptomatology in childhood from pre/perinatal factors alone. It also explores whether predictiveness varies for different groups within the population.

Methods: We used the nationally representative ABCD (Adolescent Brain Cognitive Development) cohort based in the US (N=9975). Children were aged 9-10 when pre/perinatal information was retrospectively reported and when the attention problems scale of the Child Behavior Checklist was completed by a parent.

Forty pre/perinatal variables (including sex and race/ethnicity as variables also known at birth) were input as potential predictors. Elastic-net regression with a 5-fold validation was performed for the full sample, and subsequently stratified by sex, race/ethnicity, household income and parental psychopathology. A selection frequency of 95% or above was used to identify robust predictors of ADHD symptoms.

Results: Seventeen of the 40 pre/perinatal variables were identified as robust predictors of ADHD symptoms (top 5: male sex, maternal use of drugs, cigarettes and prescription medication use, UTIs in pregnancy). The model explained 8.13% of the variance in ADHD symptoms on average (95% CI: 5.6-11.5%). Predictive accuracy of the model varied by subgroups: improving with increasing parental psychopathology and decreasing household income. Several pre/perinatal factors appeared to be sex-specific.

Conclusion: Results show that we can predict childhood ADHD symptoms with modest accuracy from birth, which may be improved with the addition of postnatal data and suggests children-at-risk may be identified from very early life. Results also highlight the avoidable risk factors for ADHD (e.g., maternal smoking, gestational anaemia) and emphasise the need to begin preventative interventions at gestation.

S07 Perspectives on mental health inequalities during the COVID-19 pandemic: qualitative and quantitative evidence over the life course from cohort studies

Thurs 8 Sep, 16:45 – 18:15
Concert Hall
Chair: Darío Moreno-Agostino, UCL, UK. **Discussant:** Young Co-Researchers (Community Champions)

Abstract: The COVID-19 pandemic has had unequal implications for different groups within the population. Research has suggested that the mental health of the most vulnerable groups has been disproportionately impacted, and that people with pre-existing mental health conditions have experienced a larger impact in outcomes such as COVID-19 infection.

This symposium presents work carried out within the ESRC Centre for Society and Mental Health (CSMH) on mental health inequalities using cohort data collected before and after the pandemic onset. Different methods are used to provide complementing perspectives on those inequalities. The symposium largely represents the work of early career researchers and includes the perspectives of young participants with lived experience both as presenters and discussants.

S07.01 Inequalities in the impacts of the COVID-19 pandemic on young people's mental health: emerging findings from the REACH cohorts

Gemma Knowles[1]; Charlotte Gayer-Anderson[1]; Alice Turner[1]; Esther Putzgruber[1]; Jade Morris[1]; Lynsey Dorn[1]; Joseph Lam[1]; Samantha Davis[1]; Rachel Blakey[1]; Katie Lowis[1]; Schools Working Group[1]; Young Persons Community Champions[1]; Vanessa Pinfold[2]; Natalie Creary[3]; Jacqui Dyer[3]; Stephani L. Hatch[1]; George B. Ploubidis[1]; Kamaldeep Bhui[4]; Seeromanie Harding[5]; Craig Morgan[1]

[1] ESRC Centre for Society and Mental Health, UK; [2] McPin Foundation, UK; [3] Black Thrive Global, UK; [4] University of Oxford, UK; [5] King's College London, UK

Lay Summary: Thousands of young people in London completed annual questionnaires about their mental health and experiences in the three years before the pandemic and twice since the start of the pandemic. We explored whether (a) mental distress increased during the pandemic, and (b) which groups were most affected. We found that distress increased among girls and those reporting difficult circumstances during the pandemic. This information helps identify groups most at risk of lasting impacts and where/how to direct policies and resource to help those most in-need.

Background: Adolescence is a critical developmental phase and the period in which many mental health problems emerge. Young people's lives – particularly education, relationships, and job opportunities – have been profoundly disrupted by the Covid-19 pandemic, but the extent of these impacts is unlikely to be uniform across groups. We sought to examine the impacts of the pandemic on the mental health of young people from diverse backgrounds.

Methods: We analysed five waves of data - 3 pre-pandemic (2016-2019) and 2 mid-pandemic (May-Aug 2020 & Sep 2020-Aug 2021) – from REACH (Resilience, Ethnicity and AdolesCent Mental Health), an inner- London cohort study (n 1612; 11-14y at T1; >80% minority ethnic groups). Mental health was assessed using the Strengths and Difficulties Questionnaire. We estimated the prevalence of mental health problems – and mean distress, internalising, and externalising scores – at each wave, pre- and mid-pandemic. We used fixed effects models, growth mixture models, and mixed multinomial regression models to examine (a) whether mental distress increased – initially or later – during the pandemic, and (b) whether change in distress varied by social group (i.e., sex, ethnic group, household income) and by pre- and mid-pandemic circumstances/risks (e.g., finances, relationships, daily routines).

Results: In relation to the first phase of the pandemic, we found no evidence of an overall increase in mental distress, but there were variations in mean within-person change in distress by subgroup. Notably, we found increases in distress among those reporting negative mid-pandemic circumstances/experiences (e.g., a 5-point increase [95% CI: 1.1, 9.7] in distress, on average, in those who said family relationships worsened

during lockdowns) and decreases in distress among those reporting positive impacts (e.g., a 0.2 point decrease; 95% CI: -0.1, -0.3 in distress, on average, per positive experience reported). In relation to the next phase of the pandemic (Sep 20-Aug 21), we found strong evidence of an overall increase in the prevalence of mental health problems among girls and those on free school meals. Preliminary findings from growth mixture models suggest a proportion (n, 113, 7.4%) of young people experienced a 'worsening' trajectory, i.e., a steep increase in mental distress since the start of the pandemic. Girls were around 80% more likely than boys to be in this 'worsening' latent trajectory (vs. a stable-moderate trajectory) (RR: 1.8 95% CI: 1.1, 3.0).

Conclusion: We found strong evidence for (potentially prolonged) increases in distress among girls, those from low-income

households, and those reporting challenging social experiences during the pandemic.

S07.02   An in-depth exploration of the impacts of the COVID-19 pandemic on the mental health of young people: findings from a digital diary study

Georgina Miguel Esponda[1]; Charlotte Gayer-Anderson[1]; Gemma Knowles[1]; Alice Turner[1]; Lynsey Dorn[1]; Jade Morris[1]; Joseph Lam[1]; Esther Putzgruber[1]; Samantha Davis[1]; Katie Lowis[1]; Schools Working Group[1]; Young Persons Community Champions[1]; Vanessa Lawrence[2]; Craig Morgan[1]

[1] ESRC Centre for Society and Mental Health, UK; [2] King's College London, UK

Lay Summary: Between September 2020 and February 2021, 41 young people (aged 15 to 18 years) in London completed interviews and digital diaries focused on their experiences during periods of lockdown and school closures due to COVID-19. We wanted to know how young people were affected, how they responded, and what the effects were on their mental health. Initially, all said they liked having a break from school and having more free time. However, as lockdown progressed, many young people said they felt bored and that their daily lives had lost structure, becoming repetitive and lacking purpose. This, along with uncertainties about exams, was upsetting for many. Emotional distress increased most among young people whose parents experienced financial difficulties and among those who had difficult relationships with family, lacked space to study, and did not feel supported by school. By understanding which young people were most affected, we can better target support for those most in need.

Background: The COVID-19 pandemic drastically changed the lives of young people, particularly in countries like the UK where social distancing measures and school closures were imposed for extended periods. Young people's accounts are crucial to understand the depth and complexity of their experiences and responses during this time. We sought to understand the how social structures, contexts, and relationships shaped the experiences of young people during lockdown and the resulting impacts on their lives and mental health.

Methods: We conducted a digital diary study with 41 young people (aged 15 to 18 years) between Sep 2020 and Feb 2021. Young people were interviewed at the start of the study, then completed weekly diary entries using a phone app for 8–12-weeks, after which they completed a second interview. Diary entries were collected in audio, video, or text format, depending on the preference of participants. We collected information on school life, use of time, relationships with family and friends, and mental health impacts. Data was analysed using a framework approach. This study was embedded in REACH (Resilience, Ethnicity and AdolesCent mental Health), an ongoing cohort study of adolescent mental health in inner-London schools.

Results: Young people had a range of positive and negative experiences during the initial months of the pandemic. Initially all found pleasure in having a break from school and being able to use their time to do things they valued and enjoyed. Over time, many young people said they felt bored and that their daily lives had lost structure, becoming repetitive and lacking purpose. This, along with uncertainties about exams, led to an increase in mental distress for many. Young people who experienced financial difficulties, had difficult relationships with household members, lacked enough space to study, and did not feel supported by school tended to be most affected. These individuals found the disruptions to their education particularly distressing, as these resulted in worries about how their academic progress and ultimately their futures would be affected.

Conclusion: As we emerge from the pandemic, understanding which groups of young people were most affected and why can help inform interventions and policies to ensure the educational and mental health needs of young people are better supported.

S07.03   'With us, not about us': Co-researching young people's mental health, before and during the COVID-19 pandemic

Thai-sha Richards[1]; Karima Shyan Clement-Gbede[1]; Adna Hashi[1]; Jonas Kitisu[1]; Niiokani Tettey[1]; Esther Putzgruber[1]; Gemma Knowles[1]; Charlotte Gayer-Anderson[1]; Alice Turner[1]; Jade Morris[1]; Joseph Lam[1]; Samantha Davis[1]; Shaninga Marasha[2]; Kathy Silenga[2]; Helen Marasha[2]; Vanessa Pinfold[3]; Craig Morgan[1]

[1] ESRC Centre for Society and Mental Health, UK; [2] BigKid Foundation, UK; [3] McPin Foundation, UK

Lay Summary: In this talk, we (young co-researchers) reflect on our experiences of working with academic researchers to co-deliver REACH – a cohort study of adolescent mental health based in inner-London schools – before and during the pandemic. We discuss our role in the team, present our work, and reflect on the pros and cons of working with researchers and academics. We hope these reflections will inspire and encourage other researchers to work in partnership with young people and provide some top tips about what does and does not work and how to build strong, lasting, and effective partnerships.

Background: Often, when we talk about coproducing mental health research with young people, many of us tend to think about (relatively) small scale and short-term studies, e.g., participatory action research and qualitative studies. The meaningful involvement of young people in delivering large, population-based, longitudinal studies is less common and, in general, more superficial. Increasingly, though, funders are encouraging – and at times require – young people (or experts-by-experience) to be meaningfully involved in such projects and at all stages of the research. In this talk, we (young co-researchers) reflect on our experience of working with researchers and academics to co-deliver REACH, a cohort study of adolescent mental health based in inner-London schools, before and during the pandemic.

Methods: REACH is a study of the impact of social contexts and experiences on young people's mental health and of why some young people are more likely to struggle than others. Over 4000 local young people from diverse backgrounds are taking part. Six waves of data have been collected so far. From the outset, in 2015/16, REACH has been delivered in partnership with schools and young people. Over time, the model of working with young people has evolved from 'engagement and consultation' to 'coproduction', in which we (five young people, aged 14-16 year at the start and now 17-19) now work part-time in the research team, as young co-researchers. This involves delivering work in relation to research processes/procedures; research questions and hypotheses; interpretation of findings; dissemination and outputs; policy recommendations; public engagement; youth involvement and engagement; and next steps.

Results: In this talk, we will present and reflect on our work, including, among other things, (a) interpreting findings and shaping and generating new hypotheses in relation to inequalities in young people's mental health and impacts of the pandemic on mental health, (b) using creative methods (e.g. Podcasts, videos, blogs) to disseminate research to young audiences and the public, and (c) running a Festival for Young People, in partnership with the BigKid Foundation, to develop youth-informed recommendations to help young people thrive post-pandemic. We will reflect on the pros and cons and the highs and lows of working with researchers and academics. We provide 'top tips' to inspire and help other researchers to work in partnership with young people.

Conclusion: Cohort studies can – and should – be coproduced with and shaped by young people. Our talk provides top tips, from young people, on how to make it work in practice.

S07.04 Sex inequalities in the effects of the COVID-19 pandemic on long-term psychological distress trajectories: evidence from 40 years of follow-up data

Darío Moreno-Agostino[1]; Helen L. Fisher[1]; Alissa Goodman[2]; Stephani L. Hatch[1]; Craig Morgan[1]; Marcus Richards[2]; Jayati Das-Munshi[1]; George B. Ploubidis[1]

[1] ESRC Centre for Society and Mental Health, UK; [2] University College London, UK

Lay Summary: We explored sex inequalities in the impact of the COVID-19 pandemic in psychological distress in relation to the distress levels experienced over the life course. We found that, overall, levels of psychological distress during the pandemic reached or exceeded the highest levels ever recorded prior to the pandemic, and that most of the increase in distress took place among women. Our study shows, for the first time, the unique impact of the pandemic in the UK adult population over the life course, showing growing sex inequalities and supporting the notion that women's mental health was disproportionately impacted by the pandemic.

Background: Evidence suggests that the population's psychological distress levels have increased with the COVID-19 pandemic onset compared to pre-pandemic levels, with women being disproportionately impacted. However, there is a lack of evidence on the impact of the pandemic relative to pre-existing long-term distress trends, where increases in distress until mid-life, followed by decreases towards older adulthood, are expected in both sexes. We aimed to use a long-term, life course approach to understand if the changes and sex inequalities in distress with the pandemic reflect a continuation or not of those pre-existing trends.

Methods: We used data from three British birth cohorts born in 1946, 1958, and 1970, respectively. Data on psychological distress prior to the pandemic was collected at different time points and using different questionnaires across the cohorts. Data during the pandemic was collected at the same time points, using both cohort-specific distress measures and a set of common measures across cohorts. We used a combination of item linking and harmonisation approaches to operationalise the distress levels across cohorts. Trajectories of psychological distress were analysed using a multilevel growth curve modelling approach, including the interaction of all growth parameters with birth sex. Additional analyses were made comparing the sex inequalities at the peak during the pandemic to those at two relevant pre-pandemic time-points: the pre- pandemic peak by midlife and the most recent pre-pandemic assessments.

Results: By September/October 2020, psychological distress levels had reached or exceeded the highest levels ever recorded prior to the pandemic in all cohorts. The inspection of the trajectories by birth sex showed that women's distress levels were consistently higher over the life course and suggested that the increase with the pandemic had been larger in women. The examination of the differences between the levels in September/October 2020 and the pre-pandemic peak and most recent pre-pandemic assessment showed that the overall analyses concealed the underlying sex inequalities: in

all cases, women showed larger differences than men, with the gap between sexes widening across all cohorts in both comparisons.

Conclusion: There was a disruption to the pre-existing long-term trajectories of psychological distress during the COVID-19 pandemic. However, this disruption happened mostly among women, who reached the highest levels recorded in up to 40 years of follow-up data, widening the pre-existing sex inequalities in psychological distress. This disruption may impact future trends of morbidity, disability, and mortality due to common mental health problems, particularly among women.

S07.05 Severe mental illnesses, ethnic inequalities and mortality following COVID-19 infection: Nationally representative cohort study from the UK

Jayati Das-Munshi[1]; Ioannis Bakolis[2]; Laia Becares[3]; Jacqui Dyer[4]; Matthew Hotopf[2]; Josephine Ocloo[2]; Robert Stewart[2]; Ruth Stuart[2]; Alex Dregan[2]

[1] ESRC Centre for Society and Mental Health, UK; [2] King's College London, UK; [3] University of Sussex, UK; [4] Black Thrive Global, UK

Lay Summary: We used electronic health records from primary care, through the nationally representative Clinical Practice Research Database (CPRD), to assess all-cause mortality following COVID-19 infection in people living with severe mental health problems. Following a COVID-19 infection, people living with severe mental health problems were almost two times more likely to die compared to people without a severe mental health problem, after taking into account age and gender, and people of Black ethnicity were more likely to die following COVID-19 infection in both the group with severe mental health problems and the group without. These findings matter as they suggest that in the UK, people with severe mental health problems, and people from racialised communities experienced a higher risk of death following COVID-19 infection, suggesting that the pandemic has further magnified health and mental health inequalities.

Background: The association of COVID-19 infection with death in people with severe mental illnesses (SMI), and the relationship to multimorbidities/ underlying health conditions are unclear. There are also concerns that the pandemic has exacerbated ethnic inequalities. We used nationally representative records from primary care to assess this knowledge gap.

Methods: We used nationally representative primary care data from the Clinical Practice Research Database (CPRD), with participants followed from the start of the pandemic in 2020, for 1.5 years, covering England and Northern Ireland. For consenting practices, CPRD data was linked to COVID-19 data Public Health England (PHE) Second Generation Surveillance System (SGSS) data, PHE COVID-19 Hospitalisation in England Surveillance System (CHESS) data, and Intensive Care National Audit and Research Centre (ICNARC) data on COVID-19 intensive care admissions. Main analyses focused on 7,493 individuals with SMI and a positive COVID-19 test ("SMI/COVID-19") and a comparison group of 653,024 individuals also testing positive for COVID-19, but without an SMI ("non-SMI/ COVID-19"). The impact of underlying physical health conditions ("multimorbidities") relevant to COVID-19 were also included in the analyses as well as self- ascribed ethnicity and an assessment of regional differences.

Results: In age and gender adjusted models, people living with SMI and recent COVID-19 infection had an increased risk of death compared to non-SMI controls (adjusted Hazard Ratio (aHR): 1.90; 95% CI: 1.74, 2.09), with evidence of an interaction with multimorbidities (p<0.001), indicative of a higher risk of death with multimorbidities in this group. There was no evidence of an interaction with ethnicity, however people of Black ethnicity had a higher risk of death compared with the White British reference group (aHR 1.23; 95% CI: 1.12, 1.34). Regional variations were also apparent, with more deaths noted in the North of England, compared with London.

Conclusion: Our study findings indicate a heightened risk of death following COVID-19 infection in people living with severe mental health problems, with further inequalities by ethnicity and region and an added impact of underlying health conditions (multimorbidities).This will need to be monitored and addressed as the pandemic progresses.

S08   Epidemiology of involuntary care: measurements, changes & methodological developments

Thurs 8 Sep, 16:45 – 18:15
Lecture Room 1
Chair & Discussant: Claire Henderson, King's College London, UK

Abstract: The Every Mind Matters (EMM) platform is a government initiative which aims to improve mental health literacy amongst the adult English population. It is a digital resource and social marketing campaign created and developed by Public Health England that was run nationally from October 2019. Its scope is wider than previous public facing mental health campaigns as it aims to improve population mental health literacy. The campaign is intended to inform and equip at least one million adults to be better able to look after their mental health and support others through improved mental health literacy (primary campaign outcome).

The overall aim of the evaluation is to determine whether the PHE Mental Health Campaign improves mental health literacy amongst adults (aged 18 and over) in England. The evaluation is a prospective study using a mixed methods approach and data from multiple sources.

S08.01   Every Mind Matters campaign and online resource - qualitative interviews about user experiences and views

Ruth Stuart[1]; Prisha Shah[2]; Rachel Rowan Olive[1]; Therese Kabega[2]; Kylee Trevillion[1]; Claire Henderson[1]
[1] King's College London, UK; [2] UCL, UK

Lay Summary: We interviewed 20 people including some with mental health problems not covered by the mental health literacy web resource Every Mind Matters (EMM). Participants liked the presentation and interactivity of EMM and, whether they found it helpful or felt unvalued because their problems were not addressed, they wanted EMM to do more. EMM communication has been engaging and our participants had suggestions for it to become more interactive and more inclusive.

Background: The aim of this interview study is to provide insights into the quantitative results with qualitative data of individuals' experiences and views of EMM.

Methods: 20 one-off remote interviews were conducted and analysed by a team of four including three researchers from the MHPRU Lived Experience Working Group. Inclusion criteria reflected EMM's target audience: adults (18+) who live in England. We recruited primarily via the EMM website. We emailed study information to 504 contacts. We purposively sought a second sample of people with disorders not covered by EMM by emailing 40 participants of an earlier MHPRU study who had consented to be contacted. We asked for demographic data in advance of the interviews to select a range of participants. We also asked everyone whether they had a mental health diagnosis. We had two topic guides, but many questions were the same for both samples. Interviews ran April -October 2021. Codebook analysis suited semi-structured interviews and analysis by a team. We used a mixed inductive and deductive approach.

Results: The sample included 16 females and 4 males aged 25-94. 14 were White British, 3 Black Caribbean descent, 2 Indian and 1 preferred not to say. Fourteen participants reported a mental health diagnosis. Most participants were unaware of any EMM advertising. Almost all were in search of immediate help, or for an ongoing need from past trauma, physical ill- health, sleep problems, stress at work or problems connected to the pandemic. The number of visits to EMM ranged from 1-50+ over periods of 3 days – 2 years. Main findings can be described by four themes: (i) User-friendliness (ii) EMM as a personal experience. (iii) Users wanted more acknowledgement of contexts (iv) Users wanted more interactivity and inclusivity. Participants were very positive about the design of EMM, its navigability and the mixture of written and visual content. Many felt the Mind Plan quiz to be very personal and for some it was life changing. Some wanted EMM to acknowledge social and environmental contributors to distress, inequalities and barriers such as overcrowding, and experiences of difficulty and relapse. Some suggested more plurality for people with different severity or duration of problems, or who are neuro-divergent, more interactivity such as an activity log or live support, inclusivity of more mental health conditions, and more information about treatments.

Conclusion: People with long-term and severe mental health problems are looking at EMM. Participants who felt least served by EMM had suggestions about how EMM could become more inclusive. It is impossible to evaluate EMM outside the context of the broader UK healthcare landscape in which some people's mental health support needs are not being met. Unless EMM can become more inclusive people may have existing experiences of exclusion and unmet needs compounded.

S08.02 Mental health literacy: a focus on daily life context for population health measurement

Kia-Chong Chua[1]; Jane Sungmin Hahn[2]; Suzanne Farrell[3]; Anita Jolly[3]; Randip Khangura[3]; Claire Henderson[4]

[1] Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK; [2] University College London, UK; [3] Public Health England, UK; [4] King's College London, UK

Lay Summary: We developed a new set of measures for mental health literacy, focusing on daily life signs of depression, anxiety, and stress, instead of psychiatric disorder symptoms. We show that useful information about mental health literacy can be obtained by testing knowledge and attitudes about depression, anxiety, and stress in daily life. To enable everyone from all walks of life to manage or maintain wellbeing, mental health literacy in terms of lay knowledge and attitudes about depression, anxiety, and stress in daily life, is a potential target for public health intervention, before the onset of common mental disorders (depressive and anxiety disorders), which is prevalent in the general population.

Background: Measurement of mental health literacy has been predominantly centred on knowledge about psychiatric disorder symptoms. This presents a measurement challenge for evaluating a national public health campaign, Every Mind Matters, where mental health literacy in the general population is centred on knowledge and attitudes about how mental health is linked to sleep, anxiety, low mood, and stress in daily life.

Methods: We developed three measures to assess knowledge and attitudes in mental health literacy. The MHL-REC measures a lay person's knowledge for recognising the impact of depression, anxiety, or stress in terms of changes in daily behavioural patterns when mental health is affected. The MHL-ACT measures a lay person's knowledge about actions in daily life routine for maintaining mental health. The MHL-VIG measures attitudes that may aid one's vigilance in maintaining mental health in daily life. Data were collected via an online survey of the general public (n=3262 adults). For construct validation, we investigated dimensionality and hypotheses of logical associations between mental health literacy and pertinent factors.

Results: Structural validation shows that item responses on MHL-REC, MHL-ACT, MHL-VIG each have a single predominant source of influence. In other words, we believe that mental health literacy is the primary reason why individuals differ in their scores on these measures. These scores also show logical associations with knowledge about sleep hygiene, attitudes indicative of stigma towards mental health, and some indirect personal experience with mental health difficulties. Item response theory information plots showed that total scale scores are sensitive to a wide range of individual differences in mental health literacy. This means that the three measures can be used for early screening purposes or to evaluate the impact of public mental health interventions.

Conclusion: Lay knowledge and attitudes about depression, anxiety, and stress in daily life can be a basis for measuring mental health literacy, and a potential target for public health intervention, before the onset of common mental disorders (depressive and anxiety disorders), which is prevalent in the general population. Future comparisons are needed, between measures that focus on mental health in daily life and those that focus on psychiatric disorder symptoms, for debates on the objectives and benefits of public health interventions for mental health literacy.

S08.03 The Every Mind Matters campaign in England: changes in mental health literacy over 30 months and associations between campaign awareness and outcomes

Claire Henderson[2]; **Jane Sungmin Hahn**[1]; Kia-Chong Chua[3]

[1] University College London, UK; [2] King's College London, UK; [3] Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

Lay Summary: We investigated whether the Every Mind Matters campaign launched in September 2019 by Public Health England helped adults to have better mental health literacy. In 30 months of the campaign, we found that mental health literacy deteriorated to be lower or the same as in September 2019, despite improvements in the initial six months. Those who were aware of the campaign may have benefited in terms of recognising common symptoms, managing stress, and feeling confident about where to seek help. Our findings suggest that the campaign may be helpful for those who have encountered it, but may not be sufficient to improve knowledge and attitudes to mental health in the general population, especially during a global pandemic.

Background: Every Mind Matters by Public Health England aims to equip adults to take action to improve their mental wellbeing by driving them to NHS-assured Better Health- Every Mind Matters' resources. We investigated its effect on mental health literacy over 30 months.

Methods: To observe changes mental health literacy over time, we conducted regression analyses on a nationally representative, repeated cross-sectional dataset collected at baseline in September 2019 and nine waves from October 2019

to March 2022. We conducted an individual patient data meta-analysis with data from October 2019 to March 2021 to examine the association between campaign awareness and the outcomes.

Results: There were 20,435 respondents over ten waves. There were small improvements in symptom management for stress (estimated difference = 0.14; 95% CI: 0.02 to 0.25), depression (estimated difference (ED) = 0.13; 95% CI: 0.01 to 0.24), and anxiety (ED) = 0.21; 95% CI: 0.1 to 0.33), mental health vigilance (ED = 0.6; 95% CI: 0.21 to 0.99), sleep literacy (ED = 0.42; 95% CI: 0.22 to 0.62) and psychological wellbeing self- efficacy (ED = 0.42; 95% CI: 0.12 to 0.71) from September 2019 to March 2020. Help seeking self-efficacy (ED = -0.72; 95% CI: -0.91 to -0.53), psychological wellbeing self-efficacy (ED = -1.04; 95% CI: -1.37 to -0.71), and stigma (ED = -0.22; 95% CI: -0.41 to -0.02) show deteriorations from September 2020 compared to September 2019. By March 2022, there are deteriorations in all outcomes, except for sleep literacy which showed no difference. Campaign awareness was positively associated with symptom management of depression (estimated difference = 0.13; 95% CI: 0.054 to 0.21) and anxiety (estimated difference = 0.18; 95% CI: 0.06 to 0.29), help-seeking self-efficacy (estimated difference = 0.41; 95% CI: 0.15 to 0.67), stigma related to mental disorders (estimated difference = 0.35; 95% CI: 0.19 to 0.51), and mental health vigilance (estimated difference = 0.95; 95% CI: 0.64 to 1.25), but had no associations with overall symptom recognition, symptom management of stress, and psychological wellbeing self-efficacy.

Conclusion: There is little evidence that the campaign improved mental health literacy levels in the general population beyond March 2020. COVID-19 may have rendered symptoms of depression, anxiety, and stress to be normal responses to the struggles associated with a global pandemic; therefore, changing perspectives of symptom recognition and management. Furthermore, people may feel disempowered from pursuing better mental health due to strenuous external circumstances. Those aware of the campaign may have benefited from its resources.

S08.04   Health economic impact of Every Mind Matters campaign

Joe Botham[1]; Claire Henderson[1]; **Paul McCrone**[1][2]

[1] King's College London, UK; [2] University of Greenwich, UK

Lay Summary: We accessed data from the Health Survey for England (HSE) on the use of primary care services and examined the impact of being aware of the Every Mind Matters (EMM) campaign on this use. We then examined data on well-being and mental health awareness from a series of YouGov surveys and estimate the relationship between campaign costs and these measures.

Background: The cross-sectional HSE is carried out annually and awareness of the EMM campaign has recently been measured. A key question we asked was whether campaign awareness was related to the use of primary healthcare services. A second question was whether the EMM campaign was cost-effective in terms of improving well-being and mental health awareness.

Methods: GP service use data was gathered from results of the 2019 HSE. Participants were grouped according to their awareness of the EMM campaign and regression models were produced to assess significance of campaign awareness on use. Other variables controlled for in the model included demographic and clinical measures. The campaign costs were obtained from Public Health England and data on mental health awareness and wellbeing from a series of YouGov surveys. We made assumptions about how many people would potentially have been targeted by the campaign and using he survey data we were able to estimate the number of people with improved well-being or improved mental health awareness. Cost-effectiveness was calculated by assuming that different proportions of the improved numbers were due to the campaign.

Results: In the analysis of primary care use, 8094 people were included in the analysis. Campaign use was weakly associated with increased use. The campaign costs were approximately £5 million. We will be reporting the numbers of people with improved mental health awareness and well-being and the cost of such improvements.

Conclusion: It does not appear that being aware of a campaign such as EMM results in large increase in primary care service use. The cost of one more person having improved mental health awareness or improved wellbeing as a result of the campaign is very low suggesting this is a good use of resources.

S09 Momentary psychological mechanisms assessed using the Experience Sampling Method in individuals with mental disorders – potential targets for public mental health interventions

Thurs 8 Sep, 16:45 – 18:15
Lecture Room 2
Chair: Christine Kühner, Central Institute of Mental Health, Germany. **Discussant:** Inez Myin-Germeys, KU Leuven, Belgium

Abstract: The Experience Sampling Method (ESM) is a promising method to collect intensive longitudinal data to help us gain a deeper understanding of experiences, contextual factors, and psychological outcomes, as well as their temporal associations in the daily lives of individuals with mental disorders. Thereby, individuals are asked to fill in questionnaires several times per day using smartphone apps. ESM studies have found daily life contextual factors, such as events, activities or social situations to be associated with psychological symptoms. Specifically, changes in momentary affect, cognitions and symptoms in response to negative or stressful momentary events, activities, or social experiences can be observed in individuals at different stages of mental disorders. In this symposium, we will share recent results into psychological mechanisms in the daily lives of individuals with affective, musculoskeletal pain, as well as psychotic spectrum disorders. These mechanisms may potentially serve as predictors for the development or course of disorders. Furthermore, mechanisms can be targeted by mobile health interventions that are scalable to broad target populations with the ultimate aim to reduce disease burden globally caused by mental disorders.

S09.01 Reactivity towards daily events: intraindividual variability and intraindividual change in recurrently depressed patients

Isabelle Florence Schricker[1]; Sibel Nayman[1]; Iris Reinhard[1]; Christine Kühner[1]

[1] Central Institute of Mental Health (CIMH) Mannheim, Germany

Lay Summary: We asked 54 patients suffering from recurrent depressive episodes to indicate their mood, thoughts and the occurrence of negative and positive daily events 10 times per day via smartphone for several consecutive days at two measurement points (around 4.2 years in between). We found that following negative events patients reported higher negative mood and higher problematic thoughts and we found an increase of positive mood and self-acceptance following positive daily events. Using specific methods, we were able to see how these changes in mood and thoughts following daily events manifest in the short- and in the long-term, which might help to gain a better understanding of the course of depression.

Background: Major Depression is characterised by a high risk for relapses and recurrences. Therefore, the identification of course-related vulnerability and protective factors is crucial. There is first evidence that patients with depression show heightened mood reactivity towards daily events. However, longitudinal studies investigating reactivity towards daily events measured on different levels (affect, cognition, endocrinological) and time-scales in recurrently depressed (rMDD) patients are lacking. Measurement-burst-designs provide an opportunity to analyse long-term changes in such short-term within-person associations.

Methods: Two measurement bursts were separated by on average 4.2 years, with each containing two Ambulatory Assessment phases of up to five consecutive days (T1: 3 days, T2: 5 days). Via smartphone N = 54 rMDD patients indicated ten times per day their experience of negative (NA) and positive affect (PA), rumination (RUM) and self-acceptance (SA), and the occurrence of negative and positive events during daily life, and collected seven saliva cortisol samples per day.

Results: Within bursts, we found NA and RUM to increase following negative and PA and SA to increase following positive daily events. Affective but not cognitive reactivity increased over time (T1 to T2). On the within-subject level stress-reactivity (NA) was moderated by depression levels, number of lifetime major depressive episodes (MDE) at T1 and of interval MDEs between T1 and T2. Further analyses on cortisol reactivity will be presented at the conference.

Conclusion: Our analyses show that measurement-burst-designs enable researchers to model intraindividual variability and intraindividual change simultaneously and to include important clinical variables as possible moderators of the respective processes. Thereby, results of measurement-burst analyses can provide prognostic information for the course of depression and other mental disorders.

S09.02   Affective, cognitive and symptom reactivity to daily life stressors indicates an elevated stress response in chronic musculoskeletal pain patients

Leonie Ader[1]; Anita Schick[1]; Ulrich Reininghaus[1]

[1] Central Institute of Mental Health (CIMH) Mannheim, Germany

Lay Summary: We conducted a study with 28 participants with a chronic pain condition, who filled in questionnaires regarding their mood, thoughts, pain levels and stressors ten times per day over a period of eight days. We found that, when participants reported to experience a stressful event, do a stressful activity, or be in a stressful social situation, they also tended to reported more negative mood, more catastrophizing thoughts and a higher level of pain. Only for stressful social situations and pain levels this was not the case. It is important to learn more about how different types of stressors influence mood, thoughts and pain levels in patients with a chronic pain condition in order come up with new treatment methods.

Background: While acute pain and stress may be an adaptive response to protect the individual, chronic stress and chronic pain can have maladaptive consequences, including mental illness. Pain, stress and mental illness overlap on a neural level, yet the underlying mechanisms are not fully understood. The development of mental illness may be explained by a gradual increase of the stress response to severe and repeated adversity over the life course, such that individuals eventually show a stronger response even to minor stressors in daily life, which in turn increases the risk of developing a mental disorder (i.e., "Behavioural sensitization"). The aim of this study is to investigate the concept of behavioural sensitization in chronic pain by examining momentary stress reactivity on an affective, cognitive, and overall symptom level.

Methods: Individuals with chronic musculoskeletal pain (N=28) participated in an experience sampling study. They were asked to answer ten questionnaires on their current state and context per day over a period of eight days using smartphones. Daily stressors related to events, activities, or social situations, as well as measures of affect, cognitions and pain were recorded. Stress reactivity was operationalized as the association between ratings of i) negative affect, ii) pain catastrophizing, and iii) pain intensity with a) event, b) activity, and c) social stressors.

Results: In multilevel analyses that account for the hierarchical structure of the data, we found reactivity in response to all types of stressors on the affective (event stress: β: 0.09, p<.001; activity stress: β: 0.14, <.001; social stress: β: 0.14, p<.001) and cognitive level (event stress: β: 0.10, p<.001; activity stress: β: 0.13, p<.001; social stress: β: 0.09, p<.001). We also observed symptom reactivity related to event stressors (β: 0.09, p<.001) and activity stressors (β: 0.12, p<.001). However, the association between social stressors and pain did not reach statistical significance (β: 0.01, p=.54).

Conclusion: The results provide evidence that momentary stress reactivity may manifest on affective, cognitive, and, to some extent, on overall symptom levels in patients with chronic musculoskeletal pain. Future studies should further investigate stress reactivity as a possible underlying mechanism in the development of mental illness and chronic pain and aim to disentangle the association between social stressors and pain intensity.

S09.03   Investigating the temporal association between social isolation and psychotic experiences in individuals at clinical high risk for psychosis

Zeynep Akcaoglu[1]; Thomas Vaessen[1]; Robin Achterhof[1]; Eva Velthorst[2]; Inez Germeys[1]

[1] KU Leuven, Belgium; [2] Mount Sinai New York, United States

Lay Summary: We investigated the role of being alone in the emergence of psychotic experiences in daily life. Our results suggest that being alone may lead to psychotic experiences when it contributes to an individual's stress level. These findings help us to understand in which circumstances being alone may lead to the development of psychotic experiences.

Background: The link between stress and development of psychotic experiences (PE) has been established in the literature. In addition to stress, there is some evidence that social isolation (SI) is associated with development of psychosis. However, the daily-life temporal dynamics between these factors are still unclear. Also, it is unclear what the role of stress is in this association. We investigated the temporal relationship between PE and SI, and the role of solitary and affective distress in predicting PE.

Methods: A total of 137 individuals at clinical high risk for psychosis (57 male; mean age 23) participated in a six-day experience sampling study with assessments ten times per day for six consecutive days. We measured their momentary PE and SI (alone vs in company), and in moments they were alone their perceived solitary stress and affective distress (i.e. their momentary level of negative affect [NA]). Using multilevel modelling, we investigated the time-lagged effect of SI on PE and of PE on SI. Then, in those moments the participants reported being alone, we investigated the time-lagged effects of solitary stress and of NA on PE. Finally, we tested whether solitary stress or NA was a better predictor of subsequent PE using 10-fold blocked cross-validation.

Results: Results indicated that SI was not predictive of subsequent PE or vice versa. When alone, the experience of solitary stress was predictive of subsequent PE, but only at trend-level (B=0.03; p=.08; CI: -0.00 – 0.07). The level of NA experienced when alone was, however, predictive of subsequent PE (B=0.15; p<.001; CI: 0.10 – 0.20). The blocked cross-validation

indicated that NA was a better predictor of subsequent PE than solitary stress (mean squared prediction error solitary stress: 2.78, SD: 0.64; mean squared prediction error NA: 0.61, SD=0.16).

Conclusion: Although there is some evidence that SI is associated with PE, our results do not suggest a temporal association between these factors on a moment-to-moment level. We found some evidence that being alone may precede PE when an individual experiences it as stressful. However, affective distress was a much stronger predictor of subsequent PE. These results seem to imply that social isolation is associated with PE through its contribution to a general distress level. Future research must test whether this is indeed the case, and if social isolation is associated with development of PE through mechanisms besides stress.

S09.04   Acceptance and Commitment Therapy in Daily Life (ACT-DL): Targeting stress and reward mechanisms

Evelyne van Aubel[1]; **Thomas Vaessen**[2]; Ginette Lafit[1]; Ruud van Winkel[1]; Ulrich Reininghaus[3]; Inez Germeys[1]

[1] KU Leuven, Belgium; [2] University of Twente, Belgium; [3] Central Institute of Mental Health (CIMH) Mannheim, Germany

Lay Summary: Individuals with psychotic disorders react with increased negative emotions to daily life stressors and this increased reactivity to stress seems to play an important role in the onset and maintenance of psychotic experiences. We investigated the effects of Acceptance and Commitment Therapy in Daily Life (ACT-DL), face-to-face ACT supplemented with a smartphone app, on stress reactivity. We randomized N=148 participants in the early stages of psychosis to either an experimental condition of ACT-DL in addition to their treatment as usual (TAU) (N=71) versus a control condition of TAU only (N=77). We found marginal evidence for improved stress reactivity in ACT-DL compared to TAU at 6-months follow-up, suggesting that ACT-DL may be an interesting treatment option to improve stress reactivity in early psychosis individuals.

Background: The current study aimed to examine the effects of adding Acceptance and Commitment Therapy in Daily Life (ACT-DL), a blended Ecological Momentary Intervention (EMI) to treatment as usual (TAU), on stress and reward reactivity, i.e. the effect of perceived stress and pleasure in daily life on concurrent negative (NA) and positive affect (PA) and psychotic experiences (PE), in comparison to TAU only in individuals at the early stages of psychosis.

Methods: We randomized n=148 participants to either ACT-DL (n=71) or TAU (n=77). The ACT-DL EMI included 8 face-to-face ACT sessions combined with an ACT-based smartphone app bringing therapy into participants' daily lives. We measured momentary NA, PA, PE, activity, social, and event stress, as well as event pleasure with Experience Sampling Method (ESM) assessments at baseline, post-intervention (POST), and 6-month follow-up (FOLLOW-UP).

Results: We found marginal evidence for a larger improvement from baseline to follow-up in NA reactivity to both activity (β: -0.10; p=0.084) and social (β: -0.09; p=0.085) stress in ACT-DL compared to TAU. While PE reactivity to activity stress did improve in TAU from baseline to post (β: -0.12; p<.001), it did not in ACT-DL (β: 0.14; p<.001).

Conclusion: This study is the first to show a gradual, sustained, and larger improvement in NA stress reactivity in early psychosis individuals who received ACT-DL+TAU in comparison to TAU only.

S10   Societal consequences of scaling up Individual Placement and Support

Thurs 8 Sep, 16:45 – 18:15
Lecture Room 3
Chair: Arnstein Mykletun, Haukeland University Hospital, Norway. **Discussant:** Miles Rinaldi, Nordland Hospital, Norway

Abstract: Individual Placement and Support (IPS) is recognized as the most efficacious method to enable people with severe mental illness to gain and retain employment. However, there are multiple barriers hindering full-scale implementation of the IPS in routine settings: the IPS requires a close collaboration between the welfare sector with mental health services and the integration of the Employment Specialist into community mental health teams which can be difficult to achieve. The IPSNOR project aims to understand the both the implementation challenges and experiences of delivering and receiving IPS in Northern Norway

S10.01   A systematic review of economic studies of supported employment programs for people with mental health conditions

A-La Park[1]; Miles Rinaldi[2]; Beate Brinchmann[2]; Eoin Killackey[3]; Nils Abel Aars[2]; Arnstein Mykletun[2]; David McDaid[1]

[1] London School of Economics and Political Science, UK; [2] Nordland Hospital: Competence Center Mental Health, Norway; [3] Orygen, Melbourne, Australia, Australia

Lay Summary: We performed a systematic review of economic literature on supported employment/Individual Placement & Support programs for people with mental health conditions. There is a strong economic case from both healthcare and welfare perspectives for implementation of SE/IPS programs. This economic evidence can help justify sustained investment in these programs in European settings and beyond.

Background: Employment is intrinsic to recovery from mental health conditions. Supported employment (SE) including Individual Placement & Support (IPS) program scan help people to enter or return to employment. The costs of exclusion from employment can be substantial. Evidence on the cost-effectiveness of SE/IPS programs can help inform mental health policy and practice. We undertook a systematic review to explore the current state and development of economic evidence (PROSPERO: CRD42020184359).

Methods: We searched PubMed/MEDLINE, EMBASE, PsycINFO, CINAHL, Business Source Complete and EconLit, from January 2009 to August 2021. Reference lists of relevant papers were also checked and Google Scholar searched. There were no language restrictions. Data were extracted on all types of economic analyses of SE/IPS for people with mental health conditions, including learning disabilities, covering both modelling and trial-based studies. The quality of the studies was assessed with the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) checklist.

Results: From 40,015 references, 56 papers covering 54 economic studies were identified. 79% of our included studies reported a positive economic case for intervention with just five (9%) being negative and eight (15%) inconclusive or dependent on subjective judgement. Well-designed RCTs demonstrated the strong economic case for cost-effectiveness (cost per Quality Adjusted Life Year gained) from a healthcare perspective.

Conclusion: SE/IPS, when well implemented, can lead to significantly improved work-related outcomes and/or reductions in welfare payments at least in the short-term, which partially or even completely can offset the costs of intervention. The economic case can be strengthened further when impacts in other sectors are considered. The economic case, while strong, is conservative; the short duration of most empirical economic studies means that long-term economic benefits of being in work, accrued over the life-course are not captured.

S10.02   A meta-regression of the impact of policy on the efficacy of individual placement and support

Beate Brinchmann[1]; Tarjei Havneraas[2]; Matthew Modini[3]; Miles Rinaldi[1]; Cathrine Moe[4]; David McDaid[5]; A-La Park[5]; Eoin Killackey[6]; Samuel Harvey[7]; Arnstein Mykletun[1]

[1] Nordland Hospital: Competence Center Mental Health, Norway; [2] Helse Bergen, Norway; [3] University of New South Wales, Australia; [4] Nord University, Norway; [5] London School of Economics and Political Science, UK; [6] Orygen, Melbourne, Australia, Australia; [7] Black Dog Institute, University of New South Wales, Australia

Lay Summary: We conducted a systematic review investigate if the efficacy of IPS can be generalised across countries. We find that the ability of IPS to produce the desired outcome can be generalised between countries. There is sufficient evidence for the efficacy of Individual IPS internationally, it is time to start focusing on implementation.

Background: Individual placement and support (IPS) has shown consistently better outcomes on competitive employment for patients with severe mental illness (SMI) than traditional vocational rehabilitation. The evidence for efficacy originates from few countries, and generalisation to different countries has been questioned. This has delayed implementation of IPS and led to requests for country-specific RCTs. This meta-analysis examines if evidence for IPS efficacy can be generalised between rather different countries.

Methods: A systematic search was conducted according to PRISMA guidelines to identify RCTs. Overall efficacy was established by meta-analysis. The generalisability of IPS efficacy between countries was analysed by random-effects meta-regression, employing country- and date-specific contextual data obtained from the OECD and the World Bank..

Results: The systematic review identified 27 RCTs. Employment rates are more than doubled in IPS compared with standard vocational rehabilitation (RR 2.07 95% CI: 1.82–2.35). The efficacy of IPS was marginally moderated by strong legal protection against dismissals. It was not moderated by regulation of temporary employment, generosity of disability benefits, type of integration policies, GDP, unemployment rate or employment rate for those with low education.

Conclusion: The evidence for the efficacy of IPS is very strong. The efficacy of IPS can be generalised between countries.

S10.03   Impact of economic arguments on the implementation of supported employment for people with mental health conditions

David McDaid[1]; A-La Park[1]; Cathrine Moe[2]; Miles Rinaldi[3]; Beate Brinchmann[3]; Eoin Killackey[4]; Nils Abel Aars[3]; Arnstein Mykletun[5]

[1] London School of Economics and Political Science, UK; [2] Nord University, Norway; [3] Nordland Hospital: Competence Center Mental Health, Norway; [4] Orygen, Australia; [5] UiT – The Arctic University of Norway, Norway

Lay Summary: We conducted a secondary analysis of systematic review on economic analyses of supported employment for mental health conditions. Economic evidence for supported employment is increasingly visible in policy documentation as an argumentation for implementation and scale up. Supported employment could potentially reduced welfare spending.

Background: Supported employment is a key service in mental health recovery, however implementation is patchy. While some countries in Europe, including Norway, UK and Switzerland have services in place, they remain rare in most countries, where vocational rehabilitation services dominate. There is evidence that supported employment is cost effective but does such economic evidence get considered in the policy making process? We undertook a secondary analysis of a systematic review on economic evidence for supported employment (PROSPERO: CRD42020184359) to address this question.

Methods: Secondary analysis of systematic review on economic analyses of supported employment for mental health conditions. Search of PubMed/MEDLINE, EMBASE, PsycINFO, CINAHL, Business Source Complete and EconLit from January 2009 to August 2021. Reference lists of relevant papers were checked supplemented by examination of policy documentation. Data on the role of economic evidence in influencing policy implementation and scale up were extracted. A narrative analysis of data was conducted.

Results: Over 400 papers discussed aspects of supported employment policy, implementation and scale up. More than 100 pointed to economic facilitators influencing policy, in particular focusing on economic gains achieved through avoidance of welfare costs. Arguments pointing to the cost effectiveness of supported employment in achieving better quality of life are also increasingly used. Barriers include a lack of financial flexibility in moving resources from sheltered work to open employment schemes, and a lack of coordination and joint budgeting for employment services across health/welfare sectors.

Conclusion: Economic evidence for supported employment is increasingly visible in policy documentation as an argumentation for implementation and scale up. Much emphasis in economic arguments is focused on benefits of potentially reduced welfare spend. Cost effectiveness of supported employment to some health systems has also been noted. Much evidence is concentrated in countries where health economics is well established; there is a need to generalise economic arguments to other settings.

S10.04   Lived Experience as an IPS User

Simon Engelien[1]

[1] Nordland Hospital: Competence Center Mental Health, Norway

Lay Summary: Individual Placement and support (IPS) has provided me with a safe job and a feeling of belonging.

Background: I am 31 years of age and the youngest child in a family of 5. I am musically interested, but I always had a feeling of being different. I needed a lot of time for myself as a child, got bullied through elementary through to college and later got diagnosed with a mild depression and social anxiety. In 2013 I came into contact with an early intervention team for psychosis and in conjunction an Individual Placement and support (IPS) employment specialist.

Methods: I started participating in the IPS program with the aim of gaining self-supporting, competitive employment.

Results: IPS has provided me with a safe job and a feeling of belonging.

Conclusion: Collaboration with my employment specialist (8 years and still counting) has changed my life for the better. I would like to share my experience with you.

S10.05   Is Individual Placement and Support successful in increasing employment rates during 10 year follow-up?

Beate Brinchmann[1]; Sina Wittlund Wittlund[1]; Sandtorv Elisabeth[1]; Eoin Killackey[2]; David McDaid[3]; Miles Rinaldi[1]; Thomas Lorentzen[4]; Arnstein Mykletun[1]

[1] Nordland Hospital: Competence Center Mental Health, Norway; [2] Orygen, Melbourne, Australia, Australia; [3] London School of Economics and Political Science, UK; [4] The University of Bergen (UiB), Norway

Lay Summary: This study investigates the impact of Individual Placement and Support implementation on employment rates in Bodø, Norway. This is important as IPS can potentially reduce welfare dependency at a societal level.

Background: There is strong RCT evidence that Individual Placement and Support (IPS) has merit to increase employment in patients with severe mental illness The purpose of this study is to investigate the impact of scaling up IPS in psychiatric services in Bodø, Norway. Can the efficacy of IPS in increasing employment rates can be translated into effectiveness?

Methods: Using high quality population level register data, we followed individuals aged 18-65 who received a work assessment allowance between 2010-2019 . A difference-in-differences method was used to compare employment rates before, during and after implementation of IPS in Bodø with 10 pre-determined municipalities throughout Norway where IPS-services are not yet available. This method provides an estimation of the difference in average outcome in the treatment group (Bodø -where IPS-services available) before and after implementation, minus the difference in average outcome in the control group (10 municipalities in Norway without IPS-services) during the same time period.

Results: Preliminary analyses will be ready for presentation at the conference

Conclusion: Because of ongoing work with the result section, the conclusion will be presented at the conference.

S11   Examining the association between Psychosis, Migration and Ethnicity - from risk to outcome

Thurs 8 Sep, 16:45 – 18:15
Lecture Room 4
Chair: Brian O'Donoghue, St Vincents University Hospital, Ireland. **Discussant:** Craig Morgan, King's College London, UK

Abstract: Migration is one of the most robust risk factors for developing a psychotic disorder, with a recent meta-analysis demonstrating that migrants have at least double the risk for developing a psychotic disorder compared to native-born populations. However, there still remains a number of important gaps in our knowledge in relation to the association between psychosis and migration. First, it is not yet fully understood why migrants have this increased risk and a clear understanding of the underlying mechanism remains elusive. Associate Professor Kelly Anderson will present findings from a large population-based health registry on the association between multiple indicators of linguistic distance and risk of psychotic disorders among first generation migrants to Ontario, Canada. Second, some individual studies have suggested that migrants and members of ethnic minorities experience inequalities in accessing the appropriate care for psychotic disorders, but this research question has not yet been subject to a systematic review. Ms. Natalie Hall, a PhD student at University College London, will present the findings of a systematic review of studies examining whether there is a variation in treatment for psychosis for migrants and ethnic minorities. Following this, the outcomes for ethnic minorities and migrants will be explored. Dr Sian Lowri Griffiths, a research fellow at the University of Birmingham, will present findings in relation to the variation in outcomes for ethnic groups in the UK in relation to symptoms severity and functioning across the five years after a first episode of psychosis and how another environmental factor, namely social deprivation, can contribute to a variation in outcome. Associate Professor Brian O'Donoghue will then present findings in relation to the outcomes for migrants to the Republic of Ireland in relation to symptoms, functioning, hospitalisation and engagement with psychosocial interventions in the first year after a first episode of psychosis. Finally, Prof Craig Morgan will act as a discussant for the symposium.

S11.01   Outcomes one year after a first episode of psychosis in migrants to the Republic of Ireland

Brian O'Donoghue[1]; Eric Roche[2]; John Lyne[3]; Laoise Renwick[4]; Mary Clarke[5]

[1] St Vincents University Hospital, Ireland; [2] Cluain Mhuire mental health services, Ireland; [3] Royal College of Surgeons in Ireland, Ireland; [4] The University of Manchester, UK; [5] University College Dublin, Ireland

Lay Summary: Migrants have an increased risk of developing a psychotic disorder, compared to the native-born populations, yet not much is known about the outcomes for migrants with a first episode of psychosis. This study examined a broad range of outcomes (symptom severity, employment status, hospitalisation and engagement with psychological treatments). After one year, migrants had similar outcomes to those born in Ireland across these outcomes and this was also found when the outcomes of migrants were examined according to the continental region from where they migrated.

Background: Migration is one of the most robust and replicated risk factors for the development of a psychotic disorder, yet there is a relative paucity of research on the outcomes of migrants who develop a FEP. Therefore, this study aimed to determine a broad range of outcomes for those with a FEP who migrating to the Republic of Ireland, including: (i) symptomatic outcomes; (ii) functional outcomes; (iii) hospitalisation; (iv) Engagement with psychosocial services.

Methods: This study was conducted at the Dublin and East Treatment and Early Care Team (DETECT) Early Intervention for psychosis service, which encompasses three mental health services in South Dublin and Co Wicklow and covers a total population of ~377,000 people. All individuals with a FEP, determined by an assessment with the SCID, aged 18 to 65 who presented between 01.02.2006-01.07.2014 were included. Structured and validated instruments were used to measure positive (SAPS), negative (SANS) and depressive (CDSS) symptoms and also insight. Analysis was conducted for the total migrant group and then for each sub- group of migrants, according to the continental region.

Results: A total of 573 individuals presented with a FEP during the study period and 22.3% (n=128) were first generation migrants. A one follow-up assessment was completed for 63.4% (n=363) and there was a higher follow-up rate in those with an affective FEP and who were outpatients at the original first presentation. There was no difference in the severity of positive psychotic symptoms, negative symptoms and depressive symptoms at one year follow-up between individuals who were migrants compared to the native-born individuals. There was a trend for Irish born individuals to have a higher level of insight compared to migrants (9.0 vs 8.0, Z=-1.91, p=.056). The functional outcomes were similar across groups and 36% in both groups were in employment at one year follow-up. One third (n=26) of first-generation migrants were admitted to

hospital during the first year after a FEP compared to 28.7% (n=80) of the Irish born cohort (X^2=0.63, df=1, p=.426) and there was no difference in involuntary admissions or total bed days. Approximately half of both groups attended CBT and 46.2% (n=36) of caregivers for migrants attended the psychoeducation program, compared to 39.7% (n=112) of caregivers for the Irish born cohort (X^2: 1.05, df: 1, p=.306). All of the findings for the sub- groups of migrants classified according to continental region were consistent with the above findings, except migrants from Africa had lower levels of insight at follow-up.

Conclusion: These findings demonstrate that migrants have broadly similar outcomes to the native-born populations and that there is still considerable scope for the outcomes for all individuals affected by psychotic disorders to be improved.

S11.02 Variation in five-year illness outcomes for ethnic groups in the UK following a first episode of psychosis

Sian Griffiths[1]

[1] University of Birmingham, UK

Lay Summary: We compared recovery outcomes over a 5-year period between young people from different ethnic groups in the UK following treatment for first episode psychosis. We found that recovery differed across the ethnic groups over the 5-year period. The White group appeared to make the most improvements following treatment. Black individuals were more likely to experience social deprivation, and this contributed to the differences in recovery. It is important to identify if inequalities exist for ethnic minority groups; this will help us improve care so that everyone is able to achieve a good recovery from psychosis.

Background: Psychosis disproportionally affects ethnic minority groups in high-income countries, yet evidence of disparities in outcomes following intensive early intervention service (EIS) for First Episode Psychosis (FEP) is less conclusive. It is imperative to understand factors that predispose these individuals to illness, but also whether such underlying factors hold risk for continuing poorer outcomes, even after receiving specialised care under EIS. Aims: We investigated five-year clinical and social outcomes of young people with FEP from ethnic groups in the UK following EIS care.

Methods: Data were analysed from the UK-wide NIHR SUPEREDEN study. The sample at baseline included White (n=750), Black (n=71) and Asian (n=157) individuals, assessed over the 3-year duration of EIS care, and the following two years post discharge (n=296). Outcome trajectories were modelled for psychosis symptoms (positive, negative, and general), functioning, and depression, using linear mixed effect models (with random intercept and slopes), whilst controlling for social deprivation.

Results: Variation in linear growth over time was accounted for by ethnic group status for psychosis symptoms – positive (95% CI: 0.679, 1.235), negative (95% CI: 0.315, 0.783), and general (95% CI: 1.961, 3.428) – as well as GAF disability (95% CI: 11.212, 17.677) and depression (95% CI: 0.261, 0.648). Black individuals experienced greater social deprivation (p<.001; 95% CI: 0.187, 0.624), which contributed to the variance in recovery outcomes.

Conclusion: Findings suggest variations in long term clinical and social outcomes following EIS for ethnic minority groups. Minority ethnic status and social deprivation contributed to disparities, but with compounded impact for Black individuals. Replication is needed in large, complete data, to fully understand disparities and blind spots to care.

S11.03 Ethnic and migrant group variations in treatments for psychosis: a systematic review

Nathalie Rich[1]; Catherine Borra[1]; Sophie Ollenshaw[1], Emma Francis[1]; Milagros Ruiz[1]; James B. Kirkbride[1]

[1] University College London, UK

Lay Summary: We conducted a systematic review of ethnic and migrant variations in treatment for psychosis over a global context, identifying 81 papers across multiple treatment domains. This review seeks to aid clinical service providers and policymakers to reduce institutional inequalities in access to gold standard care for psychosis.

Background: Ethnic and migrant variation in treatment for psychosis have been frequently reported in studies from the Global North. Despite this, there has been no literature review to date on such inequalities. To address this gap, we conducted a systematic review of the literature on this topic to investigate the extent of ethnic/migrant variation in psychosis care and treatment.

Methods: In this systematic review, we sought to identify all studies which published data on ethnic and/or migrant variation in psychosis care and treatment available in English language, between 1996-2021. This period was consistent with the establishment and growth of Early Intervention in Psychosis [EIP] care as the gold standard for psychosis treatment. We followed PRISMA-P guidelines and prospectively registered the review protocol on PROSPERO. We defined inclusion criteria as studies which: 1) pertained to non-organic psychosis in clinical settings; 2) involved patients aged 14-65 years; 3) presented results on psychosis care or treatment stratified by ethnic group and/or migration status; 4) were published

between January 1996 to December 2021. We defined our search term and extracted data for psychosis treatment, if the treatment was aligned to one of the following 8 domains: 1) Cognitive Behavioural Therapy for psychosis (CBTp); 2) family interventions; 3) clozapine treatment in non-responders; 4) supported employment and education programmes; 5) physical health assessments; 6) interventions relevant to physical health; 7) carer-focussed education and support programmes; and, 8) any other evidence based treatment (e.g. atypical vs typical antipsychotics, treatment adherence/engagement). A librarian was consulted to ensure an unbiased search strategy. Search terms ran through Medline Ovid SP, PsycInfo, Web of Science and CINAHL databases, resulting in 9,515 identified citations.

Results: 81 papers were identified as meeting eligibility criteria from 12 countries across North America (65%), Western Europe (24%), Australia (6), Asia (1%) and the Middle East (3%). Publications focused predominantly on antipsychotic (AP) treatment, with 88% of papers investigating migrant and ethnic group inequalities in AP use. A narrative synthesis following ESRC Guidance on the conduct of narrative synthesis in systematic reviews was performed. We found a pattern of differing AP prescription and use across multiple ethnic minority and migrant groups, however, due to heterogeneity of publications a meta-analysis could not be conducted.

Conclusion: The findings from the paper will be discussed at the congress. This systematic review of ethnic and migrant variation in treatment for psychosis will benefit clinical service providers and policymakers to reduce institutional inequalities in access to gold standard care.

S11.04 Lost in Translation? Deciphering the Role of Language Differences in the Excess Risk of Psychosis among Migrant Groups

Kelly K. Anderson[1]; Jahin Khan[1]; Jordan Edwards[2] Britney Le[3]; Ivan Witt[1]; María Francisca Alonso Sánchez[1]; Lena Palaniyappan[2]

[1] Western University, Canada; [2] McMaster University, Canada; [3] ICES, Canada

Lay Summary: Migrant groups have a higher risk of developing a psychotic disorder, such as schizophrenia, but we don't have a good understanding of why this happens. Language abnormalities are a key feature of these disorders, so differences in language between migrant groups and the host population could be playing a role. Our study aimed to explore migrant first language as a risk factor for psychotic disorder, with an aim towards identifying factors that could be targeted by public mental health interventions.

Background: Migration is a well-established risk factor for psychotic disorders, with recent estimates suggesting a more than two-fold greater risk of psychotic disorder among first-generation migrant groups; however, the mechanisms underlying this association remain elusive. Migrant language has recently been proposed as a novel factor that may hold promise for improving our understanding of the relationship between migration and psychotic disorders. Our objective was to examine the association between multiple indicators of linguistic distance and the risk of psychotic disorders among first-generation migrant groups.

Methods: Using linked population-based health administrative data, we constructed a retrospective cohort of first-generation migrants to Ontario over a 20-year period between 1992 and 2012. We obtained information on first language and fluency in Canada's official languages (English and French), in addition to other variables known to be associated with the risk of psychotic disorders among migrant groups. First language was categorized using several different approaches, due to the lack of a validated approach for measuring linguistic distance – these approaches included classification based on language trees, language acquisition difficulty, and syntax-based distance scores. First onset non-affective psychotic disorders were identified using a validated algorithm, and the follow-up period ranged from 5 to 25 years depending on the landing date. We used Poisson regression models to compute incidence rate ratios for each language variable to assess the magnitude of effect on the risk of developing psychosis, relative to migrants who did not develop psychotic disorder, after adjusting for multiple risk factors.

Results: Our cohort included 1,863,803 first-generation migrants, and nearly 700 languages were represented in the dataset. Preliminary findings suggest that migrants who speak neither of Canada's official languages at arrival (35%) have higher rates of psychotic disorder, relative to those who speak English (IRR=1.13; 95% CI: 1.10,1.17). Full results for each of the language classifications will be presented at the conference.

Conclusion: Excess rates of psychotic disorders among migrant groups have persisted for nearly a century with little progress toward prevention. The findings from this study could potentially identify modifiable markers of risk for psychotic disorder to inform public mental health strategies.

S11.05   Exploring indigenous ethnic inequities in first episode psychosis in New Zealand – A national cohort study

Ruth Cunningham[1]; **Cameron Lacey**[1]; Frederieke Petrovic-van der Deen[1]; Jenni Manuel[1]; Sheree Gibb[1]; Richard Porter[1]; Suzanne Pitama[1]; Marie Crowe[1]; Sue Crengle[1]

[1] University of Otago, New Zealand

Lay Summary: We used linked anonymous health and social service information to compare experiences of diagnosis with first episode psychosis and what happened in the next five years after diagnosis between young Māori (the indigenous people of NZ) and other young people. We found that a psychosis diagnosis was more common among the indigenous population and that those who were not part of the indigenous population were more likely to have a job and not be involved with the justice system after five years, regardless of what diagnosis they had or whether they still needed mental health care. Understanding the patterns of unequal outcomes after a psychosis diagnosis can help to find ways to address unequal outcomes.

Background: First episode psychosis (FEP) disproportionately affects rangatahi (young) Māori, the Indigenous people of New Zealand, but little is known about factors contributing to this inequity or the trajectory experienced following diagnosis. This study describes a cohort of rangatahi Māori and young non- Māori with FEP, and explores ethnic differences in incidence rates, diagnoses, service contacts and functional outcomes.

Methods: Māori and young non-Māori, aged 13–25 at the time of the first recorded psychosis-related diagnoses, were identified from health service data within Statistics NZ's Integrated Data Infrastructure (IDI), between 2009 and 2012. The resident New Zealand population was used to calculate incidence. The cohort with FEP was linked to health and social service data five years after diagnosis to identify outcomes.

Results: A total of 2412 young people with FEP (40% Māori) were identified. Māori were younger, and more likely to live in deprived and rural communities and be diagnosed with schizophrenia. Non-Māori young people had less than half the incidence of FEP compared to Māori after adjusting for age, sex, deprivation and urbanicity. Non-Māori had higher income, were more likely to be in employment (40% vs 25%, OR: 1.57), less likely to be on a benefit (51% vs 70%, OR: 0.56) or involved with the justice system (14% vs 31%, OR: 0.53) five years after diagnosis with FEP. These differences were found across diagnosis groups, and for both those still in treatment and those no longer in treatment.

Conclusion: Lower incidence of psychotic disorders and better functional outcomes following diagnosis and treatment among non-Māori compared to rangatahi Māori indicate potential for preventing psychosis and improving outcomes for Māori if the societal and health system factors leading to privilege of the non-Māori group can be addressed.

S12   Psychotic Disorders And Daily Life: Contributions From Recent Ecological Research

Thurs 8 Sep, 16:45 – 18:15
Lecture Room 5
Chair: Giovanni de Girolamo, St. John of God Clinical Research Centre, Italy. **Discussant:** TBC

Abstract: In the last decade the focus of clinical research on psychotic disorders as shifted from the study of symptom profiles and overall psychopathology to real-life functioning, in order to grasp a more valid and fine-grained understanding of patients' daily life, and of factors which impede or facilitate psychosocial adjustment and good quality of life. People suffering from psychosis, even in advanced stages of the disorder, require a detailed assessment of their functional characteristics. To achieve this, recent studies assessing daily life in this clinical population have been based on prospective and real-time assessments, such as the Experience Sampling Method (ESM) approach and actigraphy: these approaches rely on the use of digital technologies, and are in line with precision and personalized medicine.

The ESM approach provides an ecologically valid time sampling of self-reports that allows a real time assessment of several domains, including space (where patients are during the daily hours), time (what patients do during the day), interpersonal relationships (with how many people patients interact during the day) and emotions (how patients' mood changes during the day). Furthermore, ESM gives instant estimates of current behaviour, which minimises recall biases. This approach might be particularly efficient in evaluating patients with psychosis given their cognitive deficits and inclination to biases. To assess instantaneous estimates of behaviour and motor activity, current practice adds real-time measurements taken from actigraphy to ESM data: actigraphy is a valid instrument for the assessment and monitoring of physical activity, sedentary behaviour, sleep and energy expenditure in patients with psychosis.

This symposium will present the results of 4 studies which have employed ESM and/or actigraphy to assess psychosocial functioning, psychopathology, mood and physical activity. Taken together, they offer a naturalistic, ecologically valid view of patients with psychotic disorders, and contribute to a more humanistic understanding of the daily life of patients with psychotic disorders in the new context of community-based models of care.

S12.01   Daily Time Use, Physical Activity and Interpersonal Relationships in Patients with Schizophrenia Spectrum Disorders (Diapason): an Italian Multicentred Study

Giovanni De Girolamo[1]

[1] IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Italy

Lay Summary: (1) What we did: We assessed daily time use in patients with SSD (either living in residential facilities or at home) and healthy controls using real-time, digital methodologies to examine the associations between motor activity, energy and mood. (2) What we found: Both residential patients and outpatients spend more time in non-productive activities compared to healthy controls; residential patients and healthy controls spend also more time engaged with other people compared to outpatients. With the monitoring of PA done with accelerometery we found that patients with SSD show more sedentary behaviour compared to healthy controls. (3) Why it's important: Community care requires that mental health services make efforts to increase the amount of time spent by patients with SSD engaged in specific, motivating activities. Mental health services should also develop plans to engage patients in structured physical activity programmes.

Background: Many people with SSD spend most of their daily time being inactive, and this is related to the severity of negative symptoms and to high levels of sedentary behavior. In the DiAPAson project we aimed at assessing daily activity patterns in residential patients, outpatients with SSD and healthy controls using real- time methodologies to examine the directional associations among motor activity, energy and mood.

Methods: Daily time use has been evaluated in 80 residential patients, 60 outpatients and 115 healthy controls with ESM installing a specific application on all smartphones: participants have completed a brief questionnaire about time use (e.g., paid work, leisure, resting/doing nothing), mood (i.e., rating of different adjectives on a scale from 0 to 100; e.g., "sad", "happy", etc.) and perceived energy (i.e., rating of different adjectives on a scale from 0 to 100; e.g., "active", "tired", etc.) 8 times a day for an entire week, for a total of 56 prompts. In these three groups of subjects Physical Activity (PA), sleep patterns, and energy expenditure have been monitored through a multi-sensor device worn on the nondominant wrist, the Actigraph GT9X, during the same week. For the assessment of PA, the primary end-point is the comparison of total PA, intensity specific PA and sedentary time between residential patients, outpatients and controls; we also assess the

associations between activity-derived measures (PA and sedentary time) and clinical markers.

Results: In order to assess the influence of non-productive hours on symptoms severity we developed a hierarchical linear regression model, with psychiatric severity, as assessed with BPRS, as dependent variable, and non-productive hours as independent variable, controlling for the patients' setting. The number of non- productive hours significantly affected BPRS score. Both residential patients and outpatients spend more time in non-productive activities compared to healthy controls; residential patients and healthy controls spend also more time engaged with other people compared to outpatients. All variables related to PA assessment show an higher level of sedentary behaviour among patients compared to healthy controls.

Conclusion: Using mobile monitoring (actigraphy and ESM) and traditional clinical methods, it is possible to assess the highly dynamic interplay of multiple brain-body systems involved in the homeostatic regulation of human energy, mood and motor activity.

S12.02   Being Alone Increases Distrust: The Role of Close Others and Empathy on Wellbeing And Trust.

Imke Lemmers-Jansen[1]

[1] Vrije Universiteit Amsterdam, Netherlands

Lay Summary: (1) What we did: We combined experimental social decision making (trust) data with real life social interaction data in patients with psychotic symptoms and healthy controls. (2) What we found: Patients are more often alone, but contact with familiar others is beneficial for their symptoms and mood. Trust was lower in participants who were frequently alone. (3) Why it's important: Social contact, especially with close others should be a target for intervention, since patients with psychotic symptoms of then withdraw from social contact, even though it is beneficial for their wellbeing and therapy outcome.

Background: Psychosis is associated with profound problems in interpersonal functioning. One of the key elements of social relationships is trust. Reduced trust in psychosis may lead to social withdrawal. Patients with psychotic disorders have fewer social contacts and less social support than comparison groups, which is associated with reduced quality of life and poor patient outcomes. However, social networks buffer against the impact of adversities and are associated with wellbeing.

Methods: This study combined experimental trust data with emotional responses to day-to-day social interactions by means of experience sampling (ESM). We hypothesized that early psychosis patients show more social withdrawal, and report lower positive affect when being in company, compared to controls. We expect that these social aspects are associated with reduced trust. The sample consisted of 28 patients with psychotic symptoms and 28 healthy controls. Participants performed a trust game during fMRI, and filled in the ESM questionnaire 10 times a day, during a week.

Results: Patients had less social contact, and less contact with familiar others than controls. Contact with familiar others was associated with lower positive symptoms, and with more positive affect in patients. Subjects with low levels of empathy had more negative affect when in company of close others when compared to being in company of less familiar others. Reduced baseline trust in patients was associated with less social interactions. Decreased activation of the caudate and the temporo-parietal junction was associated with more social withdrawal.

Conclusion: The results indicate that familiar company is related to better outcomes in psychotic disorders. Frequently being alone was associated with reduced baseline trust. Being alone also affects neural responses to received trust in patients. Treatment involving familiar contacts may be effective in patients with psychotic symptoms to facilitate social contact and strengthen their relationships.

S12.03   The Relationship Between Loneliness and Psychotic Symptoms in Daily–Life: an Experience Sampling Study

Anne-Kathrine Fett[1]

[1] City University of London, UK

Lay Summary: 1) What we did: We studied the temporal associations between loneliness, felt social exclusion, paranoid thinking and low mood in a sample with varying familial risk for a psychotic disorder. 2) What we found: Regardless of their familial risk for psychosis, lonely individuals and those who felt socially excluded were more likely to engage in paranoid thinking and to experience low mood over time. Paranoia preceded feelings of social exclusion and low mood, but not loneliness. 3) Why it's important: Different aspects of mental health worsen in all groups following loneliness and felt social exclusion. This highlights the clinical importance of fostering a sense of belonging and social inclusion.

Background: The role of loneliness and feelings of social exclusion in the development of paranoia is largely unexplored and negative affect (NA) has been suggested to explain potential associations. Being socially included is one of the most

cited desired outcomes of individuals experiencing psychosis. The aim of this study is to investigate feelings of loneliness and social exclusion, and their temporal relationship with paranoia and NA in the course of everyday life across the psychosis continuum.

Methods: The sample included 75 participants; n=29 individuals with a diagnosis of non-affective psychosis, n=20 unaffected first-degree relatives, and n=26 controls. Participants completed app-based experience sampling (ESM) on loneliness, feelings of social exclusion, paranoid thinking, and NA up to 10 times per day for 1 week. Time-lagged multilevel regression analyses were conducted to investigate temporal relationships.

Results: Patients were significantly lonelier than controls (p<.001), but patients and relatives and relatives and controls did not differ significantly (both p > .05). Patients experienced greater paranoia than relatives (p<.05) and controls p <.01], but controls and relatives did not differ significantly (p > .05). The groups did not differ in feelings of social exclusion or negative affect (all p > .05). Loneliness and feelings of social exclusion were significant, and independent predictors of paranoia over time and in all groups (β: .05, p< .001 and β: .06, p<.01, respectively). NA significantly predicted paranoia (β: .23, p <.001) and partially mediated these associations. Over time, paranoia predicted feelings of social exclusion, with stronger effects in controls than patients (β: -.21, p <.05), but not loneliness (β: .07, p=.21). NA significantly predicted loneliness and social exclusion (both p<.001).

Conclusion: Loneliness, feelings of social exclusion and NA are related, yet independent predictors of paranoia. The findings suggest worsening mental health in all groups following loneliness and social exclusion and show that different aspects of mental health precede the distinct social emotions in time, thus warranting separate treatment foci.

S12.04   When to Regulate: Everyday Emotion-Regulation Strategy Use and its Contextual Factors in Early Psychosis

Xu Li[1]

[1] University of Leuven, Belgium

Lay Summary: (1) What we did: We asked individuals in the early stages of psychosis to fill out a questionnaire every evening for 6 days in a row, about the most negative and positive events of the day and what strategies they used in dealing with these events emotionally. We investigated whether the intensity of the event, the importance of the event and the level of control over the event predicted how individuals were dealing with their emotions in response to this event. (2) What we found: In individuals in the early stages of psychosis, negative events that were experienced as more intense were associated with more effort to deal with their emotions. More specifically, individuals would ruminate more about the event, were trying to change the situation more, would express their emotions more and would share them with others if events were more intense. Interestingly, this was also found for more intense positive events. This would lead to savouring the event more, more expression of emotions and more sharing with others. More important events and events that were less controllable also were associated with some specific strategies, but intensity was the most important contextual factor (3) Why it's important: Although many studies suggest that individuals with psychosis have difficulty in dealing with their emotions, we found that in the early stages of psychosis, individuals with psychosis respond with a variety of strategies to both negative and positive events.

Background: Evidence from self-report and experimental studies show that psychosis is characterized by deficits in emotion regulation (ER). However, little is known about how ER choices in psychosis are shaped by contextual determinants in daily life, and few study have examined how appraisal of contextual events relate to choices about ER strategy in early psychosis. The goal of the current study is to investigate the extent to which different appraisal dimensions of the most negative and positive events of the day contribute to ER choices in individuals with ultra-high risk (UHR) for psychosis and individuals with first-episode psychosis (FEP).

Methods: The sample was collected as part of the INTERACT study, a multi-center randomized controlled trial. For the purpose of the current study, we used data from the baseline assessment before intervention. Participants (70 UHR, 78 FEP) were instructed to complete an ESM evening questionnaire for six consecutive days, in which their appraisal of intensity, importance and perceived control of the most negative and positive events of the day, and their usage of different ER strategies in response to these events were measured. Event intensity is rated from -3 (very unpleasant) to 3 (very pleasant), and other items were rated from 1(not at all) to 7(very much).

Results: Higher intensity of the daily most negative event was associated with more efforts in regulating emotions (β: -1.00, p=0.003), more usage of rumination (β: -0.79, p<0.001), situation modification (β: -0.35, p=0.003), expression (β: -0.47, p<0.001), and social sharing (β: -0.82, p<0.001). Intensity of daily most positive event was associated with the use of a greater number of ER strategies and the use of each separate strategy, i.e., savouring, expression and sharing (ps < 0.01). Greater importance of the negative event was associated with more use of rumination (β: 0.22, p=0.005) and greater importance of positive event was associated with more use of savouring (β: 0.31, p<0.001). Greater perceived control over the daily most negative event was associated with more effort in using reappraisal (β: 0.16, p=0.002). No significant differences were

observed regarding effect of context appraisal on ER choice between FEP and UHR individuals.

Conclusion: These findings in daily life show that context appraisal contributes to variation in use of ER strategies in individuals in the early stages of psychosis, which is in line with findings in the general population. It remains to be seen whether these ER strategies are equally effective in the early stages of psychosis.

S13 The Mental health of children and young people in the time of Covid-19; children should be seen and heard

Fri 9 Sep, 10:30 – 12:00
Concert Hall
Chair & Discussant: Abby Russell, University of Exeter, UK

Abstract: Arguably children and young people were least likely to suffer serious consequences from Sars-Cov-2 infection, but in many countries faced greatest disruption to their lives from the result restrictions. This heroic living systematic review concludes that there is little evidence of a sustained impact from Covid-19 on adult mental health, having screened over 97,500 titles and abstracts (24 May 2022). Only 220 studies were sufficiently rigorous to include, and methodological differences in sampling, measures and timing likely contribute to conflicting results among these studies. Notably only 13 studied children and young people, with a particular lack of data on those under 10. This symposium will focus on mental health and access to services from three population-based studies of children and young people.

The Mental Health of Children and Young People in England 2017 was a probability sample 9117 children and young people aged 2 to 19 years and followed up by questionnaire 2020, 2021 and 2022. We conducted embedded in-depth evaluations relating to key policy issues at each follow up. Here, we present changes in the prevalence of mental health conditions, with a focus on eating disorders, as well as access to mental health services and other sources of support. These five talks will draw data gathered from three population-based samples and studies that applied a variety of methods to reflect on the impact of the Covid-19 Pandemic and resultant restriction on children and young people.

S13.01 The mental health of children and young people (MHCYP) from the national survey in 2017 and its follow ups, in 2020 and 2021 with a focus on eating disorders

Tamsin J Ford[1]

[1] University of Cambridge, UK

Lay Summary: We assessed the mental health of the same children and young people from England using a combination of questionnaires and interviews in 2017, 2020 and 2021. Screening indicated a doubling of eating difficulties between 2017 and 2021, while predictions from 2017 data suggest a true increase in eating disorders and we are completing a diagnostic assessment to see if we can confirm this. The doubling of urgent and emergency referrals for eating disorders appear to relate to widespread difficulties with eating in the general population, which requires a multi-agency response the tendency to persist and the associated increase in mortality.

Background: The sudden increase in emergency and urgent referrals for children and young people with eating disorders in 2020/2021 could be due to increased help-seeking, or to there being more children struggling with eating in the population. The policy and practice response would differ according the explanatory reason, but relatively rare conditions are hard to study at population level.

Methods: Children (11-16), their parents and young people (aged 17-22) completed the screening questions from the Development and Well-being Assessment (DAWBA) in 2021. The DAWBA is a multi- informant standardised, diagnostic assessment. Parents of 5-16 year olds, and young people (aged 11+) who screened positive were invited to complete the rest of the module on eating disorders. In the first two weeks, we have complete data on 184 children and young people, from 779 invitations sent out, with 132 partially completed. Data collection will complete at the end of June 2022. All had complete the full DAWBA in 2017 allowing a direct comparison of the prevalence at the two time points.

Results: In 2017, 6.7% 11-16 year olds, and 44.6% of 17-19 year olds screened positive, compared to 13.0% and 58.2% respectively. Applying the Positive Predictive Value from 2017 to the 2021 data suggests a prevalence for young men aged 17-19 between 0.4 and 1.2% compared to a prevalence estimate of below 0.1 in 2017. For for younger boys, the lower limit of the range in 2021 equates to the 2017 prevalence. Similarly, the point estimate for young women represents a 20% increase in prevalence between 2017 and 2021, but the range of estimates varies from a 30% decrease to nearly doubling.

Conclusion: Preliminary results suggest a true increase in eating disorders among children and young people in the UK population, with many more indicating eating difficulties. To avert the considerable stress, impairment and mortality that can result from eating disorders a multi-agency response is required, with further research to support those who are struggling as well as those who reach diagnostic criteria

S13.02   The experiences of young people and parents of seeking and receiving help for mental health concerns during Covid-19: a qualitative interview study

Tamsin Newlove-Delgado[1]

[1] University of Exeter Medical School, UK

Lay Summary: We interviewed 18 parents and young people who took part in the national Mental Health of Children and Young People in England 2020 survey about their experiences of seeking and receiving help for mental health concerns during Covid-19. Participants faced challenges in asking for help and in accessing support and treatment during Covid-19, and some felt that virtual assessment and treatment did not meet their needs. These findings provide insight into the reasons why some people did not seek help for concerns during Covid-19, as well as providing suggestions for how to better adapt services to support children, young people and families in the case of future restrictions.

Background: Many services for children and young people saw drops in referrals during the early part of the pandemic. In the Mental Health of Children and Young People in England (MHCYP) survey 2020, almost half of young people with a probable condition reported that they decided not to seek help for a mental health concern due to the COVID-19 pandemic. Alongside a shift to online service delivery, concerns have been raised about unmet need, lost opportunities for earlier intervention, and the potential impact on inequalities. This study sought to explore experiences of seeking and receiving help and support for mental health concerns during Covid-19, to draw out messages for services and to inform planning of delivery should there be future pandemics.

Methods: Follow-on qualitative interviews with parents of children aged 5 to 16 and young people aged 17 to 23 participating in the MHCYP 2020 follow-up survey, purposively selected based on their survey responses about mental health concerns and service contacts. Semi-structured topic guides covered experiences of mental health-related help-seeking and contact with services during the pandemic. Interviews were conducted by telephone or online and analysed using thematic analysis.

Results: 18 participants were interviewed (8 young people and 10 parents). Initial themes generated from the data included: awareness of the constraints and limitations of services during Covid-19, with some participants feeling their needs were lower-priority; use of alternative solutions (including private care); the effect of changes to education (e.g. remote learning, returning to school) on identification and support, and experiences of virtual interactions with professionals and services. These were mixed, with advantages for some participants, but significant challenges to access and engagement reported by others

Conclusion: The findings provide some insight into families' decision making about help seeking during Covid-19, as well as into the challenges faced in accessing support and services. They emphasise the importance of messaging and systems which encourage, rather than discourage, early identification and treatment. Policy-makers and services should consider how future pandemic response plans, as well as 'routine' delivery can be tailored for flexibility, responsiveness, and accessibility and minimise unintended longer-term consequences from delayed or missed opportunities for intervention.

S13.03   MyJournE: Remote reporting of wellbeing, mood and life events in adolescents and young people

Jessica Penhallow[1]; Lauren Cross[2]; Sophie Epstein[1]; Tamsin Ford[2]; Johnny Downs[1]

[1] King's College London, UK; [2] University of Cambridge, UK

Lay Summary: This novel approach to the collection of wellbeing data used a mobile app (myJournE) to collect retrospective and momentary reports of the mood and life events of adolescents and young people (age 11-24). This approach yielded a promising response with engagement from 30% of invited users from a national sample and many users providing multiple contributions. There is potential for apps like myJournE to be utilised for the light touch, low-cost collection of large momentary datasets.

Background: The Mental Health of Children and Young People survey (2017) found one in eight 5-19 year olds to have at least one mental health disorder. However, we still have a poor understanding of the temporal relationships that underpin person-environment interplay, hampering our ability to identify and target novel interventions. This stems from the infrequent sampling that typifies conventional epidemiological cohorts, and their reliance on retrospective recall of specific experiences and their timing. Although the lives and experiences of adolescents occur on a moment-to-moment basis, research investigating adolescent mood has predominantly used retrospective questionnaires assessing global concepts such as mood, stress, and coping. Retrospective questionnaires are often biased and fail to reflect this shifting pattern of time-varying coping responses. A way forward is to use digital platforms to recruit new cohorts and collect data frequently using momentary sampling, in order that symptoms and events are captured in real-time from a large number of

participants. The myJournE app was developed by researchers at King's College London in co-design with young people in South London and with the aim to provide a simple platform to capture momentary mood date. It has been trialled in local schools and this study is the first to demonstrate the recruitment of participants and engagement and adherence to the platform in a nationally representative sample.

Methods: Participants of the longitudinal Mental Health of Young People in England survey (1,582) were invited by email and text message to download the myJournE app to their phone and register for an account. On the app, they were invited to take part in a standalone wellbeing survey pack (ReSHAPE) followed by a mood monitoring and diary study over a 2-week period with prompts to report daily. The mood monitoring component involved a general mood rating on a likert scale, contextual questions, and a series of emotions on the Positive and Negative Affect Scale to rate. The diary component prompted participants to categorise an event that happened to them that day as positive or negative and by context. They were then invited to describe the event in free text and rate how it affected their mood.

Results: Of the 1,582 participants invited: 467 (29.51%) registered for an account on myjourne; 425 (26.86%) completed the survey; 225 (14.22%) provided at least one daily mood entry; and 120 (7.58%) provided at least one life event diary entry. Of those who completed a mood entry, 139 (61.77%) completed multiple entries and of those who completed a diary entry, 61 (50.83%) completed multiple entries. There were 55 (24.44%) "super users" who completed more than 5 mood entries over the two-week period.

Conclusion: Mobile platforms can provide a viable method for the collection of wellbeing data from young people, both in the forms of traditional retrospective measures and momentary reporting. The characteristics of those who were highly engaged in the platform will be further analysed for additional insights

S13.04   Adolescents' Resilience During a Universal Stressor (COVID-19) MYRIAD COVID-19 Resilience Study

Tamsin J Ford[1]
[1] University of Cambridge, UK

Lay Summary: We compared data collected from secondary school students on depression, psychological distress and well-being between two groups over two years in a natural experiment. One group finished completing questionnaires about their mental health in autumn 2019 and the other in Spring 2021 which allowed us to compare how their mental health changed between the ages of 11-14 year olds before and after the onset of the pandemic.

Background: The Mindfulness and Resilience in Adolescence (MYRIAD) research programme is exploring the effectiveness, cost-effectiveness, mechanisms and scalability of a universal social-emotional mindfulness training (MT) in young people aged 11-16 in UK secondary schools (1)During this research program, the COVID-19 pandemic broke out, profoundly affecting every aspect of life in the UK, and creating the opportunity for a natural experiment (2). Schools, teachers and students have all been affected in a range of ways, emotionally, socially and educationally.

Methods: The MYRIAD design collected data from 8376 11-14 year olds and >600 school teachers in 85 UK schools over 5 time points. Data were collected across two cohorts. Cohort 1 (n=975) data collection began in Autumn 2016 and completed in Autumn 2019, prior to the outbreak of the pandemic. For cohort 2, (n=7401) data collection started in Autumn 2017 and completed in Spring 2021. Thus, for cohort 2, 4 measurement points occurred prior to the outbreak of the pandemic and the final collection point was approximately one year after the outbreak of the pandemic. This enables us to answer several important questions about young people through the COVID pandemic

Results: Using the conceptual model we developed from a scoping review (3), we will explore how student, teacher, school, community, and COVID-19 variables interact to affect outcomes through the
COVID-19 pandemic. The broad aims of the MYRIAD COVID-Resilience study are to: 1. Describe the effects of the COVID-19 pandemic on students, teachers and schools; 2. Explore what factors predict variance in these effects, and; 3. Explore further the moderators, mediators and implementation of SBMT identified in our earlier work (Montero-Marin et al., 2022) on outcomes during the COVID-19 pandemic.

Conclusion: Analyses will be completed early summer 2022 but are too preliminary to report now

S13.05   Secondary school pupils' mental health and wellbeing during the UK COVID-19 lockdowns: amplification of pre-existing risks

Karen Mansfield[1]
[1] University of Oxford, UK

Lay Summary: The OxWell online survey gathered responses to questions on mental health, wellbeing, and experience of the pandemic from a diverse sample of UK school pupils, to investigate situational factors associated with poor mental

health during the lockdowns. A series of analyses supported concerns that the lockdown measures might have amplified the role of pre-existing risks on mental health outcomes, with additional effects of COVID-19 illness. The findings have implications for the potential role that schools and public services could have in closing the inequality gap.

Background: So far, the impacts of the COVID-19 pandemic on adolescents' health and wellbeing appear to be varied, and there is concern regarding the potential re-enforcement of pre-existing inequalities and risks. We investigated which pupils were most at risk of perceiving deterioration to their wellbeing during partial school closures, to what extent this differed for those accessing on-site school compared to fully-remote educational provision, and the role of perceived safety and support at home and school. Using data from 2021, we assessed whether there were negative impacts on brain health for those who reported having had COVID-19, above and beyond the impacts of the lockdown measures.

Methods: School pupils (aged 12+ years) attending secondary schools in a convenience sample of English counties were invited to complete an online repeated cross-sectional survey of up to 500 questions on health, wellbeing and circumstances during the pandemic. A series of mixed effects models assessed the role of situational factors on measures of depression, anxiety and pupils' perceptions of their wellbeing and cognitive abilities during the lockdowns, accounting for background characteristics, school and year group.

Results: 10,000 secondary school pupils in June-July 2020 and 15,000 pupils in May-July 2021 spent around 30 minutes completing the survey. Pupils with the highest odds of diagnosable depression and anxiety during the 2020 lockdown, and of perceiving deterioration to their wellbeing, were female, reported socio- economic deprivation, or had previously received mental health support. Amount of support from school and safety/relationships at home were the circumstances most strongly associated with perceived changes to wellbeing, with school support having a clearer role for pupils accessing on-site school. Feeling safe at home was more strongly associated with wellbeing during the first 2020 lockdown compared to a comparable survey from 2019. In the 2021 survey, pupils who reported having already had COVID-19 reported greater cognitive and mental health difficulties.

Conclusion: Our findings are in line with concerns that the role of pre-existing inequalities, such as past mental health needs, deprivation and unsafe home circumstances, might have been re-enforced by the pandemic. Outcomes will possibly be worse for adolescents who have also been unwell with COVID-19. Support within schools might offer a protective role if resources can be allocated effectively to reduce inequality.

S14 Physical environment, cognition, and mental health over the life course

Fri 9 Sep, 10:30 – 12:00
Lecture Room 2
Chair: Ioannis Bakolis, King's College London, UK. **Discussant:** Amy Ronaldson, King's College London, UK

Abstract: The World Health Organisation ranks air pollution as the main environmental cause of premature death with emerging evidence showing adverse impacts of pollution on mental health. Green infrastructure is seen as a potential means to mitigate pollution impacts and living in greener areas is associated with reduced stress and improved mental health. In addition, individuals from low-income backgrounds and residents of more socially disadvantaged areas tend to be exposed to higher levels of air pollutants and have less access to green spaces, which could result in impaired mental health and cognition compared with their more affluent counterparts. However, the significant potential health and societal costs of poor mental health in relation to physical environment characteristics are under-represented due to limited evidence and gaps and uncertainties in our knowledge of the potential pathways (green spaces, residential conditions, co-morbidities) that drive the reported associations. The purpose of this symposium is to present findings from several large UK-based cohort studies demonstrating evidence of how the physical environmental influences cognition and mental health over the life course.

S14.01 The role of physical environmental characteristics and intellectual disability in conduct problem trajectories across childhood

Alister Baird[1]

[1] UCL, UK

Lay Summary: We examined if physical environmental exposures influenced developmental trajectories of conduct problems across early childhood in both children with and without intellectual disability. We found that internal physical environment only (as well as various socioeconomic and familial covariates), influenced conduct problems over time in our sample. This has significant implications for both housing policy and design, as well as highlighting our need to understand how external physical environments may mediate behaviour in children with neurodevelopment disorders.

Background: There is a paucity of research investigating the role of the physical environment in the developmental progression of conduct problems and the potential moderating effects of intellectual disability (ID). This is surprising, given the clinical relevance of elucidating environmental determinants of disruptive behaviours. By increasing our understanding of the role of children's physical environment in the aetiology of aggressive behaviour, we can design and implement therapeutic interventions which may improve quality of life and reduce the frequency of the diverse adverse costs of aggression.

Methods: We examined the influence of physical environmental exposures on conduct problem trajectories in 8168 children between the ages of 3 – 11 from the Millennium Birth Cohort study (MCS). We explored the effects of a range physical environmental measures, including; neighbourhood greenspace, air pollution (NO2), household crowding, urbanicity of residence, and household damp, whilst simultaneously controlling for socioeconomic and familial confounders. We stratified our sample into children with and without intellectual disability (ID) using pre-established protocols and cognitive metrics within the MCS (ID prevalence of 1.9%). Multilevel models with multiple imputation were used to examine trajectories across development. Interaction effects between ID status and physical environmental exposures were explored to examine possible mediation of conduct problems and environment by ID diagnosis.

Results: Exposure to external environmental domains was not associated with differences in children's conduct problems across development. Alternatively, internal aspects of the household environment were associated with increased trajectories. Various individual and familial covariates were positively associated with conduct problems over time, including: presence of ID (b = 0.96; 95% CI: 0.62 – 1.31, p<.001), autism spectrum disorder (b = 1.18; 95% CI: 0.57, 1.80, p<.001), male sex (b = 0.26; 95% CI: 0.20, 0.33, p<.001), poverty (b = 0.19; 95% CI: 0.18, 0.26, p<.001), maternal depression (b = 0.65; 95% CI: 0.46, 0.84, p<.001), and non-nuclear family structure (b = 0.35; 95% CI: 0.28, 0.42, p<.001). Positive ID status appeared to moderate the effects of internal household spatial density, reporting a non-linear negative association with spatial density and conduct problems across development (b = −1.08; 95% CI: -1.75, -0.40, p<.01).

Conclusion: Our findings highlight the potential harmful consequences of poor internal residential conditions on children's development of disruptive behaviours.

S14.02   Neighbourhood greenspace and adolescent mental health in London: the roles of greenspace type and quality

Marie Mueller[1]; Emily Midouhas[1]; Eirini Flouri[1]

[1] University College London, UK

Lay Summary: We investigated whether the type and quality (as opposed to just the mere quantity) of neighbourhood greenspace play a role in adolescent mental health and well-being. We find that not all types of greenspace are equally predictive of adolescent mental health and well-being. This is important because we need a better understanding of what works for whom to be able to inform policy and planning decisions.

Background: There is evidence suggesting a positive link between greenspace and health. However, not much is known about the specifics of this link, and it is unclear what works for whom (e.g., what types of greenspace work for what groups of the population). Most studies to date have used a generic measure of greenspace quantity, not distinguishing between different types of greenspace. This is a gap in the literature that needs to be addressed. A better understanding of what types of greenspace work for whom will allow us to better inform policy and planning decisions.

Methods: In the first part of this project, we investigated the roles of different types of greenspace in the mental health and well-being of youth living in London. We used data on 10- to 15-year-old adolescents, taken from Understanding Society. We created exposure variables using London Green and Blue Cover data (https://data.london.gov.uk/dataset/green-and-blue-cover) and Greenspace Information for Greater London data (https://www.gigl.org.uk/). In particular, we calculated percentages of green land cover, parks & gardens, natural & semi-natural urban greenspaces, and outdoor sports facilities for LSOAs and for circular buffers around postcode means. Using linear regression models, we investigated the associations of exposure variables with adolescent mental health, self-esteem, and happiness (adjusting for individual, family, and neighbourhood confounders). In the second part of this project, we investigated the role of 'quality', exploring both neighbourhood 'quality' and greenspace 'quality'. Adolescents rated their neighbourhoods on different scales (e.g., safety), and a composite score of these ratings was used as a measure of neighbourhood 'quality'. We used this measure as a moderator of the associations of exposures with outcomes in the models that we used in the first part of this project. To assess the role of 'high-quality' greenspace in mental health and well-being, we used a binary exposure variable indicating whether an adolescent lived within 1,000 m of a greenspace of 'high ecological quality'.

Results: Preliminary results suggest a potential relevance of greenspace type and quality; however, analyses are yet to be finalised.

Conclusion: If we find that type and/or quality of greenspace matter, this would be an important insight that could inform future research and, ultimately, policy and planning decisions.

S14.03   Impact of air pollution on cognition during mid- and late adulthood. Results from the MRC National Survey of Health and Development (NSHD)

Jorge Arias de la Torre[1]; Amy Ronaldson[1]; Marcus Richards[2]; Anna Hansell[4]; John Gulliver[3]; Rebecca Hardy[2]; Helen Fisher[1]; Thomas Canning[1]; Stephani Hatch[1]; Ian Mudway[4]; Ioannis Bakolis[1]

[1] King's College London, UK; [2] UCL, UK; [3] University of Leicester, UK; [4] Imperial College London, UK

Lay Summary: There is growing interest in studying the potential associations between air pollution exposures during adulthood with cognition later in life. However, prospective evidence with long follow-up periods is sparse. We investigated associations over more than 20 years (from age 43 to 68-70) using the MRC National Survey of Health and Development (NSHD) data. The findings suggest that exposure to outdoor air pollution in mid- and late adulthood potentially affects cognition in later life.

Background: Increasing evidence suggests a potential association between outdoor air pollution and cognition. However, it has usually been based on data with limited follow-up periods. The aim of this study was to investigate this association from mid- to late adulthood.

Methods: Data from the MRC National Survey of Health and Development (NSHD) were used. Cohort members who were still participating in the survey at age 68-70, with information available about cognition and prior modelled air pollution exposures at age 43 (n=1605), 53 (n=1346) and 60-64 (n=1247) were included. Annual pollutant exposures (NO$_2$, SO$_2$, BS, NO$_x$ PM$_{10}$, PM$_{2.5}$ and PM$_{coarse}$ - µg/m³) were derived from land use regression models at residential address level. Cognition was assessed at ages 68-70 using the Addenbrooke's cognitive examination III (ACE-III). Prospective associations between air pollution and cognition were assessed using interquartile range increases (aβ and 95% CIs) obtained from linear regression models adjusted for socioeconomic, health-, and neighbourhood-related indicators.

Results: Estimated median (IQR) air pollution measurement units at age 43 were 28.2 (8.1) for SO$_2$, 29.8 (10.2) for NO$_2$ and 11.4 (5.9) for BS. At age 53 these were 27.0 (9.8) for NO$_2$, 50.2 (17.5) for NO$_x$ and 22.6 (2.0) for PM$_{10}$. At age 60-64 these were

22.5 (4.3) for NO_2, 36.4 (15.9) for NO_x, 15.7 (1.9) for PM_{10}, 9.6 (1.2) for $PM_{2.5}$ and 6.1 (1.8) for PM_{coarse}. Prospective relationships between higher exposure to NO_2 at ages 43 (aβ: -0.4; 95% CI: -0.76 to -0.03) and 60-64 (aβ: -0.49; 95% CI: -0.89 to -0.10) and lower total ACE-III score at age 68-70 were found. Additionally, increases in exposure to PM_{10} (aβ: -0.43; 95% CI: -0.72 to -0.14), $PM_{2.5}$ (aβ: -0.41; 95% CI: -0.80 to -0.02), and PM_{coarse} (aβ: -0.35; 95% CI: -0.61 to -0.10) at age 60-64 were related to a reduction in the total ACE-III scores at age 68-70.

Conclusion: These findings suggest that long-term exposure to outdoor air pollution during mid- and late adulthood, particularly to NO_2 and PM_{10}, could adversely affect cognition in later life. Whilst causation cannot be proved, this work suggests decreases in cognitive ability in later life may be avoided with improved air quality.

S14.04 Air pollution and patterns of physical-mental multimorbidity in the UK Biobank: A cross-sectional study

Amy Ronaldson[1]; Jorge Arias de la Torre[1]; Mark Ashworth[1]; Anna Hansell[2]; Stephani Hatch[1]; Ian Mudway[3]; Matthew Hotopf[4]; Robert Stewart[1]; Alexandru Dregan[1]; Ioannis Bakolis[1]

[1] King's College London, UK; [2] University of Leicester, UK; [3] Imperial College London, UK; [4] NIHR Maudsley Biomedical Research Centre, UK

Lay Summary: In this study we looked at how air pollution exposure related to different patterns of co- existing long-term physical and mental conditions in a large cohort of middle-aged adults in England. We found that higher exposure to air pollution was associated with having comorbid depression and anxiety, as well as alcohol/substance dependency. Understanding how air pollution increases risk of poor mental health is important for prevention and environmental policy.

Background: Air pollution exposure is known to be associated with single physical and mental conditions, but its role in physical-mental multimorbidity has not been investigated. We aimed to assess associations between air pollution exposure and patterns of physical-mental multimorbidity.

Methods: We used exploratory factor analysis to identify patterns of multimorbidity based on 36 physical and 5 mental conditions included in the UK Biobank cohort. We assessed cross-sectional associations between modelled annual exposures to various particulate matter (PM) size fractions ($\leq$2.5 m, $\leq$10 m and 2.5-10 m), nitrogen dioxide (NO_2), and total nitrogen oxides (NO_x) and multimorbidity patterns at the baseline assessment (2006-2010) in 156,395 middle-aged adults with multimorbidity and complete data for all study variables. Potential associations were explored using logistic regressions adjusted for socioeconomic and neighbourhood-level indicators.

Results: We identified 11 multimorbidity patterns, with one solely comprising common mental health disorders (i.e. depression and anxiety). Higher exposure to air pollution was associated with increased likelihood of the common mental health disorder pattern ($PM_{2.5}$: adjusted odds ratio (aOR): 1.12; 95% CI: 1.09 to 1.15; NO_2: aOR: 1.15; 95% CI: 1.11 to 1.18; NO_x: aOR: 1.09; 95% CI: 1.06 to 1.11). A neurological multimorbidity pattern emerged which comprised stroke and epilepsy, but also included alcohol/substance dependency. Exposure to both NO_2 and $PM_{2.5}$ exhibited strong associations with this pattern. As there are well-established links between air pollution exposure and stroke, we investigated whether this condition was driving the observed associations. Surprisingly, we found that exposure to NO_2 (the air pollutant most strongly associated with the neurological multimorbidity pattern) exhibited the highest odds ratios for alcohol/substance dependency (aOR: 1.73; 95% CI: 1.35 to 2.20), followed by stroke (aOR: 1.25; 95% CI: 1.02 to 1.52), and epilepsy, which appeared borderline (aOR: 1.22; 95% CI: 0.98 to 1.51).

Conclusion: This cross-sectional study suggests that exposure to air pollution might be associated with the accumulation of common mental health disorders. Moreover, there appears to be a strong association between air pollution and alcohol/substance dependency which might be a consequence of increased depression and anxiety. Prospective studies are needed to investigate associations between air pollution and physical- mental multimorbidity trajectories.

S14.05 Associations between exposure to outdoor air pollution and cognitive function in England: the ELSA cohort

Dylan Wood[1]

[1] Imperial College London, UK

Lay Summary: Exposure to outdoor air pollution and the effects it may have on cognition in the elderly were investigated. Several pollutants were found to have a harmful effect on cognition in elderly individuals in England over time. These findings add to a growing body of work negatively associating exposure to air pollution with cognitive function and cognitive decline outside of the normal ageing process; such work is crucial in fully understanding all factors that play a role in cognitive decline and impairment.

Background: The potential role of exposure to ambient air pollution on cognitive health outcomes is yet to be fully

understood, although there is an increase in evidence for a negative association between cognition and several pollutants. Here, long-term estimates of NO2, PM10 and PM2.5 were linked to respondents of the English Longitudinal Study of Ageing (ELSA; n = 8,967 respondents aged 50 years and older) and the effects of each pollutant on cognitive test scores were investigated.

Methods: Annual average CMAQ-urban (Community Multiscale Air Quality) dispersion model estimates were applied to the residential postcode of respondents at each interview wave. A composite memory scale (0-20) incorporated responses to both an immediate and delayed word recall test. The animal naming test was included as a measure of executive function (0-50). Mixed-effects models were implemented separately for each pollutant and for each test, adjusting for age, gender, number of follow-ups, physical activity and smoking status and incorporating a random intercept to account for the intra-person variability across repeated measures.

Results: The mean baseline age of ELSA respondents included was 63.1 years and a mean follow-up time of 11.81 years was observed. Respondent score on the composite memory scale displayed negative longitudinal associations of 0.12 per interquartile range (IQR) increase for NO_2 (IQR: 12.4μg/m^3), as well as decreases of 0.02 for PM_{10} (IQR: 3.65μg/m^3) and 0.08 for $PM_{2.5}$ (IQR: 2.7μg/m^3). For executive function scores, negative associations were found for NO_2, PM_{10} and $PM_{2.5}$, with decreases in test score of 0.29, 0.06 and 0.15, respectively per IQR increase.

Conclusion: Cognitive function in ELSA respondents decreased as exposure to NO_2, PM_{10} and $PM_{2.5}$ increased. Both episodic memory and executive function may be affected by long-term exposure to ambient air pollution and further investigation is required to fully determine the extent to which the cognitive health of the elderly population of England may be vulnerable to outdoor air pollution.

S15   ---- SYMPOSIUM WITHDRAWN ----

S16   Individual Placement and Support implementation challenges and effectiveness

Fri 9 Sep, 10:30 – 12:00
Lecture Room 3
Chair: Miles Rinaldi, Nordland Hospital, Norway. **Discussant:** David McDaid, London School of Economics and Political Science, UK

Abstract: Individual Placement and Support (IPS) is recognized as the most efficacious method to enable people with severe mental illness to gain and retain employment. However, there are multiple barriers hindering full-scale implementation of the IPS in routine settings: the IPS requires a close collaboration between the welfare sector with mental health services and the integration of the Employment Specialist into community mental health teams which can be difficult to achieve. The IPSNOR project aims to understand the both the implementation challenges and experiences of delivering and receiving IPS in Northern Norway.

S16.01   Lived Experience in Research

Barbara Stenvall[1]

[1] Nordland Hospital: Competence Center Mental Health, Norway

Lay Summary: Lived experience in research has changed the presenter's life path and helped to stake out a way forward.
Background: The importance of actively involving lived experience has increasingly gained ground in both policies and research.
Methods: This presentation addresses how lived-experience co-researchers contribute with core competencies and invaluable insights which are complementary to those with professional academic backgrounds.
Results: The presenter's personal experience in research has contributed and informed all focus areas, including research processes at the Center for Work and Mental Health. This acknowledgment has given the presenter encouragement and provided opportunities to pursue a personal academic career.
Conclusion: Lived experience in research has changed the presenter's life path and helped to stake out a way forward.

S16.02   IPS implementation challenges

Cathrine Moe[1]; Beate Brinchmann[2]; Line Rasmussen[3]; Oda Lekve Brandseth[2]; David McDaid[4]; Eoin Killackey[5]; Miles Rinaldi[2]; Marit Borg[6]; Arnstein Mykletun[2]

[1] Nord University, Norway; [2] Nordland Hospital: Competence Center Mental Health, Norway; [3] Nordland Hospital Bodo, Norway; [4] London School of Economics and Political Science, UK; [5] Orygen, Australia; [6] University of South-Eastern Norway, Norway

Lay Summary: We interviewed national IPS stakeholders and IPS employment specialists to learn about their experiences of IPS implementation. We found that IPS implementation requires several adjustments in multiple organisations and that employments specialists are pioneers in service development. Results from the studies can contribute to increased focus on job satisfaction, turnover and recruitment of employment specialists, and how policies both influence and are influenced by IPS implementation.
Background: For decades there has been a continuous increase in the number of people receiving welfare benefits for being outside the workforce due to mental illness. There is sufficient evidence for the efficacy of Individual Placement and Support (IPS) for gaining and maintaining competitive employment. Yet, IPS is still not implemented as routine practice in public community mental health services. Knowledge about implementation challenges from various perspectives is limited. This presentation will build upon results from two studies exploring implementation challenges from the view of employment specialists and national stakeholders.
Methods: Qualitative data were collected through individual, joint and focus group interviews. The studies' participants were 17 national stakeholders and 45 IPS employment specialists. Transcripts were analysed by thematic analyses.
Results: IPS implementation challenges the delegation of roles and responsibilities between sectors, and related legal frameworks related to confidentiality and access. The implementation requires adjustments in multiple organisations, and policy- making bot influence and is influenced by IPS implementation. Employment specialists are pioneers of service development, a role that they were not prepared for when they started to work as an employment specialist.
Conclusion: The greatest challenge for making "IPS efficacy in trials" become "IPS effectiveness in the real world" is implementation, and these studies have highlighted some of the implementation issues. The studies provide increased

understanding on what happens during IPS implementation nationally, and locally in the early implementation phase of IPS from the employment specialists' perspective. Results from the studies can contribute to increased focus on job satisfaction, turnover and recruitment of employment specialists, factors which have previously been shown to influence the success of IPS. Also, the studies demonstrate how health- and welfare policy gradually developed IPS during implementation in Norway. We do not know the implications for practice in the long term.

S16.03   ---- WITHDRAWN ----

S16.04   Approaches to implementing Individual placement and support in the health and welfare sectors: a systematic scoping review

Maria Ahmed[2]; Beate Brinchmann[2]; David McDaid[1]; Eoin Killackey[3]; Arnstein Mykletun[2]; Miles Rinaldi[2]; Cathrine Moe[4]

[1] London School of Economics and Political Science, UK; [2] Nordland Hospital: Competence Center Mental Health, Norway; [3] Orygen, Australia; [4] Nord University, Norway

Lay Summary: A scoping review is carried out to identify and map existing knowledge on the methods and approaches used to implement Individual Placement and Support at scale in the health and welfare sectors. The scoping review aims to gain an understanding of the gap between research and practice which is important for further implementation and research of individual placement and support.

Background: Individual Placement and Support is an evidence-based, standardised approach designed to support people with mental health conditions to gain and maintain competitive jobs in the labour market.

Translating scientific knowledge into mainstream practice is challenging, and there is insufficient knowledge of the approaches used to implement Individual Placement and Support at scale in the health and welfare sectors. The objective of this review is to identify and map existing knowledge on the methods and approaches used to implement Individual Placement and Support at scale in the health and welfare sectors, as well as the frameworks and methodological approaches used in implementation studies, and to identify knowledge gaps that are important for further research.

Methods: The review is conducted in accordance with the JBI methodology for scoping reviews. We have followed a three-step search strategy to trace published studies. Search strategies are developed to fit with the databases MEDLINE, Cochrane Central Register of Controlled Trials, Embase, PsycINFO, Base, OpenGrey and CINAHL. Data is extracted from papers included in the review using data extraction tables developed by the reviewers. A qualitative content analysis is used to facilitate the mapping of the results.

Results: The results of the scoping review are structured by five research questions that focus on the practical approaches of implementing IPS and the implementation research. Because of ongoing work with the result section, the results will be presented at the conference. RQ1: Which methods and approaches are used to implement IPS at scale in the real world? RQ2: Which factors enable the move from a project to mainstream practice for IPS? RQ3: In what context (specialist healthcare setting, primary healthcare setting, welfare setting) is IPS provided? RQ4: What is/are the implementation framework(s) used in the IPS implementation literature? RQ5 : Which methodological approaches are used in existing implementation studies?

Conclusion: Because of ongoing work with the result section, the conclusion will be presented at the conference.

S16.05   Impact of Covid on IPS Service Delivery

Sina Wittlund Wittlund[1]; Miles Rinaldi[1]; Daniil Butenko[1]; Beate Brinchmann[1]; Eoin Killackey[2]; David McDaid[3]; Arnstein Mykletun[1]

[1] Nordland Hospital: Competence Center Mental Health, Norway; [2] Orygen, Australia; [3] London School of Economics and Political Science, UK

Lay Summary: By surveying employment support services (IPS) for people with mental health conditions we learnt about their experiences and the impact of Covid-19 restrictions across England and Norway in 2020. Both countries continued to provide IPS and were successful in enabling people to gain employment. IPS services appeared to adapt and find operational solutions during to Covid-19 restrictions.

Background: Individual Placement and Support (IPS) is an evidence-based vocational rehabilitation programme for people with mental health conditions to gain and retain employment. Both England and Norway are undertaking full-scale implementation of IPS. The experiences and impact of Covid-19 on IPS is unknown along with differences for two countries undertaking full-scale implementation.

Methods: Two surveys were conducted in 2020. In England at the end of the first lockdown and in Norway after lockdown restrictions had been lifted. Both aimed to understand IPS Employment Specialists experiences and impact of Covid-19 on

IPS.

Results: N=293 IPS Employment Specialists in England and n=25 in northern Norway completed surveys. In Norway, more than half were reassigned to other roles or non-IPS related tasks. They reported less collaborative engagement with clinical teams and employers. 69 (20%) of IPS users gained employment during Covid-19 restrictions and 83% of IPS users continued to seek employment during this period. In England, less than a quarter of IPS Employment Specialists were reassigned to other roles but a significant number took on non-IPS related tasks. Differences were found in levels of integration with clinical teams for those employed in voluntary sector agencies compared to those employed in the NHS. All experienced changes in working with employers. A similar proportion of service users gained employment compared to Norway.

Conclusion: IPS services in England and Norway continued to provide employment support and were successful in enabling people with mental health conditions to gain employment during Covid-19 restrictions. IPS services appeared to adapt and find solutions to operational challenges presented at this time.

S17 Epidemiology of involuntary care: measurements, changes & methodological developments

Fri 9 Sep, 10:30 – 12:00
Lecture Room 4
Chair: Olav Nyttingnes, Haukeland University Hospital, Norway. **Discussant:** Arnstein Mykletun, Haukeland University Hospital, Norway

Abstract: Involuntary care has been a part of psychiatric care for centuries, and it remains a controversial part of modern mental health care.

Statistical measures of involuntary care can be based on persons, events or duration. There is currently some ambiguity regarding these terms and their content as regards involuntary admissions, and the various measures have different properties, including how they vary. Tore Hofstad uses complete Norwegian national data for 5 years to show how different measures perform in comparing involuntary admissions from between Norwegian community mental health centre catchment areas and over time.

Community treatment order (CTO) are a more recent development in mental health care. In 2017 Norway introduced a capacity-based criterion for involuntary care. The lawgiver lawmakers expected several the use of compulsion to reduce changes, but and in particularly a reduction in length of CTOs. Jorun Rugkåsa uses retrospective case register data to compare the years before and after the legal change, and evaluate whether the capacity criterion from 2017 coincided with changes in CTO incidence, prevalence and duration.

A key rationale for CTOs is that the order ensures adherence to effective medication for severe mental disorders, and improves the situation for the patient. Current evidence of for CTO effectiveness is discouraging, indicating that CTOs don't do not work as anticipated. Olav Nyttingnes reformulates the rationale for CTOs into a causal chain, and evaluates whether these links elements are likely to expected to influence the observed efficacy effectiveness of CTOs.

Coercive care, and indeed much of psychiatric practice more generally, is fraught with controversies. These tend to persist for practices where RCTs are inconclusive, unfeasible or impossible. A controversy often means that different professionals advocate and perform different care practices, which could amount to natural experiments. Arnstein Mykletun outlines methodological developments and presents a protocol paper for large scale register studies that includes using practice variation caused by controversies to make causal inferences.

S17.01 Measuring Compulsory Hospitalisations: Geographical and Temporal Variation

Tore Hofstad[1]

[1] University of Oslo, Norway

Lay Summary: We measured geographical variation in compulsory hospitalisation in mental health care in Norway 2014-2018, using registry data covering the entire population. Measures based on duration and hospitalisations showed larger variations than measures based on inpatients. Unambiguous terms are needed and should reflect which counts the measures are based on.

Background: Compulsory hospitalisation in mental health care is a controversial practice that should be a last resort. Geographical variations can indicate that some areas use more compulsion than necessary, which would constitute overuse. Variations also indicate that some areas manage with less compulsion than expected based on demographical composition. Raising awareness on variations by describing the extent can contribute to reduce both variation and compulsion usage. Compulsory hospitalisations can be measured in various ways, resulting in inconsistent labelling and no consensus on preferred method. We therefore sought to investigate how the geographical variation differed when measured by counts of inpatients, hospitalisations and duration, and how the variation changed over time; how the measures correlated; and how well future ranked levels of compulsory hospitalisation could be predicted by previous years' ranks

Methods: Individual level data on all compulsory hospitalisations of adults aged 18-65 in Norway between 2014 and 2018 was obtained from the Norwegian Patient Registry. Average rates per 100 000 during the study period were calculated for catchment areas to Community Mental Health Centres, based on counts of compulsory hospitalisations, compulsorily hospitalised inpatients, and Length-of-stay (LoS), as well as median and average duration. Direct standardisation using the countrywide population as reference was used for the rates. Geographical variation was quantified by the Extremal Quotient,

EQ90/10, Coefficient of Variation, and the Systematic Component of Variation. Spearman's Rho was used for correlations between measures. For each measure, R2 was used to quantify explained variance from linear regressions using ranked levels of compulsory hospitalisation to predict future ranks.

Results: Different measures yielded different patterns of geographical variation. The ratio between the areas with highest and lowest values was 3.2 for the inpatient rate, 5.6 for the hospitalisation rate, and 8.4 for the LoS rate. The inpatient rate showed least variation regardless of measure of geographical variation. Strong correlations were seen between the hospitalisation rate and the inpatient rate (r = .88), and the inpatient rate and the LoS rate (r = .78). Hospitalisation rates could explain between 68% and 81% of variation in the subsequent year's rank.

Conclusion: The inpatient rates were smallest and showed least variation. Terms such as compulsory hospitalisation rate or involuntary admission rate imply that they are based on events, but are often based on counts of inpatients. This is misleading and can underestimate compulsory hospitalisation levels as well as geographical variation.

S17.02   Capacity-based mental health legislation and the use of compulsion. The case of Community Treatment Orders in Norway

Jorun Rugkåsa[1]; Henriette Riley[2]; Anne Høye[2]; Georg Høyer[2]

[1] Akershus University Hospital, Norway; [2] University of Tromsø, Norway

Lay Summary: When the Norwegian Mental Health Act was changed in 2017 so that only those patients who lack the capacity to make treatment decisions themselves could be hospitalised against their will, it was expected that fewer patients would be on Community Treatment Orders (CTOs or outpatient compulsion). We compared the use of CTOs two years before and two years after the change to the law. Just as many people were placed on CTO after the legal change (incidence rate), but because many were taken off their order in the year of the change, the level of use (prevalence rate) went down. Many more patients had an order to take medication after the change.

Background: In 2017, a capacity-based criterion was added to the Norwegian Mental Health Act. After that, patients with capacity to consent to treatment can no longer be subjected to involuntary care, unless there is risk. The legal change was expected to reduce the incidence and prevalence rates of compulsory care, and the duration of episodes of such care. In particular, the changes were thought to impact the use of Community Treatment Orders (CTOs), as patients deemed well enough to be treated outside of hospital (albeit under compulsion) would be likely to have (regained) capacity. The study reported here sought to investigate whether the introduction of the capacity criterion had the expected impact on the use of CTOs.

Methods: The study was a retrospective case register study in two catchment areas that combined serve 16% of the Norwegian adult population. Between 1 January 2015 and 31 December 2019, 760 patients who were subjected to 921 CTOs were included to compare CTO use two years before and two years after the legal change.

Results: There was no change to CTO incidence rates or duration. Prevalence rates showed a significant reduction. This was due to a marked increase in termination of CTOs in the year of the reform, after which this rate tailed off to a slightly higher level than before the reform. There was a significant increase in the use of Involuntary Medication Orders after the reform. A marked different pattern of CTO use in 2017 might reflect a 'weeding out' effect, by which patients deemed to have capacity were taken off their order.

Conclusion: We found no evidence of the expected impact of the legal change on CTO use. Despite existing challenges in defining and assessing decision-making capacity, few empirical studies have examined how clinicians in practice assess patients' decision making capacity. This should be a future focus of research.

S17.03   Community treatment orders: Rethinking the Rationale and evidence in light of care trajectory and social psychiatric processes

Olav Nyttingnes[1]

[1] Akershus University Hospital, Norway

Lay Summary: Community treatment orders (CTOs) work by ensuring that patients with (relapsing) severe mental disorders comply with the medication ordered by the psychiatrist. We examined CTOs in detail, and found that how patients initially respond to antipsychotic medication and interact with staff will influence their care trajectory and likelihood of a CTO. The detailed requirements for an effective CTO can help explain the current lack of documented benefits from CTOs, and to find subgroups of patients that are unlikely to benefit from CTOs.

Background: Community treatment orders (CTO) are now a legal possibility in around 75 jurisdictions, mostly in "western" countries. A key rationale for CTO is that the order directly or indirectly improves or ensures adherence to effective medication for severe mental disorders. The CTO is supposed to be a less restrictive alternative to involuntary inpatient care,

reducing the risk of relapse and re-hospitalization and preventing some patients from deteriorating into dangerousness, thereby also protecting the public. The typical CTO-patient, for whom this effect is expected, is a middle-aged male with an unstable condition of schizophrenia; a history of medication discontinuation; and repeated hospital admissions. Legislators and professionals testify to the efficacy of CTOs, but higher quality evidence with tends to fail in finding beneficial effects for relapse of disorder from CTOs.

Methods: We examined the apparent gap between professionals' expectations and RCT results analytically, by dividing the rationale for CTOs into a causal chain with a handful of conditions: Antipsychotic medication efficacy for acute psychosis, and as relapse prevention; the patient characteristics that make patients more or less eligible for a CTO; the degree of adherence improvement in the CTO patient subgroup; and the interaction between these elements and extra-medical aspects of the CTO. The analysis is based on the Norwegian CTO-scheme, which enables CTOs under a "need for treatment" standard and includes powers to secure depot medication under specified conditions.

Results: Elements necessary for effective CTOs have empirical support to a varying degree. In addition, the care trajectories and patient-staff interaction and cooperation is expected to be different for patients with more vs less desired medication responses. Processes during the care trajectory - from the first psychotic episode, via the individual treatment response and care-patient interactions resulting in a CTO - will predict the characteristics of patients getting a CTO. If the most positive medication response protects against a CTO, this may skew the CTO population towards those with the less desired medication responses, which may then contribute to the lack of effectiveness that is observed in RCTs of CTO.

Conclusion: It is plausible that the quality of the patient's antipsychotic medication response interacts with mental health care in a way that makes it more likely for a patient with a poorer antipsychotic response to receive a CTO.

S17.04   Controversies in psychiatry: Is a high or a low rate of coercive measures (involuntary care) better for patients' prognosis? A study protocol

Arnstein Mykletun[1]; Tore Hofstad[2]; Olav Nyttingnes[3]

[1] Haukeland University Hospital, Norway; [2] University of Oslo, Norway; [3] Akershus University Hospital, Norway

Lay Summary: This is a protocol presentation, describing the plan for a funded registry data project in Norway. There is considerable variation in involuntary care in the Norwegian single-provider mental health service. We do not know of a low or a high rate of involuntary admission is better for patients. We will use registry data to establish which position is better for patients' prognoses.

Background: Controversies in psychiatry are causing variation in clinical practice between hospitals, even within single-provider health systems. It is documented variation in the use of coercive measures in psychiatry, including involuntary admission and involuntary outpatient pharmacotherapy. Those in favor of relatively higher rates of involuntary treatment commonly justify this position by the necessity of preventing self-harm and violence, and to initiate psychiatric care to improve prognosis. The opposing position favoring relatively low rates of involuntary treatment question if there is evidence for these gains of involuntary outcomes and argue that involuntary care may harm the patients' trust in the health care system. Human rights and patient autonomy are also relevant for this low-rate position.

Methods: Current empirical methods are incapable of solving this controversy. Ethics committees will be reluctant to approve randomization to high and low rates of involuntary care. In the unlikely event of approval, RCTs would require statistical power beyond what can be realistically funded. Follow-ups in RCTs in psychiatry are usually some few weeks, whereas this controversy refers to trajectories over years. Conventional epidemiology struggles with residual confounding, bias and reverse causality. However, the geographical variation in clinical services cause a lottery-like situation for the individual patient, who is generally unaware of the crisis and blinded to the local practice. In this study, we will use this natural randomization in a cohort of all Norwegian patients in 2015-16 with follow-up in registries of mortality, accidents, crime, employment and welfare, and health service use. We will use instrument variable analyses to explore if the relatively low-rate versus the relatively high-rate approach to involuntary care provide favorable patient outcomes.

Results: Data describing the extent of the variation in involuntary care within Norway and Europe will be presented.

Conclusion: We will present the project plan and invite a discussion of the feasibility of using an instrument variable approach to explore if relatively low versus high rates of coercive measures produce favorable patient prognosis.

S17.05   Do differences in access to clinical care prior to admission explain the association between ethnicity and involuntary admission?

Daniela Fonseca de Freitas[1 2]; Susan Walker[3]; Craig Colling[4]; Patrick Nyikavaranda[5]; Johnny Downs[1]; Rashmi Patel[1]; Mizanur Khondoker[6]; Kamaldeep Bhui[2]; Richard Hayes[1]

[1] King's College London, UK; [2] University of Oxford, UK; [3] University College London, UK; [4] South London and Maudsley NHS Foundation Trust, UK; [5] University of Sussex & University College London, UK; [6] University of East Anglia, UK

Lay Summary: We investigated if differences in access to care 12 months before hospital admission are associated with ethnic inequalities in involuntary admission. We found higher odds for involuntary admission among 10 of the 14 ethnic groups in the study. Our findings showed some inequalities in clinical care prior to admission; however, the frequency and type of care did not reduce ethnic disparities in involuntary admission. We also found that people who had psychological therapy and that who had a care plan were less likely to be involuntarily hospitalised.

Background: There are multiple ethnic inequalities in involuntary admission under the Mental Health Act (MHA) and access to clinical care (e.g., cognitive behavioural therapy). However, few studies have focussed on access to some types of clinical care and inequalities in involuntary admission rates. This study aims to investigate the relationship between ethnicity and involuntary admission and if differences in prior clinical care mediate ethnic inequalities in involuntary admission.

Methods: We used data from the South London and Maudsley NHS Foundation Trust electronic health records. We identified a cohort of first hospital admissions between 01/2008 and 05/2021. Regression analyses were used to investigate the relationship between ethnicity and involuntary admission and ethnicity and prior clinical care. Mediation analyses were used to examine the indirect impact of ethnicity on involuntary admission due to differences in clinical care. The clinical care factors investigated included: the total number of appointments with SLaM outpatients' teams, home treatment, treatment with an early intervention for psychosis service, psychological therapies and having a care plan. Analyses were adjusted for other socio-demographic factors and psychiatric diagnoses.

Results: The cohort comprised 18,569 people with a first hospital admission, where 35% of admissions were under the MHA. Compared to White British people, 10 of the 14 ethnic minority groups investigated have higher odds of involuntary hospitalisation. There were some differences in clinical care before admission, but these had minimal impact on the inequalities in involuntary admission. Furthermore, we observed that people with a higher number of appointments with SLaM outpatient teams and those who received home treatment had higher odds of involuntary admission than those with zero SLaM appointments and no home treatment. People who had received psychological therapy and had a care plan had reduced odds of involuntary admission.

Conclusion: The frequency and type of prior clinical care did not change the ethnic inequalities in involuntary admission. The rates of involuntary admissions may be decreased by promoting greater access to psychological therapies and ensuring the elaboration of a care plan.

S18   Challenges and opportunities in mental health data science: the DATAMIND experience

Fri 9 Sep, 10:30 – 12:00
Lecture Room 5
Chair & Discussant: Sonya Deschenes, University College Dublin, Ireland

Abstract: Depression is a common comorbidity in diabetes and other cardiometabolic diseases. Although this link has been well established by longitudinal cohort studies and related systematic reviews with meta-analysis, there are several knowledge gaps that remain. This symposium will offer insights from recent research addressing some of these knowledge gaps, including risk factors for and outcomes of depression comorbidity among individuals with cardiometabolic health conditions. Five talks, including four completed projects and one work-in-progress project, will examine risk factors for comorbid depression (e.g., maladaptive schemas, GPS movement, genetic factors, systemic inflammation) and outcomes related to comorbid depression (e.g., cognitive functioning) among individuals with type 1 diabetes, type 2 diabetes, and systemic inflammation.

S18.01   Systemic inflammation and the risk of depression in people with type 2 diabetes

Norbert Schmitz[1]; Eva Graham[2]; Sonya Deschenes[3]

[1] Tuebingen University, Germany; [2] McGill University, Canada; [3] University College Dublin, Ireland

Lay Summary: Depression tends to co-occur often with diabetes. However, the reasons for this association are not clear. The present study investigated the role of inflammation in predicting the risk of depression in people with and without diabetes. Those with both diabetes and inflammation had the highest risk of developing depression, compared to either condition alone.

Background: Depression is a common co-morbidity in diabetes. The mechanisms underlying the association between depression and diabetes are poorly understood. Although risk factors, such as poor lifestyle behaviors, obesity, and stress have been identified, emerging evidence suggests that systemic inflammation may play an important role in the pathogenesis and recurrence of depression in people with type 2 diabetes. The aim of the present study was to evaluate if the inflammatory marker C-reactive protein (CRP) is associated with an increased risk of major depression episodes in individuals with type 2 diabetes.

Methods: A prospective, community-based study was conducted in Quebec, Canada. Individuals were recruited from the CARTaGENE (CaG) cohort, a population-based, public health survey of Quebec residents aged 40 to 69 years. Our sample included 719 individuals with type 2 diabetes and 1423 individuals without diabetes. Individuals were assessed at baseline and 5 years after baseline. Major depression disorders were assessed using a clinical interview (CIDI). Inflammatory markers were assessed from blood samples. Elevated CRP levels were defined as ≥3 mg/L based on the American Heart Association/Centers for Disease Control and Prevention clinical guidelines.

Results: Participants with both diabetes and elevated CRP levels had the highest risk of major depressive episodes (adjusted OR: 1.90; 95% CI: 1.45, 2.50), compared to those without diabetes and without elevated CRP levels (reference group). The risk of major depressive episodes in individuals with diabetes without elevated CRP episodes was lower (adjusted OR: 1.21; 95% CI: 0.85, 1.73) and similar to the risk of those without diabetes and elevated CRP levels (adjusted OR: 1.15; 95% CI: 0.94, 1.39).

Conclusion: The study highlights the interaction between diabetes, inflammatory makers, and depression in a community sample. Early identification, monitoring, and management of elevated inflammation levels might be an important depression prevention strategy in people with type 2 diabetes.

S18.02   GPS-derived daily movement and depression in people with type 2 diabetes: a descriptive analysis using passive digital phenotyping

Amy McInerney[1]; Norbert Schmitz[2]; Mark Matthews[1]; Sonya Deschenes[1]

[1] University College Dublin, Ireland; [2] Tuebingen University, Germany

Lay Summary: We collected GPS data from individual people with diabetes' smartphones. We plan to look at links between movement behaviours we estimate from this GPS data and depression. Being able to associate passively collected GPS data with important mental health symptoms could help identify people who are most at risk in a low-burden, cost-effective way, outside of the clinic.

Background: Continuous streams of data collected passively from personal smartphones in-situ (i.e., digital phenotyping)

hold considerable promise for improving the behavioural healthcare of people with diabetes. Features derived from smartphone GPS data can estimate patterns of daily behaviour and movement, providing insight into a person's lived experience. GPS-derived features have been associated with depression in emerging research. Depression is more prevalent in people with diabetes than in the general population and often fails to be recognised and effectively treated in clinical care. The aim of this study is (a) to develop the digital phenotypes of daily movement for people with type 2 diabetes from smartphone acquired GPS data and (b) to explore the associations of these digital phenotypes with depression symptoms as well as other demographic and psychosocial characteristics.

Methods: Thirty-eight adults (51% male; median age group=55-59 years old) with type 2 diabetes participated in a longitudinal observational study in the Republic of Ireland between March and August 2021. Participants downloaded an application called Beiwe to their smartphones, which collected continuous, passive GPS data for 2 months. Symptoms of depression (PHQ-9), and demographic, psychosocial, and lifestyle questionnaires were assessed via Qualtrics.

Results: Current stage: GPS data are being processed and cleaned. The GPS-derived features of time spent at home, time-in-movement, distance-from-home, circadian movement, overall movement, location variance, and normalized entropy have been computed. In this talk, descriptive analyses will be presented in addition to preliminary findings examining associations between GPS-derived features and depression symptoms as well as demographic and psychosocial characteristics assessed using analysis of variance and logistic regression.

Conclusion: We expect this study to be the first to determine and describe the GPS-derived digital phenotypes of daily movement in people with type 2 diabetes. Establishing associations between passively collected data and depression in people with diabetes could enhance early identification and intervention.

S18.03   ---- WITHDRAWN ----

S18.04   Shared genetic variation between inflammation and depression

Zhanna Balkhiyarova[1]; Wenjie Li[2]; Yuwei Jiao[2]; Karl-Heinz Herzig[3]; Juha Veijola[3]; Marjo- Riitta Järvelin[2]; Arie Nouwen[4]; Inga Prokopenko[1]; Marika Kaakinen[1]

[1] University of Surrey, UK; [2] Imperial College London, UK; [3] University of Oulu, Finland; [4] Middlesex University London, UK

Lay Summary: The present study aimed to investigate whether shared genetic factors contributed to comorbidity between depression and systemic inflammation, using multi-phenotype genome-wide association studies. Shared genetic variation between depressive symptoms and inflammation was found, suggesting shared aetiology for these conditions.

Background: Depression is one of the leading causes of disability and socioeconomic burden affecting 322 million people worldwide. Recent studies suggest depression and inflammation share pathways and genetic background, which we aimed to further elucidate for both common (MAF>5%) and rare (MAF<1%) variants using multi-phenotype genome-wide association studies (MP-GWAS).

Methods: We analysed the Northern Finland Birth Cohort 1966 data (31-year follow-up). We included individuals (N=2,673) with genome-wide genotyped data (Haplotype Reference Consortium imputation), depressive symptoms (sum scores of Beck Depression Inventory) and 18 inflammatory markers. Using SCOPA and MARV software, we performed MP-GWAS of common and rare variants as a linear combination of residuals for depressive score and inflammatory markers, while adjusting for sex, BMI and three principal components to control for population structure. We evaluated the associations of depression and inflammation either with individual SNPs (SCOPA, $p<5\times10-8$) or with a proportion of rare alleles within a gene (MARV, $p<1.67\times10-6$). Bayesian Information Criterion was used to define the best fitting phenotype combination at each detected signal.

Results: Seven SNPs at/near ICAM1, ABO, MAT2B, TENM2, ST3GAL4, KIRREL3, MIR3681HG,
showed significant associations in the common variant MP-GWAS, however, only rs5498 at ICAM1 showed effects with both depression and inflammation ($p<1.04\times10-8$). Rare variant MP-GWAS demonstrated significant associations at 273 genes with rare variation at PRRC2C ($p=1.29\times10-6$), DYNC1I2 ($p=4.65\times10-75$), SHFM1 ($p=1.37\times10-6$), KCNK4 ($p=9.11\times10-7$) and TMEM191C ($p=4.18\times10-7$) associated with both depression and inflammation.

Conclusion: Our results corroborate shared genetic variation between depressive symptoms and inflammation confirming their shared aetiology.

S18.05   Diabetes, depression and cognitive functioning: longitudinal associations in the Canadian community

Mahdieh Shojaa[3]; Sonya Deschenes[1]; Jennifer McLeish[2]; Norbert Schmitz[3]

[1] University College Dublin, Ireland; [2] McGill University, Canada; [3] Tuebingen University, Germany

Lay Summary: Accelerated cognitive decline is a major global challenge. This study examined the interaction between depression and diabetes in predicting the risk of cognitive decline. Findings suggest that having both depression and diabetes together can significantly increase the risk of cognitive decline.

Background: Individuals who ultimately receive a diagnosis of dementia typically have an observable accelerated cognitive decline (ACD) many years prior to diagnosis. Depression in combination with diabetes is an emerging risk factor that is associated with cognitive problems. Using data from the Canadian Longitudinal Study on Aging, the objective of the present study was to investigate the longitudinal association between depression, diabetes, and cognitive decline in an elderly cohort.

Methods: Baseline and follow-up data from a population-based study in Canada were used. The sample consisted of 18161 adults between 45 and 85 years of age without diabetes. Cognitive functioning was assessed at baseline and after 4 years using six measures: the Rey Auditory Verbal Learning Test (RAVLT), the Mental Alternation Test (MAT), the Animal Fluency Test (AF), the Controlled Oral Word Association Test (COWAT), the Stroop Test, and the Prospective Memory Test. Depression was assessed using the CES-D10. Regression analysis was conducted to evaluate interactions between depression, diabetes and cognitive decline.

Results: The mean age of participants was 61 years. Participants with a comorbidity of depression and diabetes had an accelerated cognitive decline (g-factor) compared to those with depression without diabetes and those with diabetes without depression (regression coefficients ß=-0.145 (0.036), ß=-0.076 (0.011), and ß=-0.053 (0.021), respectively).

Conclusion: This study suggests that depression and diabetes might increase the risk of cognitive decline in a synergistic way.

S19   Understanding inequalities in access to treatment for common mental disorders for racial and ethnic minorities in the UK

Fri 9 Sep, 14:30 – 16:00
Concert Hall
Chair: Jay Das-Munshi, King's College London, UK. **Discussant:** Lela Kogbara, Black Thrive, UK

Abstract: The unequal impact of Covid and the launch of the NHS Patient and Carer Race Equality Framework have renewed the focus on longstanding racial and ethnic inequalities in the outcomes, access and experience of services for people with mental health problems. In this symposium we will use national UK data from the Adult Psychiatric Morbidity Survey to describe disparities in diagnosis and treatment receipt for common mental disorders by ethnicity. We then focus on one ethnically diverse population in South London, using data from primary care and psychological therapy services to describe disparities in morbidity and treatment access in more detail. Qualitative interview and focus group data collected in two studies within the same geographical area will be used to describe community perspectives on the prevalence of mental distress and barriers to accessing help from mental health services. Finally, we will discuss a project run by the Maudsley Cultural Psychiatry Group, involving service users, carers and community organisations in designing changes to the training of mental health professionals to better equip them to serve ethnically diverse populations.

S19.01   Co-producing recommendations to improve psychiatric trainees' knowledge and skills relating to race, culture, and mental health

Preety Das[1]; Kevin Ariyo[2]; Gargie Ahmad[2]; Malaika Atim[1]; Vishal Bhavsar[2]; Marianne Caitane[3]; Louisa Codjoe[2]; Dione Dalley[4]; Adrian Deen[2]; Sarah Dorrington[2]; Allison Edwards[1]; Oscar Isaac[4]; Paulette Kelly[3]; Lela Kogbara[5]; David Jahans[3]; Thavarani Nagulendram[6]; Gopinath Ranjith[1]; Anthony Salla[6]; Catherine Polling[2]

[1] South London and Maudsley NHS Foundation Trust, UK; [2] King's College London, UK; [3] SLaM Recovery College, UK; [4] Lambeth and Southwark Mind, UK; [5] Black Thrive Global, UK; [6] Account CIC, UK

Lay Summary: South London and Maudsley NHS Foundation Trust (SLaM) serves one of the UKs most diverse populations, however its existing psychiatry training inadequately addresses social determinants of health with the majority of trainees feeling underprepared to meet the needs of local communities. The Maudsley Cultural Psychiatry Group (MCPG) held working groups with community stakeholders and trainees to review training and co-produce priorities for improving knowledge and skills around the impact of race and culture on practice. The recommendations are informing ongoing interventions to improve training.

Background: SLaM provides secondary mental health care to 1.2 million people in London; the population is ethnically diverse with longstanding inequalities in access, experiences and outcomes, especially for Black people using its services. In 2020, the MCPG was funded by Health Education England to review the Maudsley Training Program, the largest psychiatric training scheme in Europe with over 200 trainees. Prior review of the existing lecture program titles found 2 of 171 lectures were dedicated to social issues and determinants in psychiatry. A survey of the training cohort showed 95% of respondents felt their training had not prepared them adequately on issues relating to race, culture and psychiatry. We aimed to co-create a set of priorities for staff training that raise awareness of how race and culture impact on their practice.

Methods: From January-July 2021, MCPG held monthly co-production working groups with members of local community groups, including people with lived experience of mental health services, to identify key values and knowledge for mental health staff working locally. Meetings included small-group breakouts with MCPG notetaker and community member facilitator. A parallel working group of psychiatry trainees met to identify priorities and current gaps in their knowledge and skills relating to the structural determinants of health, particularly race, with themes fed back between the two groups. Minutes from all meetings were thematically analysed, using cross-checking and an inductive process. Recommendations were discussed and agreed with both groups.

Results: Three themes were identified: (1) Broadening knowledge: a. core knowledge to understand structural determinants of health (moving toward structural competency); b. history of local area; c. research and data on our local context; d. humanizing content through centering lived experience; e. understanding psychiatry's role in society. (2) Reflective practice: creating a framework for challenging conversations; reflecting on our own position; developing critical thinking skills; integrating concepts/knowledge into own clinical practice. (3) Learning outside the institution: understanding people's lives outside of clinical setting and interventions for structural determinants (including community-led interventions).

Conclusion: Community stakeholders and trainees produced consensus recommendations relating to ways the content, learning approach and location of training for psychiatrists could be improved. The recommendations have led to the development of a program of interventions including new lectures and facilitated reflective practice sessions, which have

been highly rated by trainees, and plans to develop community placements within the training scheme

S19.02 The influence of social environment on expressions of distress and help seeking in a deprived, ethnically diverse urban community

Catherine Polling[1]; Charlotte Woodhead[1]; Hannah Harwood[1]; Matthew Hotopf[2]; Stephani L. Hatch[1]

[1] King's College London, UK; [2] NIHR Maudsley Biomedical Research Centre, UK

Lay Summary: We asked people living and working in a deprived, ethnically diverse urban community with surprisingly low rates of self-harm about how where they lived affected their mental health, the way people responded to distress and their attitudes to seeking help. We found that although people experienced a lot of stress which affected their mental health, people tended to hide their distress or respond in ways that others would not think of as related to mental illness, because they did not want to be identifiably vulnerable and they were afraid of the harm that might result from contact with mental health and other services. A narrow view of what mental distress looks like might mean we fail to see the need in the most marginalised communities.

Background: Epidemiological studies show rates of self-harm through injury or poisoning vary substantially between different social contexts. Socio-economic deprivation predicts risk at individual and community level. However, despite high poverty rates, London has low rates of service use for self-harm overall and contains highly deprived areas with paradoxically low rates. We explore why one such community exposed to multiple, chronic stressors, might nonetheless appear to have low rates of self-harm.

Methods: This study forms part of a mixed methods project using clinical data on service use following self-harm to calculate incidence rates by small-area in South East London, 2009-2016. A persistently deprived case study area with below average self-harm rates was identified. Semi-structured interviews were conducted with 14 people working within community organisations serving the area and two focus groups with 12 current residents. Topic guides covered how the area impacts mental health positively and negatively, how people locally respond to distress and attitudes and responses to self-harm.

Results: The study area was ethnically diverse, with a large Black population. Participants reported that people in the community were exposed to multiple, chronic stressors related to marginalised social statuses and the social environment, with significant impacts on mental health. These were partly buffered by social resources related to community solidarity and a culture of self-reliance amongst individuals. However, identifying oneself as mentally ill by expressing distress, and especially by being known to have self-harmed, was described as highly risky. Doing so would diminish a person's social status in this context, exposing them to additional stressors by making them appear vulnerable within their community. It would also lead to contact with mental health services and through them other government agencies such as social services and the police which people experienced as unhelpful and harmful. Consequently, people tended to hide mental distress, respond with behaviours less obviously linked to mental illness than self-harm and avoid contact with services.

Conclusion: The stressors experienced by this community acted to both make self-harm less common and reduce help-seeking following it, despite mental distress being common. Fears of harm from services and loss of control were important in discouraging service use, especially for the Black population.

S19.03 Variations by ethnicity in referral and treatment pathways for IAPT service users in South London

Rebecca Rhead[1]; Hannah Harwood[1]

[1] King's College London, UK

Lay Summary: Researchers at King's College London examined anonymised data from 85,800 people referred to South London and Maudsley (SLaM) NHS Foundation Trust IAPT services between 1st January 2013 and 31st December 2016. Findings indicate that racial and ethnic minority groups were less likely to self- refer to IAPT than the White British group and were more likely to be referred via community services. Most racial and ethnic minority groups were also less likely to receive an assessment after being referred and those assessed were also less likely to receive a treatment session than the White British group. Our findings pose implications for primary care clinicians in facilitating more racial and ethnic minority IAPT referrals, and for IAPT services to consider barriers specific to their racial and ethnic minority service users when engaging with the service.

Background: The Improving Access to Psychological Therapies (IAPT) programme aims to provide equitable access to therapy for common mental disorders. In the UK, inequalities by ethnicity exist in accessing and receiving mental health treatment. However, limited research examines IAPT pathways to understand whether and at which points such inequalities may arise.

Methods: This study examined variation by ethnicity in (i) source of referral to IAPT services, (ii) receipt of assessment session, (iii) receipt of at least one treatment session. Routine data were collected on service user characteristics, referral source, assessment and treatment receipt from 85 800 individuals referred to South London and Maudsley NHS Foundation Trust IAPT services between 1st January 2013 and 31st December 2016. Multinomial and logistic regression analysis was used to assess associations between ethnicity and referral source, assessment and treatment receipt. Missing ethnicity data (18.5%) were imputed using census data and reported alongside a complete case analysis.

Results: Compared to the White British group, Black African, Asian and Mixed ethnic groups were less likely to self-refer to IAPT services. Black Caribbean, Black Other and White Other groups are more likely to be referred through community services. Almost all racial and minority ethnic groups were less likely to receive an assessment compared to the White British group, and of those who were assessed, all racial and ethnic minority groups were less likely to be treated.

Conclusion: Racial and ethnic minority service users appear to experience barriers to IAPT care at different pathway stages. Services should address potential cultural, practical and structural barriers.

S19.04   Inequalities in common mental health problems for people from ethnic minority backgrounds in England: a mixed methods study

Gargie Ahmad[1]; Anna-Theresa Jieman[2]; Sally McManus[3]; Claudia Cooper[4]; Stephani L. Hatch[1]; Jayati Das-Munshi[1]

[1] King's College London, UK; [2] Queen Mary University of London, UK; [3] National Centre for Social Research, UK; [4] UCL, UK

Lay Summary: Treatment inequalities and variations in experience of common mental health problems such as anxiety and depression in people from ethnic minority backgrounds in England were investigated in a mixed methods PhD study. Quantitative analysis found persisting treatment inequalities for these problems nationally, which seem to be widening over time, particularly for Black people. Qualitative analysis explored perspectives of mental health problems and support in different participant groups mainly in south London; themes included barriers to seeking and receiving help at individual, community, and structural levels that could be driving these inequalities.

Background: Adult Psychiatric Morbidity Survey (APMS) data for England were combined for the quantitative phase. Black, Asian, and Mixed heritage participants based in south London with personal or family experiences of common mental health problems and counselling or therapy, and mental health researchers, practitioners, or volunteers, working in south London, across London, or nationally/internationally through research and online engagement were interviewed for the qualitative phase.

Methods: Data from APMS 2007 (n=7,187) and 2014 (n=7,413) were used for the quantitative analysis. CMD prevalence was assessed using revised Clinical Interview Schedule scores of 12+. Treatment receipt was measured as either: current antidepressant use, any counselling or therapy, or seeing a GP about mental health, or seeing a community psychiatrist, psychologist, or psychiatric nurse in the past year. CMD prevalence and treatment receipt were assessed through multivariable regression. Qualitative data was collected through semi- structured interviews (n=32), conducted via videocall or phone, and analysed using thematic analysis.

Results: Quantitative analysis found CMD prevalence was highest in the Black group; adjusting for age, sex, marital status, education, home tenure, and social class explained ethnic variation in prevalence. After adjustment for these factors and CMD, odds ratios for treatment receipt were lower, compared to the White British group, for the Asian, and White Other groups in 2014; for the Black group, this inequality appeared to be widening over time compared to results from 2007. Qualitative analysis found drivers of mental health problems and barriers to seeking help included experience of adversity and discrimination related to racial minoritisation, and social pressures of self-reliance. Barriers to accessing and receiving help included limited talking therapy service provision overall, with available therapies not adequately addressing issues of race, culture, and the experience of marginalisation.

Conclusion: Treatment receipt for CMD was lower for all ethnic minority groups compared to White British peers; it was lowest for Black people, for whom treatment inequalities seem to be widening over time. Addressing socioeconomic inequality could reduce inequalities in the experience of CMD, but it does not explain pronounced treatment inequalities. Investing in further mental health service provision that supports the psychological impact of racism and marginalisation could potentially address these inequalities.

S19.05 Access to mental healthcare in the year after first fit note: a longitudinal study of linked clinical records

Sarah Dorrington[1]; Ewan Carr[1]; Sharon Stevelink[1]; Mark Ashworth[1]; Matthew Broadbent[2]; Ira Madan[3]; Stephani Hatch[1]; Matthew Hotopf[1]

[1] King's College London, UK; [2] NIHR Maudsley Biomedical Research Centre, UK; [3] Guy's and St Thomas' Hospitals NHS Trust, UK

Lay Summary: We wanted to find out whether people who request a sickness certificate for a mental health condition access mental health services. In order to address this question we looked at linked clinical records in south London. We found that most people requesting a sickness certification for a mental health condition do access mental health services, but that access to mental health services varies by ethnicity. This is important because unequal access to mental health services is a major public health concern.

Background: Sickness absence is strongly associated with poor mental health, and mental disorders often go untreated. In this population-based cohort study, we identified people receiving fit notes from their general practitioner (GP) and determined access to mental health treatment stratified by health complaint and demographic variables.

Methods: Longitudinal study of health records. Primary care and secondary mental health care in the borough of Lambeth, South London. Forty-five GP practices in Lambeth and the local secondary mental healthcare trust. The analytical sample included 293 933 working age adults (16–60 years) registered at a Lambeth GP practice between 1 January 2014 and 30 April 2016. Three indicators of mental healthcare in the year after first fit note were antidepressant prescription, contact with Improving Access to Psychological Therapy (IAPT) services and contact with secondary mental health services.

Results: 75% of people with an identified mental health condition at first fit note had an indicator of mental healthcare in the following year. Black Caribbean and Black African groups presenting with mental disorders were less likely to have a mental healthcare indicator compared with White British groups.

Conclusion: The majority of those with an identified mental health need receive some treatment in the year following a fit note; however, our results suggest Black African and Black Caribbean groups with an identified mental healthcare need have less complete access compared to the White British group.

S20 The application of large-scale healthcare data for innovative dementia research

Fri 9 Sep, 14:30 – 16:00
Lecture Room 3
Chair: Christopher Mueller, King's College London, UK. **Discussant:** Robert Stewart, King's College London, UK

Abstract: The power of big data to improve health is probably the single most important change we will witness over the next decade in health care research and will be accelerated by technological advances in data linkage and natural language processing. While randomised trials remain the best way to determine whether or not specific interventions are effective, these are carried out in highly selected samples and often insufficiently powered to detect predictors of response.

Electronic health records are creating unprecedented volumes of information on real-world clinical care and there are a growing number of platforms and initiatives that are supporting their innovative use in research and service development. Dementia remains one of the greatest challenges for the health and social care system of our time, and routinely collected data can elucidate and address some of these challenges with direct clinical relevance. There are important pitfalls in harnessing clinical informatics resources for improving dementia care, not least its fragmentation across multiple specialties and levels of care.

This symposium will present and discuss recent successes and opportunities in this area from several sites in the UK and beyond, including palliative care, accuracy of dementia diagnoses in primary and secondary care, the impact of infections or delirium, and the usefulness of medications used in dementia.

S20.01 Use of antidementia medication is associated with reduced mortality in people with dementia with Lewy bodies: a longitudinal electronic records study

Shanquan Chen[1]; Annabel Price[3]; Rudolf Cardinal[3]; Sinéad Moylett[3]; Anne Kershenbaum[4]; James Fitzgerald[3]; Christoph Mueller[2]; Robert Stewart[2]; John O'Brien[3]

[1] University of Cambridge, UK; [2] King's College London, UK; [3] University of Cambridge, Department of Psychiatry, UK; [4] Cambridgeshire and Peterborough NHS Foundation Trust, UK

Lay Summary: We investigated whether AChEIs and/or memantine were associated with reduced hospital admissions and mortality. We found that taking AChEIs alone or with memantine was associated with a significantly reduced risk of death, and shorter hospital stays after unplanned admissions for physical disorders. AChEIs (with or without memantine) might reduce the length of hospital admissions and reduce mortality, warranting further study.

Background: Dementia with Lewy bodies (DLB) has higher mortality than Alzheimer's disease. The reasons for this are unclear, but antidementia drugs (including acetylcholinesterase inhibitors [AChEIs] and memantine) symptomatically benefit people with DLB and might improve outcomes. We investigated whether AChEIs and/or memantine were associated with reduced hospital admissions and mortality.

Methods: Retrospective electronic records cohort study of patients with DLB. Eligible patients were those who started AChEIs or memantine within 3 months of their diagnosis (cases), and those who never used AChEIs or memantine (controls). Outcomes included admission, length of stay, and mortality. Cox proportional hazard and linear regression models were used.

Results: Of 592 patients with DLB, 219 never took AChEIs or memantine, 100 took AChEIs only, and 273 took both AChEIs and memantine. There were no differences in the cohorts' baseline characteristics, except residential area deprivation was higher in patients who never took AChEIs or memantine (p=0.0011). After controlling for potential confounding factors, including residential area deprivation, compared with patients who never took AChEIs or memantine, patients taking AChEIs only or taking both drugs had a significantly lower risk of death (adjusted HR: 0.68; 95% CI: 0.50-0.93, p=0.02; adjusted HR: 0.64; 95% CI: 0.49-0.83, p=0.0006, respectively). Those taking AChEIs or both AChEIs and memantine had significantly shorter periods of unplanned hospital admission for physical disorders (adjusted coefficient -13.68; 95% CI: -26.90, -0.47; p=0.04), but no difference in length of stay for planned admissions for physical disorders, or for admissions for mental health disorders. No significant additional effects of memantine over AChEI on admission, length of stay, and mortality were found (all p>0.05).

Conclusion: Use of AChEIs with or without memantine in DLB was associated with shorter duration of hospital admissions and decreased mortality. Although our study was naturalistic, it provides further support for the use of AChEIs in DLB.

S20.02   The utilisation of electronic health records in mental health research: analysis of pharmacological treatments for cognitive impairment in dementia

Nemanja Vaci[2]; Qiang Liu[1]; Andrey Kormilitzin[1]; Ivan Koychev[1]; Alejo Nevado-Holgado[1]

[1] University of Oxford, UK; [2] The University of Sheffield, UK

Lay Summary: The study used routinely collected large clinical data to replicate the beneficial effects of dementia-related medication in the real-world environment and investigate which factors relate to better response to medication. We show that dementia medication stabilises cognitive deterioration for up to 5 months, while cognitive performance at the time of medication prescription is the most important predictive factor of the positive response. We believe that our study showcases how we can model large data with advanced statistical models and provides guidance to the researchers and practitioners in dementia research.

Background: The efficacy of acetylcholinesterase inhibitors and memantine in the symptomatic treatment of dementia is well-established. Both pharmacological treatments have been associated with modest improvements in cognition in randomised clinical trials. However, frequently unattainable information is a measure of effectiveness, that is how well the medication performs in real-world conditions. This study aimed to investigate the effectiveness of acetylcholinesterase inhibitors and memantine for dementia by using the UK CRIS, one of the largest observational secondary care service datasets.

Methods: We extracted mentions of relevant medication prescriptions (acetylcholinesterase inhibitors and memantine) and measures of cognitive assessments (Mini-mental state examination and Montreal Cognitive Assessment). The final structured data used in the study consisted of 7,415 patients diagnosed with dementia, who contributed 23,794 MMSE scores and 4,187 patients with 8,873 MOCA scores. The data were analysed using a combination of nonlinear regression models and neural network models. We investigated how measures of cognitive assessments changed over the course of medication prescription and the factors that predicted a better response to the medication.

Results: The initial decline in MMSE and MoCA scores occurs approximately 2 years before medication is initiated. Medication prescription stabilises cognitive performance for the ensuing 2–5 months. The effect is boosted in more cognitively impaired cases at the point of medication prescription and attenuated in those taking antipsychotics. Importantly, patients who are switched between agents at least once do not experience any beneficial cognitive effect from pharmacological treatment.

Conclusion: This study presents a large real-world examination of the efficacy of acetylcholinesterase inhibitors and memantine for the symptomatic treatment of dementia. We found evidence that 68% of individuals respond to treatment with a period of cognitive stabilisation before continuing their decline at the pre-treatment rate.

S20.03   Critical care unit admissions of people with dementia: Who is admitted and what happens afterwards?

Emel Yorganci[2]; Robert Stewart[2]; Elizabeth L. Sampson[1]; Katherine E. Sleeman[2]

[1] University College London, UK; [2] King's College London, UK

Lay Summary: (1) Using linked information between different health services, we identified people with dementia who had been admitted to a critical care unit (CCU) and investigated what might influence how long they live afterwards. (2) Only a small percentage (3.7%) of people with dementia received critical care, and older age, number of illnesses the people had at the time, number of medications, and having marked cognitive problems were linked with shorter survival after leaving CCU. (3) Although critical care use for people with dementia is rare in England, seeking critical care for people with dementia could be informed by factors linked with long-term outcomes such as survival, and end-of-life care preferences.

Background: Critical care unit (CCU) admissions of people with dementia who are approaching the end of life have been used as a care quality indicator. The survival of people with dementia following CCU admissions in England has not been investigated. We aimed to describe people with dementia who had a CCU admission, their survival following a CCU admission, and examine associated factors using a novel data linkage across healthcare providers.

Methods: A retrospective cohort study was assembled using mental healthcare data of people diagnosed with dementia in London, UK (2007-2019), linked with a death registry, and hospital data (adult inpatient and critical care). The cohort included people with dementia who had one or more CCU admissions. We extracted sociodemographic, illness and admission-related data. Outcome measures were time spent in CCU and hospital, place of death, one-year survival rate after CCU admission, and associated factors (e.g., age, sex, comorbidities). We used descriptive statistics reported in median (Q1-Q3) and frequencies (%), and Cox regression analysis (Hazard Ratio (HR); 95% Confidence Intervals (CI)).

Results: Of 19,787 people with dementia, 726 (3.7%) had one or more CCU admissions. Most admitted people were White (n=485, 66.8%), women (n=374, 51.6%), and had a median age of 81 (75-86) on admission; 44.9% (n=326) had moderate

cognitive problems according to the HoNOS instrument, and had five or more comorbidities (n=380, 52.3%). Near a quarter of (n=175,24.1%) people died in the hospital following a CCU admission after a median of 10 (3-19) days. 551 (75.9%) were discharged after a median of 10 (4-21) days in the hospital. One-year survival rate of people with dementia who had a CCU admission was 47.5% (n=345). Older age on admission (1.04, 1.0.3-1.05), higher number of comorbidities (1.17, 1.04-1.30), HoNOS cognitive problems score (1.15, 1.03-1.28) and number of medications (1.27, 1.15-1.39) were associated with shorter survival of people with dementia after a CCU admission.

Conclusion: A small percentage of people with dementia had a CCU admission but almost half were living a year later. We were able to identify patient characteristics associated with shorter survival following a CCU admission by leveraging the data linkage between care providers. Our findings have implications for decision-making around seeking critical care for people with dementia and improving long-term and end-of-life care outcomes after discharge from hospital.

S20.04 One population, two data sources and three exploratory findings: doubling down on dementia epidemiology

Katrina Davis[1]; Matthew Broadbent[2]; Mariam Molokhia[1]; Christoph Mueller[1]; Mark Ashworth[1]; Gayan Perera[1]; Amelia Jewell[2]; Robert Stewart[1]

[1] King's College London, UK; [2] South London and Maudsley NHS Foundation Trust, UK;

Lay Summary: Electronic health records may cover only part of a patient journey for a long-term condition such as dementia, so we may need to link databases together to get a more complete picture, which we did for the London borough of Lambeth. We selected those with a record of dementia in the specialist record (3859) and those with a record of dementia in the primary care record (4266) to demonstrate the potential of this resource; noteworthy findings were: (i) the limited overlap of diagnosis documentation, (ii) evidence of an increasing burden of medication, and (iii) the factors associated with mortality. We are hoping to use this data for observational studies to answer clinical questions.

Background: In the UK, an individual's healthcare is split between primary care and secondary care providers, each with their own electronic health records (EHRs). Linking EHRs can give a valuable resource for research. Linked data can give a more complete record, especially important for dementia where clinical care crosses sectors, where a formal diagnosis may be made in specialist services, but care often passes back to primary care. Linked data is also richer, as it brings together data not otherwise available together, such as mini- mental state examination with longitudinal prescription records. We used a unique linkage between primary care EHR and specialist (mental health/dementia services) EHR in one borough of London.

Methods: Lambeth DataNet is a primary care EHR database. Clinical Records Interactive Search (CRIS) at South London and Maudsley (SLaM) is an EHR database for mental health/dementia services. Approximately one-quarter of patients in CRIS-SLaM are in Lambeth DataNet. The overall project was granted access by the oversight committees for both databases, and their data was linked securely. Code lists for dementia were used to select a cohort using (i) Read codes in the primary care data and (ii) ICD-10 codes in the specialist data.

Results: Finding 1 – Documentation: 5239 people were identified as having a dementia diagnosis, 3859 (74%) in primary care data, 4266 (81%) in specialist data, and 2886 (55%) in both. People with non- Alzheimer's dementia, high primary care use and residence in care-homes were significantly less likely to be in specialist data, which may imply they are not being referred. Finding 2 – Prescribing: Comparing prescribing of 10 common medications before and after dementia diagnosis, numbers of people prescribed cardiovascular drugs remained broadly stable and numbers prescribed other types of medication increased, with antidepressant prescription having the largest rise (54% increase). No medication was prescribed to significantly fewer patients. Finding 3 – Mortality: The number of comorbidities was associated with mortality in the four years following diagnosis, with hazard ratio 1.12 (95% CI: 1.09-1.16, p<0.00001) per extra condition in the Charlson comorbidity index.

Conclusion: Linked data on people with dementia shows great promise in being able to address issues that can answer clinical queries through observational studies, such as equity of access to services, polypharmacy and the role of comorbidities.

S20.05 Suicidal ideation in dementia: associations with neuropsychiatric symptoms and subtype diagnosis

Hamish Naismith[1]; Robert Howard[1]; Christoph Mueller[2]; Alexandra Pitman[1]; Robert Stewart[2]

[1] UCL Division of Psychiatry, UK; [2] King's College London, UK

Lay Summary: We used anonymised healthcare notes to investigate recordings of suicidal thoughts in people with dementia. We found these were more common in patients with depression and certain types of dementia, such as dementia with Lewy bodies. This is important as depression should be identified and treated in this population and less research

attention has been paid to these rarer dementia subtypes.

Background: We were interested in suicidal ideation (SI) in people with dementia around the time of diagnosis. We aimed to overcome some limitations of the current literature, including small sample sizes and insufficient investigation of non-Alzheimer's dementias by using the Clinical Record Interactive Search (CRIS) platform. The project was informed by Patient Public Involvement including the University College London Data Science Group and the Maudsley Data Linkage Service User Group.

Methods: We conducted a cross-sectional study using CRIS, which offers access to over 400,000 anonymized health records within a robust governance framework and has ethical approval for this purpose. Patients who received a diagnosis of dementia between 1/11/2007-31/10/2021 were included. Natural language processing (NLP) was used to identify recorded clinician recordings of SI. Dementia diagnoses were ascertained from structured fields, supplemented by data from free-text records; dementia with Lewy Bodies (DLB) was identified with NLP as there is no unique code for it in mental health records.

Results: 18,252 people were identified during the observation period. 15.1% had recorded SI. After adjusting for sociodemographic and clinical factors, SI was more frequent in those with depression. Younger age and patients who were not married or cohabiting had a greater risk of SI, in keeping with previous literature. Patients with DLB were at 1.35 higher odds of SI than patients with Alzheimer's dementia. There are several possible explanations this, including a greater burden of non-cognitive symptoms and negative experiences of the diagnostic process, which is often delayed in DLB. In our study, less severe dementia at diagnosis (based on Mini Mental State Examination score and our measurement of functional impairment) was associated with higher odds of presenting with SI. This is consistent with the theory that suicide risk may plausibly be elevated in the early stages of dementia when insight into the illness and its prognosis may be preserved.

Conclusion: Using CRIS enabled use of a large sample to address gaps in the literature: to our knowledge, this is the largest cross-sectional study of dementia and SI. Limitations include a reliance on the accuracy of clinical data entries and on NLP. The algorithm for SI detection was not limited to people with dementia; we are planning further work to investigate suicidality in this population and how it might differ from other groups. We also plan to use longitudinal designs and more detailed measures of executive function to further investigate associations identified in this study. Our findings highlight the importance of identifying and treating depressive symptoms in people with dementia and also further investigating impact of dementia subtypes on suicidality.

S20.06   Infections in people with dementia and mortality: A population-based cohort study

Angelique Mavrodaris[1]; Christoph Mueller[2]; Gayan Perera[2]; Carol Brayne[1]; Robert Stewart[2]

[1] University of Cambridge, UK; [2] King's College London, UK

Lay Summary: We examined the impact of infections in people living with dementia by examining hospital admissions data. We found that people with dementia who were admitted for infections were more likely to die than people with dementia admitted for other causes or not not admitted at all. These findings suggest infections are an important issue for people with dementia and that more needs to be done to both prevent and treat infections in this population.

Background: Infections in older people are a major cause of mortality and morbidity and may be important modifiers of outcomes for people with dementia. There is limited evidence on the role of infections and associated hospital admissions on subsequent outcomes for people living with dementia. We explored mortality in individuals with dementia admitted to hospital for infections from a defined population in comparison to those not admitted and admitted for other reasons.

Methods: A retrospective cohort analysis was created using secondary care data from one of Europe's largest mental health and dementia care providers in South London (UK). People with recorded dementia between January 2008 and March 2017 were linked to national hospitalisation and mortality data and classified as either admitted for infections, admitted for other causes or no admissions around first recorded dementia diagnosis and followed to death or a census date on 31st March 2019. Multivariate Cox proportional hazards regression with date of first dementia diagnosis as index date were applied.

Results: In total 14,375 people diagnosed with dementia were included, of whom 3,480 (24%) were admitted for infections, 3604 (25%) admitted for other causes and 7,291 (51%) not admitted to hospital. Individuals with dementia admitted for infections had lower MMSE scores, higher rates of co-morbidity and ranked significantly higher on deprivation indices compared to those with no admissions. Adjusted multivariate Cox regression models indicated that people with dementia admitted to hospital for infections had significantly higher mortality rates compared to no admissions (Hazard ratio (HR): 2.3; 95% confidence interval (CI): 2.1 - 2.5) and to admissions for other causes (HR: 1.5; 95% CI: 1.4 - 1.6).

Conclusion: In people with dementia, admissions for infections are critical events associated with substantial increased mortality risk. Addressing care patterns both before and after admission with a focus on infection could improve outcomes and is a key health research area, with optimisation of care a direct priority.

S21 Mental health research during COVID-19 in the National Core Study - Longitudinal Health & Wellbeing programme

Fri 9 Sep, 14:30 – 16:00
Lecture Room 4
Chair: Ellen Thompson, King's College London, UK. **Discussant:** Praveetha Patalay, UCL, UK.

Abstract: The COVID-19 pandemic and related mitigation measures resulted in widespread disruptions, with the potential to exacerbate existing mental health inequalities. The UK National Core Studies - Longitudinal Health and Wellbeing programme combines data from multiple UK longitudinal studies (LS) and electronic health records (EHR) to answer pandemic-relevant questions. Data from up to 12 LS and different EHRs were analysed to investigate the impact of the COVID-19 pandemic on various mental health aspects, including healthcare and employment disruption, lockdown measures and COVID-19 infections. The first presentation including 12 LS, showed that individuals with higher pre-pandemic psychological distress were more likely to experience healthcare disruption, loss of employment and loss of income. The 2nd presentation shows a deterioration in mental health trends over the course of the pandemic and inequalities in these by socio-demographic factors and living alone. The 3rd presentation unpacks the longitudinal association between COVID-19 infection and mental health outcomes. The 4th presentation highlights some examples of triangulated evidence between LS and EHR and the methodological complexities and considerations when doing so. We provide important insights into the impact of the COVID-19 pandemic on population mental health outcomes. The collective team science approach taken makes use of the breadth of UK population-based datasets available aiming to increase the quality of evidence generated.

S21.01 Pre-pandemic mental health and disruptions to healthcare, economic and housing outcomes during the COVID-19 pandemic: evidence from 12 UK longitudinal adult population studies

Ellen Thompson[1]

[1] King's College London, UK

Lay Summary: This study used 12 UK longitudinal adult population studies to investigate the relationship between pre-pandemic mental health problems and the likelihood of disruptions to healthcare, economic activity, and housing. We found that those suffering from psychological distress before the pandemic have been more likely to experience healthcare disruptions during the pandemic, and more than one type of disruption across multiple life domains. This is important as those suffering from distress may need additional support to manage these disruptions, especially in relation to healthcare.

Background: The COVID-19 pandemic is having a profound effect on all aspects of society, with notable disruptions to healthcare, economic activity, and housing circumstances in the UK. The strong restrictive measures instituted by the UK government on 23rd March 2020 were implemented universally, however, not all were affected equally, with those most vulnerable being disproportionately affected.

Methods: This paper aims to quantify mental health inequalities in disruptions to healthcare, economic activity, and housing. We examined data from 59,482 participants from 12 UK longitudinal studies with rich pre-pandemic measures and multiple online assessments during the pandemic. Within each study, we estimated the association between psychological distress assessed pre-pandemic and disruptions since the start of the pandemic to healthcare (medication access, procedures, or appointments), economic activity (employment, income or working hours) and housing (change of address or household composition). Estimates were pooled across studies.

Results: Across the analysed datasets, 28% to 77% of participants experienced at least one disruption, with 2.3–33.2% experiencing disruptions in two or more domains. We found 1 SD higher pre-pandemic psychological distress was associated with (a) increased odds of disruption to procedures (OR: 1.24; 95% CI: 1.09–1.41) and prescriptions or medication access (OR: 1.33; 95% CI: 1.20–1.49); (b) loss of employment (OR: 1.13; 95% CI: 1.06–1.21) and income (OR: 1.12; 95% CI: 1.06–1.19), and reductions in working hours/furlough (odds ratio: 1.05; 95% CI: 1.00–1.09) and (c) increased likelihood of experiencing a disruption in at least two domains (OR: 1.25; 95% CI: 1.18–1.32) or in one domain (OR: 1.11; 95% CI: 1.07–1.16), relative to no disruption. There were no associations with housing disruptions (OR: 1.00; 95% CI: 0.97–1.03).

Conclusion: Those suffering from psychological distress before the pandemic have been more likely to experience healthcare disruptions during the pandemic, and clusters of disruptions across multiple life domains. Individuals suffering from distress may need additional support to manage these disruptions, especially in relation to healthcare. Otherwise, considering psychological distress was already unequally distributed, the pandemic may exacerbate existing inequalities

related to gender, ethnicity, education and age.

S21.02   Inequalities in Psychological Distress Before and During the COVID-19 Pandemic: Coordinated Analyses of 11 UK Longitudinal Studies

Kishan Patel[1]

[1] MRC Unit for Lifelong Health & Ageing at UCL, UK

Lay Summary: A coordinated primary analysis of longitudinal studies and electronic healthcare records was conducted to quantify how the mental health of the UK population changed from before and during the COVID-19 pandemic. We found a sustained deterioration of mental health from before the start of the COVID-19 pandemic, which varied by age, sex, education, and lone household status. The substantial worsening of mental health during the ongoing COVID-19 pandemic highlights the need for improved mental health care provision and broader support to minimise the risk of longer-term mental health consequences.

Background: Evidence about how population mental health has evolved from before and over the COVID-19 pandemic remains mixed, with impacts on mental health inequalities being unclear. We investigated changes in mental health and sociodemographic inequalities from before and across the first year of the pandemic.

Methods: Data from eleven UK longitudinal population-based studies with pre-pandemic measures of psychological distress were analysed and estimates pooled and stratified by age, sex, ethnicity, country, and lone household status. Trends in the prevalence of poor mental health were assessed before the pandemic (TP0) and across the pandemic at three time periods (initial lockdown (TP1), easing of restrictions (TP2), and a subsequent lockdown (TP3)).

Results: In total, 49,993 adult participants (61.2% female; 8.7% Non-White) were analysed across the 11 cohort studies. There was an overall worsening in mental health from pre-pandemic scores across all three pandemic timepoints, (TP1 Standardised Mean Difference: 0.15 (95% CI: 0.06 - 0.25); TP2 SMD: 0.18 (0.09 - 0.27); TP3 SMD: 0.21 (0.10 - 0.32)) with no evidence of improvement during the period of eased lockdown restrictions in summer 2020. Changes from pre-pandemic psychological distress were higher in females during the pandemic (TP3 SMD: 0.23 (0.11 – 0.35)), amongst those with degree-level education (TP3 SMD: 0.26 (0.14 – 0.38)), and adults aged 25-34 and 35-44 years. Preliminary findings do not indicate a worsening in the differences in mental health over the course of the pandemic for those living alone compared to those who do not. We did not find evidence of changes in distress differing by ethnicity, or UK nation.

Conclusion: The substantial deterioration in mental health seen in the UK during the first lockdown did not reverse when lockdown lifted, and a sustained worsening was observed across the pandemic. Mental health declines have been unequal across the population, with females, those with higher degrees, those living alone, and those aged 25-44 years more affected. These results have implications for policy, including the need for specific investment for support for those most affected to mitigate the effects of the pandemic and measures to reduce inequalities within these specific groups.

S21.03   Mental health outcomes following COVID-19 infection: Evidence from 11 UK longitudinal population studies

Jean Stafford[1]

[1] MRC Unit for Lifelong Health & Ageing at UCL, UK

Lay Summary: We studied the relationship between COVID-19 infection and changes in mental health and satisfaction with life over time in 11 UK studies. We found that people who previously had COVID-19 reported poorer mental health and less satisfaction with life over time than people who did not report having had COVID-19, with stronger associations in older people. These findings suggest that COVID-19 infection could have negative effects on mental health in the population and highlight the need for increased mental health support, given high levels of COVID-19 infection in the UK.

Background: The mental health consequences of COVID-19 infection remain poorly understood due to previous mixed findings and limited longitudinal evidence. We examined the longitudinal impact of COVID-19 infection on mental health while considering: 1) time since infection; 2) subgroup differences; and 3) confirmation of infection via test and serology data.

Methods: We used data from 11 UK longitudinal studies involving 54,442 participants, with 3 to 9 repeated measures of mental health and COVID-19 infection between April 2020 and April 2021. We standardised continuous mental health scales across time points and within each study. We used generalised estimating equations to investigate associations between COVID-19 infection (self-report, test-confirmed, serology-confirmed) and mental health outcomes (psychological distress, depression, anxiety and life satisfaction). We pooled effect-sizes using random-effects meta-analyses and we used subgroup analyses to examine variation by time since infection, sociodemographic characteristics, and confirmation of COVID-19 by test and serology data.

Results: Pooled estimates showed associations between self-reported COVID-19 infection and subsequent psychological distress (standard deviation scale β: 0.10;95% CI: 0.06; 1.03, I2=42.8%), depression (β: 0.08; 95% CI: 0.05 to 0.10, I²=20.8%), anxiety (β: 0.08; 95% CI: 0.05 to 0.10, I²=0%), and lower life satisfaction (β: -0.06; 95% CI: -0.08 to -0.04, I²=29.2%). Associations did not vary by time since infection and were present in all age groups, with some evidence of stronger effects in participants aged 50 years and older. We observed negative impacts for both self-report suspected and test-confirmed cases for all outcomes. Self-reported COVID-19 combined with negative or positive serology indicating natural infection was associated with poorer mental health, whereas this was not found in those with positive serology who did not self-report COVID-19.

Conclusion: COVID-19 infection was longitudinally associated with deterioration in mental health, particularly among middle-aged and older people. Our findings using serology data highlight the potential salience of psychosocial mechanisms, for example social isolation, loss of pay, and worry about infecting others and the unpredictable course of COVID-19, in underpinning some of these relationships. These findings have important implications for mental health service provision given the substantial prevalence of COVID-19 infection in the UK and worldwide.

S21.04 Working from home and its association with mental health and wellbeing during the COVID-19 pandemic: Evidence from 7 UK longitudinal studies

Bettina Moltrecht[1], **Wels Jacques**[2]

[1] UCL, UK; [2] MRC Unit for Lifelong Health & Ageing at UCL, UK

Lay Summary: We used data from 7 UK longitudinal studies to explore the relationship between homeworking and employees' mental health, social and physical wellbeing during the pandemic. We found that homeworking was initially associated with better mental health and wellbeing, but that this relationship changed throughout the pandemic. Women living with partner and children were most likely to experience psychological distress. Considering the global shift towards more people working from home, it is important to understand who is at increased risk and who may need additional support going forward.

Background: Employees experienced huge disruptions during the COVID-19 pandemic, with many losing their jobs, being furloughed or being forced to work from home. Whilst the impact of employment disruptions on mental health and wellbeing has been assessed, but little is known about people's experiences with homeworking. The pandemic has created a global shift towards increased homeworking patterns, which are expected to shape our near future. It is unclear how homeworking has affected people's mental health and wellbeing.

Methods: Data from seven UK longitudinal population-based studies with pre-pandemic mental health and wellbeing measures were analysed and estimates pooled and stratified by age, sex, ethnicity, and different household compositions.

Results: Pooled estimates showed that homeworking was associated with better mental health and wellbeing in the early stages of the pandemic (May 2020). By February and March 2021, mental health, social and physical wellbeing levels had deteriorated in both, employees working from home and those working at employers' premises. However, those working from home were still more likely to experience greater psychological distress. In the later stages of the pandemic, women were more likely to experience psychological distress, especially if living with partner and children.

Conclusion: Long periods of homeworking during the pandemic were associated with worse mental health and wellbeing outcomes. Considering the global shift towards homeworking, it is important to be aware of its potential impacts on people's mental health and wellbeing, and how risks can be mitigated. Experiences of homeworking during COVID-19 lockdowns are likely to differ from home working experiences post-pandemic, thus going forward we need to keep investigating the impact of increased homeworking on employees' mental health, social and physical wellbeing.

S21.05 Combining and triangulating evidence from multiple population-based studies and electronic health records: mental health examples

Praveetha Patalay[1]

[1] MRC Unit for Lifelong Health & Ageing at UCL, UK

Lay Summary: Different data sources have different strengths. This presentation will discuss some examples of research using both electronic health records and population based longitudinal studies in service of the same research questions undertaken as part of the Longitudinal Health and Wellbeing National Core Study initiated during the COVID-19 pandemic in the UK. The considerations of conducting research across data sources, triangulating evidence and the methods used will be discussed, as well as where findings concur and potential reasons when they don't.

Background: Different sources of data have different strengths and limitations. For instance, for population mental health research EHRs offer universal coverage and large sample sizes, good ascertainment of lower prevalence severe mental health conditions; whereas population-based surveys provide ascertainment in all participants and across the spectrum of distress

including sub-clinical levels of symptoms. The use of both electronic healthcare records (EHR) and longitudinal studies offers a unique opportunity to examine mental health outcomes, while triangulating evidence, from different sources of data.

Methods: EHR data included databases of individuals registered with health services in England (OPENSAFELY), Scotland (EAVE II) and Wales (SAIL). Longitudinal studies included national birth cohorts (MCS, BCS, NCDS, NSHD), regional cohorts (ALSPAC, GenScot, Born in Bradford), household panel studies (Understanding Society), other longitudinal datasets (Next Steps, ELSA, TWINSUK, GLAD, SABRE). EHR and longitudinal studies were analysed with a co-ordinated approach, using the best methods for each of the different data sources. Examples related to correlates of Long COVID, Inequalities in mental health outcomes by household composition and mental health impacts of COVID-19 infection will be discussed.

Results: Results will be shown with a focus on where results were corroborated across data sources and where findings diverged. Possible reasons for divergence will be highlighted including differences in ascertainment, methods and sample selection.

Conclusion: There are scientific benefits to co-ordinated analyses across different data sources with the aim of answering focused research questions and triangulating evidence.

| TOP | PLENARIES | ECR KEYNOTES | SYMPOSIA | ORAL PRESENTATIONS | RAPID FIRE | POSTERS |

S22 Biological Mechanisms Linking Social Risk Factors and Mental Health Disorders

Sat 10 Sep, 08:30 – 10:00
Lecture Room 1
Chair: Kate Merritt, UCL, UK. **Discussant:** Prof. Sir Robin Murray, King's College London, UK

Abstract: Mental health disorders are caused, in part, by exposure to social risk factors. However, the causal mechanisms underlying these associations are unclear, and it is not known how these environmental risk factors impact biological processes. This symposium brings together researchers across the UK studying the potential biological mechanisms that link social risk factors and mental health disorders. This symposium will explore changes in epigenetics, brain structure, telomere length and dopamine signalling, and their role as potential mediators of the association between social adversity and mental health. The identification of such biomarkers will allow future research to test for positive moderating factors in the environment, to guide future public health initiatives. Moreover, a better understanding of the specific biological pathways impacted by environmental adversity will pave the way for personalised care.

S22.01 The association between chronic exposure to social stress and striatal dopamine functioning: a systematic review of SPECT and PET studies

Rik Schalbroeck[1]; Carmen F. M. van Hooijdonk[2]; Fabian Termorshuizen[2]; Jan Booij[3]; Jean-Paul Selten[4]

[1] University of Cambridge, UK; [2] Rivierduinen Institute for Mental Healthcare, Netherlands; [3] Amsterdam University Medical Center, Netherlands; [4] Maastricht University, Netherlands

Lay Summary: In this study, we reviewed all studies that used SPECT or PET to examine the relationship between chronic social stress and dopamine, a neurotransmitter that is related to the risk of developing psychosis and other mental health problems. Several studies showed that social stress can influence dopamine functioning in humans, although most of these studies have included small numbers of participants with varying characteristics. Addressing these limitations in future work can lead to a better understanding of why and how certain individuals develop mental health problems after experiencing chronic social stress.

Background: Social stressors, such as discrimination or childhood trauma, substantially increase the risk of developing psychosis and other forms of psychopathology. However, little is known about the neurobiological mechanisms mediating these risks. The social defeat hypothesis and other influential theories about psychosis predict that social stress leads to the sensitization of the dopamine system and/or to an increased baseline activity of this system1-4. Here we present the results of a systematic review, in which we examined studies that investigated the relationship between chronic exposure to social stress and striatal dopaminergic functioning in vivo using single photon emission computed tomography (SPECT) or positron emission tomography (PET).

Methods: A systematic review performed in PubMed and PsycINFO (PROSPERO CRD42022308883). Studies were included if they used SPECT or PET to examine the association between presynaptic striatal dopamine functioning and experiences of chronic social stress in humans. Studies that did not directly measure experiences of social stress and/or solely looked at the acute effects of stress were excluded.

Results: Eight studies met the inclusion criteria. Of these, three studies examined presynaptic striatal dopamine synthesis capacity in heterogeneous samples composed of individuals from the general population, with a clinical high risk for psychosis (CHR), and/or diagnosed with autism5-7. Total sample sizes ranged from 34 to 66 participants. Findings were mixed, as in these studies, dopamine synthesis was positively associated with childhood trauma (n=1), not related to childhood trauma or social defeat (n=1), and negatively associated with long-term exposure to social stress (n=1). Five studies, with sample sizes ranging from 10 to 38 participants, examined presynaptic striatal dopamine release in individuals from the general population, with elevated schizotypal symptoms, and/or with a hearing impairment8-12. These studies reported positive (n=3) and negative (n=1) associations with childhood trauma or low maternal care, and no association with social defeat (n=1).

Conclusion: There is preliminary evidence that exposure to social stress can alter dopaminergic functioning. However, the heterogeneity in sample characteristics and measures of social stress, as well as the small sample sizes, are important limitations that need to be addressed in future work.

S22.02   The Impact of Cumulative Prenatal Complications and Childhood Trauma on Brain Structure in Subjects with Psychotic Experiences

Kate Merritt[1]; Pedro Luque Laguna[5]; Mark Drakesmith[5]; Arjun Sethi[6]; Sarah Ashley[1]; Leon Fonville[4]; Stanley Zammit[3]; Michael Bloomfield[1]; C. John Evans[5]; Glyn Lewis[1]; Matthew Kempton[7]; David E. J. Linden[8]; Abraham Reichenberg[2]; Derek K. Jones[5]; Anthony S. David[1]

[1] University College London, UK; [2] Icahn School of Medicine at Mount Sinai, USA; [3] University of Bristol, UK; [4] Imperial College London, UK; [5] Cardiff University, UK; [6] University of Roehampton, UK; [7] Institute of Psychiatry, Psychology & Neuroscience, UK; [8] Maastricht University Medical Centre, Netherlands

Lay Summary: We tested whether trauma and prenatal complications affect brain volume in a sample of healthy volunteers and people with psychotic experiences. We found that trauma is associated with increased volume in frontal and striatal areas of the brain in all subjects, whereas effects of prenatal complications on the brain are specific to those experiencing psychotic symptoms, in 2 brain regions called the caudate and insula. These results suggest that insula volume may predict poor mental health outcomes in people experiencing prenatal complications, and that prenatal complications may increase the risk of developing psychosis by altering caudate volumes.

Background: Psychotic experiences (PEs) occur in 5-10% of the general population and present an increased risk for later mental health disorders including psychosis. Psychotic disorders and PEs are caused, in part, by exposure to adverse environments, both prenatally and during childhood. However, the neurobiological mechanisms underlying these associations are unclear.

Methods: 401 participants from the UK Avon Longitudinal Study of Parents and Children were categorised on a 4-point ordinal scale: No PEs n=267 > suspected PEs n=47 > definite PEs n=52 > clinical disorder n=35. Voxel-cluster analyses examined the effect of 1) PE, 2) cumulative trauma and 3) cumulative prenatal risk on brain volume. Uncorrected voxel-level thresholds were set at $p<0.001$, with a family-wise error (FWE) correction for multiple comparisons at pFWE<0.05 at the cluster level.

Results: PEs were associated with reduced grey matter volume in the bilateral posterior cingulate (pFWE<0.001; -12, -51, 5; Z=4.14; 715 voxels) and a trend for reduced volume in the thalamus (pFWE=.07; -12, -12, 8; Z=3.63; 271 voxels). Trauma was associated with increased volume in the dorsal striatum (pFWE=.001; -24, -5, 9; Z=3.79; 602 voxels), prefrontal cortex (pFWE<.001; 36, 59, 12; Z=4.70; 756 voxels) and medial frontal gyrus (pFWE<.001; 0, 36, 48; Z=3.98; 820 voxels). A significant interaction found reduced insula volume with prenatal risk in PE, but increased insula volume in healthy volunteers (pFWE=<0.001; 57, -26, 21; Z=4.79; 1313 voxels). Prenatal risk was associated with increased caudate volume in clinical cases but not in healthy volunteers (pFWE=0.02; 11, 12, -8; Z=4.08; 351 voxels).

Conclusion: PE was associated with reduced grey matter in the posterior cingulate and thalamus, which are key regions implicated in schizophrenia, supporting a continuum view of the pathophysiology of schizophrenia. Increased prefrontal cortex and dorsal striatum volume with cumulative trauma may reflect adaptive rather than pathophysiological changes, as this was seen in all subjects and was not specific to PE. Conversely, prenatal risk had opposite effects on insula volume in healthy volunteers and those with PE, and so may serve as a biomarker of poor mental health outcomes in those experiencing prenatal complications, with increased volume being protective. The finding of increased caudate volume specific to clinical cases may represent a mechanistic pathway linking prenatal complications to the emergence of psychosis.

S22.03   Telomere length in severe mental disorders: exploring the role of early stress

Monica Aas[1]; Alma Viktoria Birkenæs[1]; Torbjørn Elvsåshagen[1]; Daniel S. Quintana[1]; Carmen Martin-Ruiz[2]; Srdjan Djurovic[1]; Nils Eiel Steen[1]; Ole A. Andreassen[1]

[1] University of Oslo, Norway; [2] Newcastle University, UK

Lay Summary: In this study, we measured telomere lengths in a large sample of patients with a severe mental disorder and in healthy individuals. We found that patients with a severe mental disorder had shorter telomere lengths relative to healthy controls. Patients with a history of childhood trauma and patients with one or more suicide attempts had the shortest telomeres. Shorter telomere length is a putative biomarker of poorer brain health and accelerated ageing in severe mental disorders. Our study is important to clarify psychological factors and behaviors associated with telomere shortening.

Background: Shorter telomere length is a putative biomarker of poorer brain health and accelerated ageing in severe mental disorders. Psychological factors and behaviors associated with telomere shortening are yet to be clarified. Here, we investigate the association between early trauma and shorter telomere length in severe mental disorders.

Methods: The study comprised 1024 individuals (schizophrenia [n=373]; bipolar disorder [n=249] and healthy controls [n=402]). Telomere length was measured by quantitative polymerase chain reaction (qPCR), and childhood trauma was assessed using the Childhood Trauma Questionnaire (CTQ). Diagnosis was obtained by the Structured Clinical Interview

(SCID) for the diagnostic and statistical manual of mental disorders-IV (DSM-IV). Diagnosis, duration of illness, and age at onset were assessed using the Structural Clinical Interview for DSM-IV (SCID-I). Number of lifetime suicide attempts were based on self-reports. Effect size was calculated using Cohen's d. All analyses were adjusted for chronological age and sex.

Results: Patients had on average shorter telomeres (F= 7.87, p=0.005, Cohen's d = 0.17) and reported more childhood trauma experiences than the control group ($\chi 2$ = 148.9, p<0.001). Patients with a history of childhood sexual, physical or emotional abuse had shorter telomeres relative to healthy controls and to patients without a history of childhood abuse (F= 6.93, p=0.006, Cohen's d = 0.16). Moreover, a history of having several suicide attempts were associated with having shorter telomere lengths (β: -0.24, t = -3.83, CI = -0.44 to -0.14, p<0.001), also after controlling for duration of illness and age at onset (β: -.23, CI = -.42 to -.12, p=0.001). Multiple suicide attempts were associated with telomere length reduction comparable to eight years lifespan, adjusted for demographic and clinical characteristics.

Conclusion: We demonstrated shorter telomeres in patients with a schizophrenia or bipolar disorder compared to healthy controls and showed that telomeres are sensitive to childhood trauma experiences. Moreover, suicide attempts, and related distress may further accelerate telomere shortening. While longitudinal data are needed to clarify the temporal course, early trauma, previous suicide attempts and related distress may accelerate telomere shortening in patients with a severe mental disorder.

S22.04 Exploring DNA Methylation as a Mediating Mechanism Linking Childhood Adversity and Psychosis in Patients with First Episode Of Psychosis

Luis Alameda[4]; Zhonghua Liu[3]; Pak Chung Sham[3]; Monica Aas[2]; Giulia Trotta[2]; Victoria Rodriguez[2]; Marta Di Forti[2]; Radhika Kandaswamy[2]; Craig Morgan[2]; Emma Dempster[1]; Eilis Hannon[1]; Joe Burrage[1]; Jonathan Mill[1]; Robin M. Murray[2]; Chloe C. Y. Wong[2]

[1] University of Exeter, UK; [2] Institute of Psychiatry, Psychology & Neuroscience, UK; [3] University of Hong Kong, Hong Kong; [4] CHUV, Switzerland

Lay Summary: We have investigated whether epigenetic marks, in the form of DNA methylation, may be involved in the mechanism by which people who are expose to experiences of childhood trauma develop psychosis. We find that epigenetic dysregulation in genes involved in important functions such as the histaminergic, Acetylic CoA, and neural signalling, among others, are involved in the link between trauma and psychosis and may represent important targets for pharmacological treatment. We also find that the signature of abuse and neglect is totally different which suggest differential biological trajectories between trauma and psychosis depending on the type of trauma.

Background: DNA-methylation (DNAm) has shown to be sensitive to the impact of childhood adversity (CA) in different mental disorders, however whether DNAm mediate the CA-psychosis association is yet to be explored. We aim to explore, whether changes in DNAm, measures across the entire epigenome (EWAS) mediate the link between CA and First-Episode of psychosis (FEP) patients.

Methods: As part of the EUGEI study, the Childhood Trauma Questionnaire (CTQ) was applied to create the Polyvictimisation score, ranging from 0-5 for the composite measure, 0-3 for abuse and 0-2 for neglect. First, logistic regression models examining the associations between CTQ scores and psychosis was tested; second, we regressed each DNAm CpG across the entire epigenome on polyvictimization scores and additionally regressed case control status on each of the probes, adjusting by age, sex, country, batch effects, cell type proportions, smoking core, 10 principal components and antipsychotic medication history. Lastly, Divide- Aggregate Composite-null Test (DACT) for the composite null hypothesis of no mediation effect was conducted. Enrichment analyses were conducted with missMethyl package with the KEGG data set.

Results: None of the probes appeared to significantly mediate the adversity-psychosis association according to Bonferroni correction (p<8.13379772e-8), however 28, 34 and 29 differentially methylated probes (DMPs) located in 21, 27,20 genes passed a more relaxed discovery threshold (p<5x10-5) for composite, abuse and neglect respectively. These included genes previously associated to SCZ in EWAS studies such as PANK1, SPEG, PKNOX2, HDAC5, TSNARE1, TTC7B, NEK6, ZHX2, TMEM114, SORT1, PPP2R2D, VARS and NMB. Downstream gene ontology analyses showed enrichment for pathways such as the dopaminergic (FGF20), glutamatergic (ZHX2), and histaminergic functions (HRH2); and a great variation in the biological pathways according to abuse and neglect was observed.

Conclusion: DNAm changes in genes previously associated with SCZ in EWAS studies may mediate the CA-psychosis association. We confirm a possible mediating role of glutamatergic and dopaminergic pathways in this association, while the role of the histaminergic function requires future replication. The low overlap between mediating genes and pathways according to abuse and neglect suggest differential biological trajectories between CA and psychosis depending on the type of adversity.

S22.05   Childhood Trauma and the Psychopathological Profile in First-Episode Psychosis (EU-GEI): Exploring the Moderating Role of Polygenic Risk Scores

Monica Aas[1]; Luis Alameda[2]; Diego Quattrone[2]; Evangelos Vassos[2]; Craig Morgan[2]; Marta Di Forti[2]; Robin Murray[2]

[1] Akershus University Hospital, Norway; [2] King's College London, London, UK

Lay Summary: The aim of this study was to examine the role of polygenic risk for schizophrenia and childhood trauma in patients with a first-episode psychosis. Patients with a high genetic load for schizophrenia had the most severe symptoms independent of childhood trauma experiences, whilst patients with low polygenic risk had a more severe clinical profile if exposed to early trauma. These results have implications for the underlying mechanisms of psychoses.

Background: Childhood trauma is a well-known risk factor for developing a more severe and complex form of psychosis. However, knowledge is scarce about how both childhood maltreatment and underlying genetic vulnerability contribute to the psychopathological profile of those with psychosis, which we investigate in this study.

Methods: We assigned a schizophrenia-polygenic risk score (SZ-PRS), calculated from the Psychiatric Genomics Consortium (PGC2) to all participants in a sample of 384 first-episode psychosis patients as part of the EU-GEI study. Symptom ratings were analyzed using multidimensional item response modelling in Mplus to estimate five theory-based models of psychosis. A history of childhood adversity was collected using the Childhood Trauma Questionnaire (CTQ). Data were adjusted for site and 10 Principal Components. Moderation analyses were applied with bootstrapping for skewed data. SZ-PRS was added as the moderator in the analyses.

Results: Our preliminary analyses gave some evidence of SZ-PRS moderating the relationship between exposure to childhood emotional abuse and negative symptoms (ßCTQxPRS = -0.04, p=0.006). Conditional effects of the predictor at the values of the moderator showed that patients with low SZ-PRS had the lowest negative symptoms if they had not been exposed to trauma, but if their trauma scores were high their negative symptoms would be high. The opposite relationship was observed for the group with high SZ-PRS. Moreover, SZ-PRS significantly moderated the relationship between exposure to childhood emotional neglect and depressive symptoms (ßCTQxPRS = -0.02, p=0.042). Conditional effects of the predictor at the values of the moderator showed that patients with low SZ-PRS and intermediate SZ-PRS levels had low depressive symptoms if they had not been exposed to trauma, but if their trauma exposure were high their negative symptoms would also be high. For the group with high PRS, their depressive symptoms were the same independent of trauma exposure. Lastly, SZ-PRS significantly moderated the relationship between exposure to childhood sexual abuse and positive symptoms (ßCTQxPRS = -0.05, p=0.012), in the same direction as shown above with trauma being associated with higher positive symptoms in the group with low SZ-PRS but not in the group with high SZ-PRS.

Conclusion: These preliminary findings indicate that childhood trauma may be particularly associated with symptom severity in first-episode psychosis patients with low polygenic risk for schizophrenia.

S23   Schizophrenia And Violence: Recent Research Findings

Sat 10 Sep, 08:30 – 10:00
Lecture Room 3
Chair: Giovanni de Girolamo, St. John of God Clinical Research Centre, Italy. **Discussant:** Marco Picchioni, King's College London, UK

Abstract: An extensive body of research explores the links between mental disorders and interpersonal violence. Among the severe mental disorders, there is good evidence to support an independent association between the risk of violence and schizophrenia (Fazel et al, 2009; Walsh et al, 2002), alcohol and drug dependence (Coid et al., 2006), antisocial personality disorder (Swinson et al, 2021; Yu et al, 2012) and psychopathy (Coid & Yang, 2011). Focusing on schizophrenia, the relationship with violence is not strongly linked to the presence of positive psychotic symptoms like delusions or hallucinations (Nolan et al., 2003; Swanson et al., 2008). While certain types of delusions or hallucinatory content may increase the risk of violence in some individuals, they alone do not seem to drive the risk at a group level that patients will be violent (Appelbaum et al, 2000). One emerging model suggests that amongst patients with schizophrenia who are violent there may be at least two distinct conceptual pathways to violence. One is associated with premorbid conditions linked to violence that include antisocial conduct, a history of previous violence and traumatic experiences, while the other is more intimately linked to the core psychopathology of schizophrenia that the patient experiences (Bo et al, 2011; Citrome & Volavka, 2014; Hodgins et al., 2014; Swanson et al., 2008; Volavka, 2014), possibly strongly modified by the emotional impact of those symptoms at the critical time of the violence (Ullrich et al., 2014). Childhood trauma is important in a number of ways. Being exposed to violence in early childhood is a specific risk factor for conduct disorder (Burke et al, 2002; Kersten et al., 2017) and is associated with an increased risk of developing psychosis (Larsson et al., 2013; Misiak et al., 2017; Varese et al., 2012), and with a further increased risk of being violent (Bosqui et al., 2014; Macinnes et al, 2016; Witt et al, 2013). About cognitive functioning, there is little clear evidence of a link between neuropsychological deficits and the risk of violence in schizophrenia. Any risk may be strongest for executive functions deficits and violence (Bulgari et al., 2017; Reinharth et al, 2014).

In this symposium we will present the results of a recent Europen study on forensic patients with SSD involving five countries and two additional studies.

S23.01   An European Study in Forensic Care: an Overview of The EU-Viormed Project

Giovanni De Girolamo[1]

[1] IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Italy

Lay Summary: What we did: We assessed and compared the characteristics of a group of forensic psychiatry patients with a schizophrenia spectrum disorder and a history of significant interpersonal violence to a group of patients with the same diagnosis but no lifetime history of interpersonal violence. What we found: Forensic patients with SSD showed the same level of psychopathology as patients with SSD who have never been violent. In this study almost one in five of the cases had not used any alcohol or substances in their lifetime. Between group differences were found for both having witnessed and being subjected to violence. Patients who were later violent were more likely to have been abused both earlier in life and more harshly. Finally, 78% of forensic patients were already known to services and in treatment at the time of their index offence, but in the large majority poorly compliant. Why it's important: Most forensic patients who offended violently were in treatment at the time of the offense, although they were not compliant. Once in treatment forensic patients responded well and manifest relatively low symptom levels and functioned better. This highlights the need for services engaged in the prevention of violent offenses in people living with SSD to strengthen their therapeutic alliance, maintain contact and surveillance of patients who disengage or drop of out treatment and the need to ensure high levels of treatment concordance.

Background: The relationship between schizophrenia and violence is complex. The aim of this multicentre case-control study was to examine and compare the characteristics of a group of forensic psychiatry patients with a schizophrenia spectrum disorder and a history of significant interpersonal violence to a group of patients with the same diagnosis but no lifetime history of interpersonal violence.

Methods: Overall, 398 patients (221 forensic and 177 non-forensic patients) were recruited across five European Countries (Italy, Germany, Poland, Austria and the United Kingdom) and assessed using a multidimensional standardised process.

Results: Overall, 398 patients (221 forensic and 177 controls patients) were recruited and assessed using a multidimensional standardized process. No significant differences were observed on the current PANSS total score between the two groups

(p=0.226). The percentages of cases and controls with a history of alcohol and substance use were broadly speaking similar, emphasising the point that despite the well-established association, alcohol and drug use is common in people with SSDs who have never been violent. Furthermore, in this study almost one in five of the cases had not used any alcohol or substances in their lifetime. Cases functioned better socially on the WHODAS, reflecting lower disability and better functioning. Cases generally had lower scores than controls in all subtests of the BACS. Between group differences were found for both having witnessed and being subjected to violence. Patients who were later violent were more likely to have been abused both earlier in life and more harshly. 78% of forensic patients were already known to services and in treatment at the time of their index offence, but in the large majority poorly compliant.

Conclusion: Most forensic patients who offended violently were in treatment at the time of the offense, although they were not compliant. Once in treatment forensic patients responded well and manifest relatively low symptom levels and functioned better. This highlights the need for services engaged in the prevention of violent offenses in people living with SSD to strengthen their therapeutic alliance, maintain contact and surveillance of patients who disengage or drop of out treatment and the need to ensure high levels of treatment concordance.

S23.02   Needs of Patients With a Schizophrenia Spectrum Disorder in Different European Countries

Johannes Wancata[1]

[1] Medical University of Vienna, Austria

Lay Summary: What we did: We assessed the needs of forensic patients with SSD in five European countries using the most widely used standardized tool to assess this, the Camberwell Assessment of Need (CAN) which includes 22 domains. What we found: Patients reported a higher total number of needs as compared to psychiatric staff. Similarly, the number of unmet needs was slightly higher according to the patients' self-assessment than according to staff assessment. The total number of needs was significantly positively associated with the duration of illness according to the patients. Why it's important: Since patients themselves report higher numbers of total needs and of unmet needs, it is important to consider the patients' views even in difficult settings, such as forensic settings. We did not find any significant predictor for patients' assessment of unmet needs: therefore efforts should be targeted to the identification of the best strategies to recognize patients' needs and incorporate them in treatment plans.

Background: Studies analysing the needs of schizophrenia patients in community services from different European countries are scarce. Thus, our aim was to assess the needs of such patients in several European countries using identical methods (based on data from the EU-VIORMED study).

Methods: Overall, 158 patients with schizophrenia spectrum disorders were recruited from community psychiatric services in Italy, Germany, Poland, Austria and the United Kingdom. Patients between 18 and 65 years were included if they could be matched to forensic patients who had committed a serious violent crime (forensic data presented separately). For the assessment of needs, the Camberwell Assessment of Need (CAN) was used which includes 22 domains. Psychotic symptoms were assessed using the Positive and Negative Syndrom Scale (PANSS). Multiple linear regression analyses were used to identify predictors for the numbers of total and unmet needs.

Results: Patients reported a higher total number of needs (m=5.80, sd=3.22) as compared to psychiatric staff (m=4.96, sd=3.12). Similarly, the number of unmet needs was slightly higher according to the patients' self-assessment than according to staff assessment (m=1.74, sd=171 vs. m=1,27, sd=1.67). The total number of needs was significantly positively associated with the duration of illness according to the patients (beta=0.08; p=0.002). Staff reported a higher number of needs more frequently among those with a longer duration of illness (beta=0.07; p=0.004) and those with a higher score of negative symptoms according to PANSS (beta=0.14; p=0.002). According to staff unmet needs were more common among those with a higher PANSS negative score (beta=0.07; p=0.011), while we could not identify significant predictors for patients' assessment of unmet needs.

Conclusion: Since patients themselves report higher numbers of total needs and of unmet needs it is important to consider the patients' views. In addition, it is surprising that we could not find any significant predictor for patients' assessment of unmet needs.

S23.03   ---- WITHDRAWN ----

S23.04   Improving The Assessment of Violence Risk in Clinical Services for Early Psychosis: a Prediction Tool Approach

Daniel Whiting[1]

[1] University of Nottingham, UK

Lay Summary: What we did: We used routine information in electronic health records to test the accuracy of a simple tool that estimates the chances of an individual behaving in a physically violent manner in the first year after assessment by clinical services for people presenting with the possible onset of illnesses like schizophrenia. What we found: The tool called OxMIV was shown to be accurate enough to be potentially helpful to clinical services, where by supporting the clinicians' overall assessment it might help identify more needs around violence risk so that extra support can be put in place where needed. Why it's important: Whilst only a minority of those who develop illnesses like schizophrenia have difficulties with behaving violently, where this does occur it can have a big impact, not least on their healthcare and their families. Better identifying these needs early in illness can help improve what support is given.

Background: Whilst most individuals with schizophrenia never perpetrate violence, for a minority this is a potential adverse outcome. The first presentation of psychosis has been highlighted as a potentially higher risk phase, and so this is important for clinical services who specialise in first episode psychosis to consider. Identifying violence risk is a routine part of assessment, however currently this relies entirely on clinical judgement. Simple risk prediction tools might help as complements to clinical assessment. One such tool, called OxMIV, could potentially fulfil this role, but requires validation and testing in clinical settings.

Methods: A retrospective cohort design was used to validate and update the OxMIV model in 1,145 individuals consecutively assessed by two UK Early Intervention in Psychosis services. Routine electronic health record data was combined with police data on violent outcomes to examine the model's predictive accuracy, update it in line with the baseline event rate in the new setting, and compare it with unstructured clinical judgements of risk.

Results: Of all 1,145 individuals assessed, 131 (11%) perpetrated violence in the subsequent 12-months. OxMIV showed robust predictive performance in measures of discrimination, calibration and overall performance. The key potential clinical role identified was to improve the low sensitivity of unstructured clinical judgements.

Conclusion: OxMIV could potentially have a clinical role in developing a precision medicine approach to identifying needs around violence risk in early psychosis. The session will conclude by outlining some work on the clinical feasibility and acceptability of the tool with a view to developing this clinical role.

S24 Challenges and opportunities in mental health data science: the DATAMIND experience

Sat 10 Sep, 08:30 – 10:00
Lecture Room 4
Chair: Robert Stewart, King's College London, UK. **Discussant:** Ann John, Swansea University, UK

Abstract: The discipline of data science has emerged as a result of the expanding and diversifying information sources now available for population-level research – from cohort studies to healthcare databases and biobanks. Mental health data science faces its own distinct challenges around data availability and provenance, outcome standardisation, and leveraging effective translation into health improvement; however, in the UK it is now a mature field with a number of groups and longstanding experience. The DATAMIND collaboration, set up in September 2021, builds on this maturity and expertise, bringing together researchers from all four UK nations and a diversity of resources. These resources include local and national healthcare databases, many linked across sectors and with non-healthcare data, as well as large cohorts and biobanks. Technical expertise includes work on data linkages, standardisation and accessibility, novel trial infrastructure, and natural language processing applied to healthcare text fields. Challenges remain, however, in ensuring that the network achieves more than the sum of its parts, that the voices of patients and carers are central to developments and overall strategy (particularly Industry collaborations), and that genuine public health and clinical translation is achieved and accelerated. The presentations in this symposium will exemplify some of the contributory work being undertaken and provide a focus for discussion about the wider implications of this rapidly developing specialty.

S24.01 Antipsychotic Polypharmacy and Adverse Drug Reactions Among Adults in a London Mental Health Service, 2008-2018

Johan Thygesen[1]; Justin Yang[2]; Nomi Werbeloff[3]; Joseph Hayes[2]; David Osborn[2]

[1] UCL Institute of Health Informatics, UK; [2] University College London, UK; [3] Bar-Ilan University, Israel

Lay Summary: Using anonymised electronic patient records, we looked at whether or not patients taking two or more antipsychotics at the same time were more or less likely to experience certain adverse side effects, compared to those taking only one antipsychotic at a time. We found that that taking two or more antipsychotics was associated with an increased risk of some adverse side effects, but not others. This is an important consideration for clinicians, patients, and carers who must decide on the potential risks and benefits of taking more than one antipsychotic at the same time, as well as for follow-up care and monitoring.

Background: Antipsychotic polypharmacy (APP) occurs commonly but it is unclear whether it is associated with an increased risk of adverse drug reactions (ADRs). Electronic health records (EHRs) offer an opportunity to examine APP using real-world data. In this study, we use EHR data to identify periods when patients were prescribed 2+ antipsychotics and compare these with periods of antipsychotic monotherapy. To determine the relationship between APP and subsequent instances of ADRs: QT interval prolongation, hyperprolactinaemia, and increased body weight [body mass index (BMI) $\geqslant$ 25].

Methods: We extracted anonymised EHR data. Patients aged 16+ receiving antipsychotic medication at Camden & Islington NHS Foundation Trust between 1 January 2008 and 31 December 2018 were included. Multilevel mixed-effects logistic regression models were used to elucidate the relationship between APP and the subsequent presence of QT interval prolongation, hyperprolactinaemia, and/or increased BMI following a period of APP within 7, 30, or 180 days respectively.

Results: We identified 35,409 observations of antipsychotic prescribing among 13,391 patients. Compared with antipsychotic monotherapy, APP was associated with a subsequent increased risk of hyperprolactinaemia (adjusted odds ratio (aOR): 2.46; 95% CI: 1.87–3.24) and of registering a BMI $\geqslant$ 25 (aOR: 1.75; 95% CI: 1.33–2.31) in the period following the APP prescribing.

Conclusion: Our observations suggest that APP should be carefully managed with attention to hyperprolactinaemia and obesity.

S24.02   Extracting Information about Pain from Free-Text of Mental Health Electronic Health Records

Jaya Chaturvedi[1]; Sumithra Velupillai[1]; Robert Stewart[1]; Angus Roberts[1]

[1] King's College London, UK

Lay Summary: The aim of my project is to extract information about pain from the free text within mental health electronic health records. I have extracted 1,750 mentions of pain so far, which have been labelled with other information such as pain character and anatomy. Access to this information will allow us to answer numerous research questions about pain and different mental health diagnoses.

Background: Pain is a global healthcare problem, and consequently a growing area of research. A high co-occurrence of pain and mental health disorders has been established and is known to be linked to increased disability and impairment. It is also known to be strongly related to emotions, which can lead to damaging consequences. Pain is a common reason for people to access healthcare facilities, thereby making electronic health records (EHR) a potential source of information on pain. Mental health EHRs are particularly beneficial in this case since they show the overlap of pain with mental health. Pain is not well recorded in the structured forms of EHR but is frequently described within clinical notes. It is challenging to extract information from free text. Natural language processing (NLP) methods will therefore be required to extract such information from the text. The aim of this project is to extract information about pain from the clinical text of a mental health EHR database called CRIS (Clinical Record Interactive Search), which is an anonymised version of EHR data from the South London and Maudsley NHS Foundation Trust (SLaM) (Oxford C Research Ethics Committee, reference 18/SC/0372).

Methods: A dictionary of pain terms has been developed to help extract relevant documents from the CRIS database. This list was validated by two clinicians and a Patient and Public Involvement (PPI) group. Any documents that contain the pain keywords from the dictionary were extracted. These pain terms were then pre- annotated (highlighted within an annotation tool, MedCAT), for further annotation (marking each mention of pain with relevant information) by three medical students. These annotations will be used as gold standard for training a machine-learning based NLP application which will classify unseen mentions of pain as relevant or not. This application, once tested and validated for satisfactory performance, will then be run on larger unseen documents within the CRIS database and used to identify patients with relevant mentions of pain within their clinical notes, thereby helping answer various research questions for this cohort of patients. Some research questions, developed in collaboration with the PPI group, that will be answered using outputs of this application are: What is the distribution of recorded pain across different diagnosis groups within mental health care? Are there gender differences in recorded pain experiences within mental health EHRs?

Results: A dictionary of pain terms was developed and used to extract 1000 documents from the CRIS database. These documents were annotated with 1,750 mentions of pain - 78% of the annotations were marked as "relevant" mentions, with 45% of them mentioning an anatomical part. The most common anatomical parts mentioned were back and chest, and most common pain characters were chronic and burning.

Conclusion: This process has highlighted the ambiguous nature of how pain is described and the need for NLP methods to extract such information. Data extracted through the use of this NLP application will help answer many research questions (such as distribution of recorded pain in different diagnosis groups within mental health care, burdens and outcomes such as hospitalisations, and so on), and as part of future work, will be compared to how pain is mentioned within other data sources, such as GP records from Lambeth DataNet and KERRI database within King's College Hospital.

S24.03   Changes in presentations to healthcare services with self-harm during the COVID-19 pandemic in Wales, UK

Marcos del Pozo Banos[1]; S.C. Lee[1]; Y. Friedmann[1]; A. Akbari[1]; F. Tobari[1]; K. Lloyd[1]; R.A. Lyons[1]; A. John[1]

[1] Swansea University Medical School, UK

Lay Summary: We compared attendance to healthcare services with self-harm before and during the COVID-19 pandemic. We found that people who self-harmed during the pandemic may have been less likely to seek help, and those who did so were less likely to be hospitalised. It may be beneficial to encourage those who self-harm to seek help during pandemics, but this needs to be supported by maintained provision of mental health services.

Background: Increased rates of self-harm and suicidal behaviours in the population during the COVID-19 pandemic have been suggested, with some authors positively linking this with COVID-19 infection. Meanwhile, reduced rates of help seeking by those who self-harmed during the pandemic have been reported. We aimed to better understand changes on healthcare service contacts with self-harm across primary, emergency and secondary care during the first 12 months of the pandemic.

Methods: In this retrospective cohort study we used routine electronic healthcare data for Wales (UK) covering 2016 to

March 14, 2021 – hence including the first two waves of the pandemic. Primary care, emergency departments and hospital admissions population-based data were linked at individual-level. We included all Welsh residents aged ≥10 years over the study period. We measured counts, incidence, prevalence and proportion of self-harm contacts relative to all contacts in each and all settings, and the proportion of people contacting one or more settings with self-harm. We modelled weekly trends using generalised estimated equations, quantifying differences between 2020 (to March 2021) and comparison years 2016-2018 (to March 2017-2019) through difference in differences. We reported mean rate of odds ratios (µROR) across years.

Results: Over the study period, 3,552,210 individuals were included. Compared to previous years, self- harm contacts reduced across services in March and December 2020. Such reduction was disproportionate compared to non-self-harm contacts in primary care (µROR: 0.7, p<0.05), while the opposite was true in April 2020 in emergency departments (µROR: 1.3, p<0.05 in 2/3 comparison years) and April-May 2020 in hospital admissions (µROR: 1.2, p<0.05 in 2/3 comparison years). Despite this, those who self-harmed in April 2020 were more likely to be seen in primary care compared to previous years (µROR: 1.2, p<0.05). In December 2020, less of those with self-harm contacts in emergency departments were subsequently admitted to hospital compared to previous years (µROR: 0.5, p<0.05).

Conclusion: Fear of infection and stay at home orders may have discouraged those who self-harm from accessing healthcare services. More stringent criteria for admission following self-harm may have been employed. Communications encouraging those who self-harm to seek help during pandemics may be beneficial, but this needs to be supported by maintained provision of mental health services. Overall, real time monitoring of the population's mental health during disasters such as the COVID-19 pandemic is essential to provide adequate care. Initiatives such as DATAMIND (UK's Health Data Research Hub for Mental Health) can support this by managing the available data sources, making them discoverable, and coordinating research.

S24.04   Clustering and accumulated prevalence of physical health conditions in people with and without severe mental illness

Naomi Launders[1]; Joseph Hayes[1]; Gabriele Price[2]; David Osborn[1]

[1] University College London, UK; [2] Office for Health Improvement and Disparities, UK

Lay Summary: We used anonymous medical records of 68,783 adults with severe mental illness (SMI) to investigate the risk of 24 physical illnesses, including heart disease, diabetes and asthma, and compared them to people without SMI. We found that people with SMI had had more physical illnesses and at a younger age, but the illnesses grouped together similarly in both people with and without SMI. This is important as it suggests that ways to reduce physical illnesses that we use in people without SMI should also work for people with SMI, but that they need to be aimed at a younger age group.

Background: People with severe mental illness (SMI) are at increased risk of a range of physical illness compared to the general population. However, it is unclear whether the patterns of physical long term conditions (LTCs) are the same as found in people without SMI. We investigated the prevalence and clustering of 24 LTCs in people with SMI, compared to a matched comparator group without SMI.

Methods: We identified 68,783 adults with SMI in the Clinical Research Data Link (CPRD) Gold and Aurum databases, which hold anonymised primary care data for patients in the UK. Patients were included if they were over 18, and had a primary care diagnosis of schizophrenia, bipolar disorder or other non-organic psychosis from 2000 to 2018. These patients were matched up to 1:4 with patients without an SMI diagnosis. We defined 24 physical LTCs derived from the Elixhauser and Charlson comorbidity indices and used logistic regression to investigate individual conditions and multimorbidity. We controlled for age, sex, region, and ethnicity; and then additionally for smoking status, substance misuse and body mass index. We defined multimorbidity clusters using Multiple Correspondence Analysis and K-Means cluster analysis and described them based on the observed/expected ratio.

Results: Patients with SMI had higher odds of 19 of 24 conditions and a higher prevalence of multimorbidity (odds ratio (OR): 1.84; 95% CI: 1.80 to 1.88) compared to those without SMI, particularly in younger age groups (males aged 30-39: OR: 2.49; 95% CI: 2.27 to 2.73; females aged 18-30: OR: 2.69; 95% CI: 2.36 to 3.07). Adjusting for smoking, BMI and substance misuse reduced the OR of all conditions. We identified seven multimorbidity clusters in those with SMI and seven in those without SMI. Four clusters were common to those with and without SMI, of those identified in the SMI cohort were also identified in the comparator cohort one, heart disease, appeared as one cluster in those with SMI and three distinct clusters in comparators, and two small clusters were unique to the SMI cohort.

Conclusion: Physical LTCs appear to cluster similarly in people with and without SMI, though patients with SMI had higher burden of multimorbidity, particularly in younger age groups. While interventions aimed at the general population may also be appropriate for those with SMI, there is a need for interventions aimed at better management of younger age multimorbidity, and preventative measures focusing on diseases of younger age, and reduction of health risk factors.

S25 The mental health and wellbeing of NHS workers through the COVID-19 pandemic: a mixed methods programme of work including 23,462 participants, online surveys, qualitative and diagnostic interviews, and an RCT

Sat 10 Sep, 08:30 – 10:00
Lecture Room 5
Chair: Sharon Stevelink, King's College London, UK. **Discussant:** Danielle Lamb, UCL, UK

Abstract: The COVID-19 pandemic has placed additional strain on an already pressured NHS workforce. While newspaper headlines predicted this would result in a 'tsunami' of mental health problems for healthcare workers (HCWs), we set out to investigate the state of HCW mental health and wellbeing. We recruited 23,462 participants from 18 NHS Trusts to NHS CHECK, to our knowledge the largest study of HCWs mental health and wellbeing in England. We recruited all staff types (clinical and non-clinical) to an online survey from April 2020, with follow up surveys at 6 months and 12 months post-baseline. We collected demographic and occupational data, as well as a range of mental health symptom measures (e.g. depression, anxiety, post-traumatic stress disorder, alcohol use, moral injury, suicidal ideation, burnout, wellbeing). We obtained Trust-level demographic data from each participating Trust, meaning that we have been able to weight our data to better represent Trust populations. We have also carried out qualitative interviews with NHS staff, a two-phase epidemiological study to evaluate whether online screening tools reflect accurate levels of diagnosable mental disorder, and a randomized controlled trial of a well-being smartphone app with 894 participants.

S25.01 An overview of results from a longitudinal cohort study of 23,462 healthcare workers: mental health, suicidal ideation, and moral injury

Danielle Lamb[1]

[1] University College London, UK

Lay Summary: We surveyed 23,462 NHS workers, asking about work context, mental health, and experiences of the pandemic. We found high levels of distress, with younger, female staff particularly at risk, and concerning rates of suicidal thoughts. Having a detailed picture of NHS workers' mental health means we are able to advise Trusts and national bodies about how staff can be best supported.

Background: The COVID-19 pandemic has placed healthcare workers (HCWs) under immense pressure, and for individual staff members, healthcare organisations, and patients, it is vital to have detailed understanding of HCWs mental health, and how staff can be best supported.

Methods: We recruited 23,462 HCWs from 18 NHS Trusts across England to complete online surveys from April 2020, with follow up surveys at 6 and 12 months post-baseline. We weighted the data using Trust population HR data. We collected sociodemographic, occupational, and mental health data, and present results from three analyses: 1) mental health; 2) moral injury; 3) suicide and self-harm.

Results: 1) The proportion of those with probable common mental disorders (CMDs) was greater during periods when the NHS was under most pressure (measured by average monthly deaths). For example, 55% (95% CI: 53%, 58%) of participants reported symptoms of CMDs in April-June 2020 versus 47% (95% CI: 46%, 48%) July-October 2020. Contrary to expectation, there were no major differences between professional groups (i.e. clinical and non-clinical staff). Younger, female, lower paid staff, who felt poorly supported by colleagues/managers, and who experienced potentially morally injurious events (PMIEs) were most at risk of negative mental health outcomes. 2) PMIEs were significantly associated with adverse mental health symptoms across healthcare staff, with significant work factors including being redeployed, lack of PPE, and having a colleague die of COVID-19. Nurses who reported symptoms of mental disorders were more likely to report all forms of PMIEs than those without symptoms (aOR: 2.7; 95% CI: 2.2, 3.3). Doctors who reported symptoms were only more likely to report betrayal events, such as breach of trust by colleagues (aOR: 2.7; 95% CI: 1.5, 4.9). 3) Concerningly, at baseline 11% (95% CI: 10%, 12%) of respondents reported recent suicidal ideation, with 2% (95% CI: 1%, 3%) reporting a recent suicide attempt. Six months later, of those who reported no suicidal ideation or attempt at baseline, 4% (95% CI: 3%, 5%) reported recent suicidal ideation, and 2% (95% CI: 1%, 3%) reported a recent suicide attempt.

Conclusion: We surveyed 23,462 NHS workers, asking about work context, mental health, and experiences of the pandemic. We found high levels of distress, with younger, female staff particularly at risk, and concerning rates of suicidal thoughts. Having a detailed picture of NHS workers' mental health means we are able to advise Trusts and national bodies about how staff can be best supported.

S25.02   A thematic analysis of individual interviews with healthcare workers (HCWs) about their experiences of moral injury

Siobhan Hegarty[1]

[1] King's College London, UK

Lay Summary: We interviewed 30 healthcare workers about their experiences of moral injury (resulting from events that clash with their person values and expectations). Participants told us they felt betrayed by government and senior managers, often due to longstanding inadequate staffing levels and lack of resources. There is an urgent need to reduce the risk of staff being exposed to moral injury, as it can have significant negative impacts on their mental health, and therefore on their ability to do their jobs well.

Background: During the COVID-19 pandemic, elevated exposure to potentially morally injurious events (PMIEs) that compromise personal values and expectations, has placed HCWs at risk of moral injury and other adverse psychiatric consequences. Yet, little is known about the lived experience of cumulative PMIE exposure and HCWs personal responses to this, during the COVID-19 pandemic.

Methods: A diverse sample of 30 clinical frontline HCWs from Trusts across England were selected for single time point, face-to-face or video call qualitative interviews. Interviews were audio-recorded, transcribed, analysed using reflexive thematic analysis, using NVivo software.

Results: HCWs were routinely exposed to ethical conflicts, created by exacerbations of systemic issues including inadequate staffing and resourcing. HCWs experienced moral distress and psychopathology symptoms related to perceptions of institutional betrayal and feeling unable to fulfil their duty of care towards patients.

Conclusion: A multi-facetted organisational strategy is warranted to both prevent excess PMIE exposure and to promote opportunities for resolution of moral distress.

S25.03   A more accurate prevalence of PTSD and common mental disorders in healthcare workers in England: a two-phase epidemiological survey

Sharon Stevelink[1]

[1] University College London, UK

Lay Summary: We complemented self-reported screening measures for mental ill health with diagnostic interviews to generate more accurate estimates of the prevalence of common mental disorders and PTSD in our population of HCWs. Using diagnostic interviews, the prevalence in our population for depression was 13.7%, generalised anxiety disorder was 14.3%, and PTSD was 7.9%. As predicted, self-report surveys conducted with samples of HCWs during the pandemic have over-estimated the prevalence of mental disorders.

Background: Previous studies on the impact of the COVID-19 pandemic on healthcare workers' (HCWs) mental health have relied on self-reported screening measures to estimate point prevalence. Screening measures, which are designed to be sensitive, have low positive predictive value and often overestimate prevalence. We now present a more accurate prevalence of common mental disorders (CMDs) and post- traumatic stress disorder (PTSD) among HCWs in England using diagnostic interviews.

Methods: A two-stage, cross-sectional study comprising diagnostic interviews (n=337) within a larger multi-site longitudinal cohort of HCWs (n=23,462) was conducted during the COVID-19 pandemic. This study included two representative participant groups: i) 243 participants completed the General Health Questionnaire (GHQ-12) and the Clinical Interview Schedule – Revised (CIS-R) to assess CMDs; ii) 94 participants completed the PCL-6 and the Clinician Administered PTSD Scale (CAPS-5) for DSM-5 – to assess PTSD.

Results: The GHQ screening caseness for any CMD was 52·8% (95% CI: 51.7 to 53.8). Using the CIS-R diagnostic interviews, the estimated population prevalence of generalised anxiety disorder was 14.3% (95% CI: 10.4 to 19.2) and for depression 13.7% (95% CI: 10.1 to 18.3). The PCL-6 screening caseness for PTSD was 25·4% (95% CI: 24.3 to 26.5). Using the CAPS-5 diagnostic interviews, the estimated population prevalence of PTSD was estimated at 7·9% (95% CI: 4.0 to 15.1).

Conclusion: The prevalence estimates of CMDs in HCWs are considerably lower when estimated using diagnostic interviews than through screening tools. Nevertheless, 1-in-7 HCWs met the threshold for a clinically diagnosable mental disorder who might benefit from intervention.

S25.04 Making use of largescale qualitative data: a structural topic modelling analysis of 7,412 healthcare worker free text survey responses

Danielle Lamb[1]

[1] University College London, UK

Lay Summary: We used a machine learning technique (STM) to analyse 7,412 free text responses to an online survey about healthcare worker experiences of the COVID-19 pandemic. We found that high workloads, lack of personal protective equipment (PPE), and inconsistent guidance at work all caused stress, with topics of discussion changing over time (e.g. more discussion of PPE at the start of the pandemic, and more discussion of mental health when the NHS was in the midst of the different waves of infection). Online surveys often collect free text responses but rarely analyse them, but they can provided nuanced yet generalisable evidence, and STM should be used more often to make the most of this kind of data.

Background: Healthcare workers (HCWs) have provided vital services during the COVID-19 pandemic, but existing research consists of quantitative surveys (lacking in depth or context) or qualitative interviews (with limited generalisability). Structural Topic Modelling (STM) of large-scale free-text survey data offers a way of capturing the perspectives of a wide range of HCWs in their own words about their experiences of the pandemic.

Methods: In an online survey distributed to all staff at 18 geographically dispersed NHS Trusts, we asked respondents, "Is there anything else you think we should know about your experiences of the COVID-19 pandemic?". We used STM on 7,412 responses to identify topics, and thematic analysis on the resultant topics and text excerpts.

Results: We identified 33 topics, grouped into two domains, each containing four themes. Our findings emphasise: the deleterious effect of increased workloads, lack of PPE, inconsistent advice/guidance, and lack of autonomy; differing experiences of home working as negative/positive; and the benefits of supportive leadership and peers in ameliorating challenges. Themes varied by demographics and time: discussion of home working decreasing over time, while discussion of workplace challenges increased. Discussion of mental health was lowest between September-November 2020, between the first and second waves of COVID-19 in the UK.

Conclusion: Our findings represent the most salient experiences of HCWs through the pandemic. STM enabled statistical examination of how the qualitative themes raised differed according to participant characteristics. This relatively underutilised methodology in healthcare research can provide more nuanced, yet generalisable, evidence than that available via surveys or small interview studies, and should be used in future research.

S25.05 Effectiveness of a smartphone app in improving mental health and wellbeing in NHS workers during COVID-19 in the UK: a randomised controlled trial

Sam Gnanapragasam[1]

[1] King's College London, UK

Lay Summary: We invited 1,002 healthcare workers to take part in a trial of a wellbeing smartphone app for eight weeks, with half using the app and half not using it. We found that those who used the app had fewer mental ill-health symptoms after eight weeks that those who didn't use it. The app reduced mental ill- health symptoms and could be used as part of a support package for healthcare workers.

Background: Healthcare workers (HCWs) have faced extraordinary pressures at work and home due to the COVID-19 pandemic. The prevalence of mental ill-health may be higher than in the general population. Although interventions have been developed to support HCWs, few have been evaluated for effectiveness.

Methods: We conducted a multicentre randomised controlled trial to investigate the effectiveness of a smartphone application (herein App) on improving mental health and wellbeing. Participants were invited from the main NHS CHECK cohort (with email invites sent to randomly selected participants who had consented to be contacted about further research), and were randomly assigned (using a web-based system) to the App or a wait-list control group. The primary outcome was mental health status using the General Health Questionnaire (GHQ) to assess psychiatric morbidity symptoms. Measures were assessed at baseline, after four weeks and eight weeks. The primary analysis used a mixed-effects multivariable regression and we present the adjusted mean differences (aMD). The trial was registered with the EU clinical trials register (number: 2021-001279-18).

Results: Between 22nd March and 3rd June 2021, 1002 participants were randomised (500:502), and 894 (89.2%) were included in the modified intention-to-treat population. The sample was predominately female (754/894, 84%), with a mean age of 44.3 years (IQR: 34, 53). Participants randomised to the App were associated with reduction in psychiatric morbidity symptoms (aMD: -1.39; 95% CI: -2.05, -0.74). No adverse events were observed in either participant group.

Conclusion: The App reduced psychiatric symptoms in a representative sample of HCWs in England. Future studies should evaluate the cost-effectiveness of the App. Given the scalable intervention as part of tiered support package.

ORAL PRESENTATIONS – PARELLEL SESSIONS

OP01 Life course epidemiology of common mental disorders & symptoms
Thurs 8 Sep, 14:30 – 16:15
Concert Hall
Chair: <u>Nick Glozier</u>, University of Sydney, Australia

OP01.01   A tale of two cities: using epidemiological data to assess the causal impact of Australia's unique controlled trial of lockdown

Nick Glozier[2]; Stefanie Schurer[2]; Kadir Atalay[2]; Esperanza Vera-Toscano[1]; Mark Wooden[1]

[1] The University of Melbourne, Australia; [2] University of Sydney, Australia

Lay Summary: Australia effectively conducted a controlled trial of lockdown in late 2020 by locking down only one city. We used this natural controlled experiment to show that the effects of what was at the time the worlds longest (and severe) lockdown (teasing out the impact of the covid threat) were surprisingly small. They were confined to a few key groups - particularly mothers of school aged children, but with many supposedly vulnerable groups seemingly little affected

Background: Evaluating the true effect of lockdown would require an unethical trial. By late 2020 the longest period of lockdown in the world had been imposed on Melbourne in Australia, but Sydney remained at liberty. Using a difference -in -difference approach assessing this natural experiment with a population representative panel cohort we are able to estimate the causal impact of lockdown

Methods: To identify the causal impact of lockdown, we interrogated nationally-representative longitudinal survey data and exploited quasi-experimental variation in Melbourne's lockdown, one that left other jurisdictions unaffected. Using difference-in-differences estimation we compared the changes in health, health behaviours, social connectedness and economic factors in 2020 compared to the long term average in Melbourne (n=3000) to those in a very comparable city, Sydney (n=2600) in the whole population and in policy relevant subgroups (i) whether the household had school-aged children); (ii) whether the respondent lived alone (iii) whether the respondent had a mental health problem in previous year; (iv) whether the household ranked in the bottom household income quintile (a proxy for poverty); and (v) whether the respondent lived in an apartment (a proxy for lack of over-crowding).

Results: Lockdown had suprisingly few effects overall, but significantly harmed women with school-aged children, whose mental and physical health scores declined substantially, despite higher levels of physical activity and perceptions of safety; (2) lockdown also generated significant penalties for men with dependent children, who consumed more alcohol and felt more lonely; (3) lockdown had few noteworthy effects on marginalized groups - the old, the mentally unhealthy, and the poor - who were the focus of the policy debate,

Conclusion: Lockdowns greatest impact was on those with school aged children suggesting that home schooling, and balancing this with other demands, was a major driver of the impact, and one that needs consideration in any future social restrictions

OP01.02   The life-course trajectory of depression in the population: is the treatment evidence base fit for purpose?

Traolach Brugha[1]; Kazi Sumaiya[1]

[1] University of Leicester, UK

Lay Summary: Given the importance of tailoring intervention policies to the nature of medical conditions over the life course and, given the growing availability of prospectively collected, repeat assessment, general population and clinical measurements of depressive symptoms, and given also the development of statistical methods for identifying distinct patterns or trajectories of symptoms over time, we conducted a review of such studies and we also examined the length of follow-up of published depression psychological intervention trials. We describe these initial preliminary summary findings, which suggest that for many people with depression, long term disease management approaches would be more appropriate, but we found in a comprehensive trials database that assessment of outcomes beyond 12 months is extremely rare. We conclude that there is a remarkable lack of evidence on the effectiveness of treatments addressing the likely life-long and often fluctuating course of depression, which researchers and funders should address.

Background: Intervention policies and investment in intervention research should reflect the natural history of a given

medical condition. Many communicable conditions, typically due to infectious agents, show a relatively brief time course followed by recovery or death; non-communicable conditions, typically with a longer term course, impact more on functioning and years lived in good health because complete recovery is relatively rare. Recent decades has shown the growing availability of repeat assessment, community and clinical service data on depressive symptoms. Statistical modelling methods are used, such as growth mixture modelling (GMM), for identifying subgroups sharing distinct trajectories of symptoms over time.

Methods: Scoping review (time limited to a random subset of identified relevant publications). Narrative review (due to study heterogeneity). Examination of a database of published depression psychological (e.g.
CBT, IPT) treatment trials (RCTs). Policy and research recommendations concluding statement.

Results: Longitudinal prospective community and clinical population surveys, using GMM or similar trajectory modelling, were found by age range. Groupings identified included stable and unstable trajectories. Stable groups, particularly in community data, included mainly those with low levels of depression scores over time. There was strong evidence that significant numbers of study participants in the population have long term recurring patterns of symptoms. Trials typically only study short term treatments (e.g. 6-12 weeks) with outcomes beyond 12 months being extremely rare.

Conclusion: The life course trajectories found in those with depressive symptoms best accords with a chronic 'non communicable' disease model. There is ample evidence on the effectiveness of psychological interventions for depression in the short term. Researchers and funders should pursue novel proposals for studies addressing this evidence gap. Included should be: complete systematic reviews of the above evidence focusing on the available epidemiological data; research on the development and evaluation of treatment and prevention interventions on long term outcomes, including consideration of 'chronic disease' management approaches to depression, which reflect the true nature of this condition for many people in the population.

OP01.03   Treatment of common mental disorders in a large Swedish primary care sample: Impact of patient characteristics on type of treatment received

Alexis E. Cullen[1]; Elin Lindsäter[1]; Syed Rahman[1]; Heidi Taipale[1]; Antti Tanskanen[2]; Ellenor Mittendorfer-Rutz[1]; Magnus Helgesson[1]

[1] Karolinska Institutet, Sweden; [2] University of Eastern Finland, Finland

Lay Summary: Psychological therapies and pharmacotherapies are the recommended first-line treatments for common mental disorders but may not be equally accessible to all individuals. We used national registers to identify all individuals who received a diagnosis of common mental disorder in primary care in Stockholm County over a 5-year period (N=223,271) and examined the relationship between patient characteristics and type of treatment received. We found that 30.6% of patients with common mental disorders received pharmacotherapy only, 16.5% were treated with psychological therapy only, 43.1% received both, whilst 9.8% received neither, and that CMD diagnosis, treatment in secondary psychiatric care, and age, were the most important predictors of type of treatment received.

Background: Psychological and pharmacological therapies are the recommended first-line treatments for common mental disorders (CMD). Recent studies suggest that patient factors such as ethnic minority status, lower education, and work disability, are associated with receipt of these treatments, yet clinical factors such as diagnosis and comorbidities have scarcely been examined. We aimed to determine the extent to which individuals with CMD in primary care receive psychological and/or pharmacological treatments and investigate whether type of treatment received is associated with sociodemographic, work disability, and clinical factors.

Methods: Registry data were used identify all Stockholm County residents aged 19-64 years, who had received at least one CMD diagnosis (depression, anxiety, stress-related) in primary care between 2014-2018. Individuals were followed from the date of their first observed CMD diagnosis until the end of 2019 (median observed time: 4.13 years) to determine treatment receipt (pharmacotherapy only vs. psychological therapy only vs. both vs. neither). Sociodemographic, work disability and clinical factors were measured in the year prior to cohort entry except for CMD diagnoses (recorded over entire study period) and treatment in secondary psychiatric care (determined for the 4 years prior to, and 1 year after cohort entry). Multinomial logistic regression analyses were used to examine associations between patient factors and treatment group.

Results: Of the 223,271 individuals diagnosed with CMD in primary care, 30.6% received pharmacotherapy only, 16.5% were treated with psychological therapy only, 43.1% received both, and 9.8% had neither. In multivariable analyses, all sociodemographic, work disability, and clinical factors were significantly associated with treatment group (p<0.05). CMD diagnosis, treatment in secondary psychiatric care, and age made the largest contributions to the model (R2 difference: 16.05, 1.72, and 1.61%, respectively) where the relative probability of receiving both psychological and pharmacological therapy was lowest among individuals with stress-related disorders, those not treated in secondary psychiatric care, and patients aged 56-65 years.

Conclusion: In primary care patients with CMD, sociodemographic, work disability, and clinical factors are associated with

the type of treatment received. These findings have implications for public health agencies to ensure equitable access to all treatments.

OP01.04   Anemia during pregnancy and risk of postpartum depression and anxiety

Renee Gardner[1]; Christina Dalman[1]; Anna-Clara Hollander[1]; Sanna Tynnestam[1]

[1] Karolinska Institutet, Sweden

Lay Summary: We examined the relationship between anemia during pregnancy and women's experience of depression and anxiety after the birth of a child. We found that anemia was associated with higher risks of particularly depression during the year following the birth of a child. If confirmed, these findings indicate that identifying and treating anemia in women during the perinatal period may help to alleviate some cases of postpartum depression.

Background: For parents, the time following the birth of a child can be a time of joy. However, it can also be a sensitive period in terms of mental illness. Most research to date has focused on postpartum depression, though there is growing appreciation that other mental disorders also affect women in the perinatal period, such as anxiety and stress disorders. Post-partum depression, classified as a major global health problem by the World Health Organization, affects about 15% of women worldwide. Anemia is a condition that is common during pregnancy, affecting up to 20% of mothers, due to the increased iron demands during pregnancy to support the growth of the child and the placenta. We aimed to evaluate whether anemia diagnosed during pregnancy was associated with an increased risk of postpartum stress and anxiety disorders.

Methods: We used a total-population cohort study of all women who gave birth to a child in Sweden 2006-2010. Outcome, exposure and covariate data were sourced from national health and population registers. Hazard ratios for the outcomes of depression and anxiety diagnoses within the first year after the childbirth were calculated using Cox regression models. We stratified the sample according to prior psychiatric history and calculated the relative risks for incident diagnoses of anxiety or depression among women without a psychiatric history and the relative need for further psychiatric care among those with a prior psychiatric diagnosis.

Results: The study sample included 424,604 women who contributed observation after 525,914 pregnancies (including 44,756 [10.5%] women with a previous history of psychiatric treatment). Among 34,103 women diagnosed with anemia during pregnancy, 575 (1.7%) were diagnosed with depression during follow-up and 359 (1.1%) were diagnosed with anxiety, compared to 5,830 (1.2%) and 3,821 (0.8%), respectively, among those who were not affected by anemia. We observed increased risk of depression among mothers who were diagnosed anemia during pregnancy compared to those who were not, regardless of previous psychiatric history. The elevated risk was more prominent among mothers with no previous psychiatric history (adjusted HR 1.48 95% CI: 1.26-1.74) compared to mothers with a previous psychiatric diagnosis (HR 1.22; 95% CI: 1.08-1.36). A similar, but weaker, pattern was found for anxiety; the relationship was only apparent among those with a prior psychiatric history (HR 1.23; 95% CI: 1.07-1.42) and not among those without psychiatric history (HR 1.14; 95% CI: 0.91-1.43).

Conclusion: We observed evidence that anemia during pregnancy is associated with an increased risk of postpartum mental disorders, particularly postpartum depression. It is plausible that the symptoms of anemia, such as fatigue, could exacerbate symptoms of depression, including lack of energy, concentration difficulties, and sleep disturbances, in mothers during the postpartum period.

OP01.05   Testing the association of physical activity and sedentary behaviour with mental health and substance use disorders: A Mendelian Randomisation study

Eleonora Iob1; Marcus Munafo[2]; Jean-Baptiste Pingault[3]; Brendon Stubbs[1]; Mark Gilthorpe[4]; Andrea Danese[1]

[1] King's College London, UK; [2] University of Bristol, UK; [3] University College London, UK; [4] University of Leeds, UK

Lay Summary: We tested whether physical activity and low levels of sedentary behaviour can reduce the risk of mental health and substance use disorders, using a genetically informed method. We found that physical activity or low levels of sedentary behaviour were related to a reduced risk of depression, anxiety, and cigarette smoking. By contrast, high levels of sedentary behaviour had a protective effect on the risk of anorexia and schizophrenia. Prevention programmes to enhance physical activity in the population may only be effective for certain types of mental health and substance use problems.

Background: Evidence from observational studies suggests that physical activity can reduce the risk of mental health and substance use disorders. However, it is unclear whether this relationship is causal or explained by reverse causality. This study investigated bidirectional causal relationships of physical activity and sedentary behaviour with mental health and substance use disorders by performing 2-sample Mendelian Randomisation (MR).

Methods: Genetic instruments for the exposures and outcomes were derived from the largest available, non-overlapping

genome-wide association studies (GWAS). Summary-level data for physical activity (i.e. accelerometer-based mean acceleration, moderate activity, walking, and sedentary behaviour and self-reported moderate-to-vigorous activity) were obtained from the UK Biobank. Data for most mental health/substance use outcomes were obtained from the Psychiatric Genomics Consortium (PGC). MR estimates were combined using inverse variance weighted meta-analysis (IVW). Several sensitivity analyses were conducted to assess the robustness of the results (i.e. MR-Egger, weighted median and mode, RAPS, PRESSO).

Results: Accelerometer-based mean acceleration was associated with a reduced risk of depression (b=-0.043; 95% CI: -0.071,-0.016) and cigarette smoking (b=-0.026; 95% CI: -0.035;-0.017). Accelerometer- based walking had a protective association with schizophrenia (b=-0.998; 95% CI: -1.629,-0.368). Accelerometer-based sedentary behaviour was related to a higher risk of anxiety disorders (b=1.188; 95% CI: 0.879,1.497), whereas it had a protective association with anorexia (b=-0.341; 95% CI: -0.530;-0.152) and schizophrenia (b=-0.230; 95% CI: -0.285;-0.175). Of note, some associations were driven by reverse causality (e.g. physical activity and schizophrenia) and were not consistent across all sensitivity analyses.

Conclusion: Using a genetically informed method, this study demonstrates a causal protective relationship of objectively assessed but not self-reported physical activity with depression and cigarette smoking. Objectively assessed sedentary behaviour was causally related to an increased risk of anxiety disorders, whereas it had a protective effect on anorexia and schizophrenia. Enhancing physical activity may not be an effective prevention strategy for all psychiatric disorders.

OP01.06 The impact of sexual violence in mid-adolescence on girls' mental health: evidence from a longitudinal population-based study

Praveetha Patalay[1]; Francesca Bentivegna[2]

[1] University College London, UK; [2] UCL Institute of Education, UK

Lay Summary: We examine the longitudinal associations between sexual violence experiences in mid- adolescence on subsequent rates of high depression, self-harm and attempted suicide and find substantially elevated risk for these outcomes in girls who are victims of sexual violence. We attempt to quantify the impact of these experiences at the population level, and discuss the urgent need to reform policy, societal attitudes and education around the sexual violence experienced by girls to avoid their lifelong impacts on health and wellbeing. A substantial gender gap appears in adolescence in common mental health disorders such as depression and girls self-harm more than boys. Reasons for this are likely multi-fold including social, biological, measurement and other mechanisms. An understudied, yet very gendered, risk factor is sexual violence where girls and women are much more likely to experience sexual harassment, assault and unwanted advances than men.

Background: A large gender gap appears in internalising mental health during adolescence. There is little high-quality longitudinal population-based research investigating the role of sexual violence experiences, which are disproportionately experienced by females. This study estimates the impact of sexual violence experiences in adolescent girls on mental ill-health.

Methods: Longitudinal data from girls in the UK Millennium Cohort Study are used. The impact of sexual violence experienced on psychological distress, self-harm, and attempted suicide at age 17 is examined using both multivariable confounder adjusted and propensity matching approaches.

Results: The analytic samples for multivariable and matched analyses were, respectively, 5,134 and 4,355 participants. In the final adjusted model, sexual violence was associated with greater mean psychological distress (mean difference 223; 95% CI: 1·67 – 2·79, and higher risk of high distress (RR: 1·74; 95% CI: 1·44 – 2·09), self- harming (RR: 2·04; 95% CI: 1·70 – 2·45), and attempting suicide (RR: 2·26; 95% CI: 1·64 – 3·11) at age 17 years. Similar results were found for the matched analyses for all mental health outcomes: psychological distress (mean difference 1·97; 95% CI: 1·58 – 2·36; RR: 1·60; 95% CI: 1·41 – 1·81), self-harm (RR: 1·64; 95% CI: 1·48 – 1·82), and attempted suicide (RR: 1·81; 95% CI: 1·47 – 2·22). Estimates of population attributable fractions suggested that, in a scenario with no sexual violence, we could expect 25-37% fewer incident mental health problems at this age.

Conclusion: Our findings highlight the substantial role of sexual violence experiences in the poorer mental health outcomes experienced by adolescent girls and the substantial changes needed at societal and policy levels to prevent sexual violence and its impacts.

OP01.07   Costing the mental health harms of sexual and physical violence in adulthood: a prevalence-based analysis in England

Sally McManus[1]; Estela Barbosa[1]; Sylvia Walby[1]

[1] City, University of London, UK

Lay Summary: Costings of sexual violence have not fully recognised the long-term impact on mental health and most do not gender-disaggregate costs: we drew on data from multiple sources to estimate the quality of life and mental health treatment costs associated with experience of sexual and physical violence. We found that sexual and physical violence both have substantial and independent associations with long-term mental distress and associated treatment and service use. Women who experienced sexual and physical violence combined had particularly high levels of mental health need. Violence reduction interventions should play a key role in public health programmes and have the potential to reduce health service costs and increase population level quality of life.

Background: When economists estimate how much violence 'costs', they rarely address the longer-term mental health harms resulting from sexual violence, nor the combined impact of sexual and physical violence.

Methods: We applied prevalence-based modelling techniques to estimate the annual cost of experience of violence throughout adulthood, in terms of reduced quality of life and health service costs. Data were drawn from multiple sources, including the probability sample Adult Psychiatric Morbidity Survey and service delivery costs. Prevalence estimates used weighted data, controlling for survey design. Adjusted marginal effects for limiting mental health conditions and substance dependence were estimated for experience in adulthood of sexual violence, physical violence, and both sexual and physical violence combined. Disability weights were applied to estimate associated reduced quality of life and relative risks applied for health service costs.

Results: [PROVISIONAL RESULTS] The estimated cost in 2019 of long-term reduced quality of life adults in England experienced because of violence during their adult years was £3,767 million, with associated healthcare costs of £4,130 million. Both the costs of long-term lost quality of life and healthcare were higher in women than men. The costs associated with combined sexual and physical violence were particularly high, with an estimated 96% of these costs resulting from experiences of violence in women. Combined sexual and physical violence in women was associated with the highest cost per victim.

Conclusion: Sexual and physical violence each have strong associations with long-term mental health conditions and substance dependence, and related service use costs.

OP01.08   Mental health effects of providing unpaid care in early, mid and older adulthood in the UK: a longitudinal propensity score analysis

Rebecca Lacey[1]; Baowen Xue[1]; Giorgio Di Gessa[1]; Anne McMunn[1]

[1] UCL, UK

Lay Summary: We looked at whether becoming an unpaid carer affects mental health, and whether this depends on when in adulthood this happens. People who became carers as young adults had worsening mental health and this was not the case for mid or older adults. Young adult carers are often hidden and may be juggling care responsibilities at the same time as starting their own families, careers and completing education.

Background: Unpaid family carers are an increasingly important group of care providers in many countries. There is some evidence that care provision in mid- and later-life has negative health consequences, but providing care in early adulthood may have longer-term consequences given the importance of this life stage for educational, employment and family transitions. Also little is known about how health changes around the transition to becoming a carer and how this varies by age. This study investigated the impact of transitions to becoming an informal carer in early, mid and later adulthood on trajectories in mental health in the UK

Methods: Data are from the UK Household Longitudinal Study wave 1 (2009/11) to wave 10 (2018/2020). Total sample size is 50,994. Carers are those who provide informal care either inside or outside the household. Mental health was measured by the 12-Item General Health Questionnaire and 12-Item Short Form Survey Mental Component summary. We used propensity score matching to match carers with non-carers to address endogeneity of unpaid care provision. Matching was conducted for age groups 16-29y, 30-49y, 50-64y, and 65+y, separately. We assessed health trajectories up to 9 years before and after the uptake of care for each age group using piecewise linear regression.

Results: Findings from young adults (16-29y) showed that mental health deteriorates after the onset of care for those caring, and the increase was much less for matched non-caring young adults over the same period. We observed a greater effect of becoming an informal carer in early adulthood compared to in mid- or late-adulthood.

Conclusion: Caring responsibilities during early adulthood may increase psychological distress more so than during other

stages of adulthood. Young adult caring occurs at a time when young people are seeking to complete education and establish themselves in the job market and long-term relationships. The implications of our results highlight the importance of supporting the needs of young adults providing informal care while making key life course transitions.

OP02 **New perspectives in the clinico-epidemiology of mental health disorders across the life course: from autism to mood disorders and dementia**
Thurs 8 Sep, 14:30 – 16:15
Lecture Room 1
Chair: Christopher Mueller, King's College London, UK

OP02.01 Intrahepatic cholestasis of pregnancy and neurodevelopmental conditions of children: a large-scale cohort study of children and families

Shuyun Chen[1]; Viktor Ahlqvist[1]; Christina Dalman[1]; Hugo Sjöqvist[1]; Renee Gardner[1]

[1] Karolinska Institutet, Sweden

Lay Summary: Children born to women with intrahepatic cholestasis, the most common liver disease unique to pregnancy, may develop differently than their peers. In a large Swedish study, we find that these children are more often diagnosed with neurodevelopmental conditions. Our findings particularly highlight the role of this liver disease in early pregnancy, but future studies will be important to understand why this may affect children's development.

Background: Intrahepatic cholestasis of pregnancy (ICP) is the most common liver condition of pregnancy and is associated with stillbirth, preterm birth, meconium-stained amniotic fluid, and admission to the neonatal unit. However, less is known about its long-term effect on children's neurodevelopment. We investigated the association of ICP, including the timing of diagnosis and duration of exposure, with children's risk for neurodevelopmental conditions including autism, Intellectual Disability (ID) and Attention- Deficit/Hyperactivity Disorders (ADHD).

Methods: Using Swedish national registries, we constructed a cohort of 2,375,856 children born to 1,308,096 mothers between 1987 and 2010, whom we followed up until December 2016. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated using logistic regression models. To control for genetic and environmental confounders shared in families, we estimated the within-family associations using conditional logistic regression models among full siblings and full maternal cousins. All standard errors were computed using the robust (sandwich) method.

Results: A total of 10,378 (0.8%) children were exposed to ICP with a range of timing of onset during pregnancy (344 [3.3%] <28 weeks, 3759 [36.2%] 28-<37 weeks, 6,275 [60.5%] >=37 weeks) and 143,746 children received at least one neurodevelopment disorder (NDD) diagnosis (48,363 [33.6%] with autism, 23,933 [16.5%] with ID, and 106,381 [74.0%] with ADHD). ICP was associated with increased odds of any NDDs (OR: 1.22; 95% CI: 1.13-1.31) with similar increased odds for autism (1.20, 1.06-1.36) and ADHD (1.25, 1.14-1.36) but not for ID (1.01, 0.82-1.24). ICP < 28 weeks of gestational age (wkGA) was most strongly associated with odds of any NDDs (2.38, 1.71-3.30) compared to ICP between 28-<37 wkGA (1.36, 1.20-1.54), while no associations were found for ICP, diagnosed ≥37 wkGA (1.08, 0.97-1.20). We observed a similar pattern of the association between duration of exposure of ICP and the odds of NDDs, namely, the longer the duration of exposure, the higher the odds for NDDs. After accounting for 12.5% of shared children's genotype and 50% of the maternal genotype in maternal-cousin analyses, the associations remained. However, in full- sibling analyses accounting for 50% of shared children's genotype and 100% of the maternal genotype, most of the point estimates were attenuated and CIs became wider compared to the results in the full-cohort analysis. However, we observed 92% increased odds of NDDs among siblings with regard to the early-onset ICP (1.92, 0.92-4.02).

Conclusion: Neurodevelopmental conditions are more common in children exposed to ICP during pregnancy. Specifically, ICP is associated with children's risk of autism, ID and ADHD. While this appears to be partially driven by genetic and environmental confounders, our findings suggest that early gestational ICP may constitute a risk factor for children's neurodevelopmental disorders.

OP02.02 Maternal Infection During Pregnancy and Risk of Autism Spectrum Disorder and Intellectual Disability: A Negative Control and Sibling Comparison

Martin Brynge[1]; **Hugo Sjöqvist**[1]; Renee Gardner[1]; Brian Lee[2]; Christina Dalman[1]; Håkan Karlsson[2]

[1] Karolinska Institutet, Sweden; [2] Drexel University School of Public Health, United States

Lay Summary: We looked at over 500,000 children born in Stockholm, Sweden to examine the association between maternal infections during pregnancy and autism and intellectual disability, including a comparison of sibling pairs where one sibling was exposed to an infection during pregnancy and the other was not. We found that risk for both autism and intellectual disability was higher after exposure to maternal infections during pregnancy, but that risks for autism were similarly high after a mother was treated for an infection before she became pregnant; when we compared siblings to each other, we found no evidence for risk of autism and less evidence for risk of intellectual disability. These results indicate that

the association between maternal infections during pregnancy and higher risk of neurodevelopmental disorders may not be due to the infection itself, but rather due to factors such as the mother's and child's genetic background or other aspects of early life environment.

Background: Maternal infections during pregnancy are associated with ID and ASD in exposed children. If these associations are causal and therefore should be targets of preventive strategies, is not known.

Methods: Implementing survival analysis, we examined the association between specialized care for any prevalent infection, defined by ICD-codes, during pregnancy and later ASD or ID in children was investigated in a register-based cohort of 549,967 individuals born 1987-2010, resident in Stockholm County, followed from birth to their 18th birthday or December 31, 2016. Potential residual confounding was addressed in negative control and sibling analyses.

Results: Maternal infections during pregnancy were associated with ASD, proportional hazard ratio 1.16; 95% confidence interval (1.09; 1.23) and ID, 1.37 (1.24; 1.51). Maternal infections the year before pregnancy (negative control) were also associated with ASD, 1.23 (1.13; 1.34), but not with ID, 1.09 (0.94; 1.27). Maternal infections during pregnancy were not associated with ASD, 0.94 (0.82; 1.07) or ID, 1.15 (0.95; 1.40) in sibling comparisons.

Conclusion: While prevalent infections contracted by pregnant women and treated in specialized care are associated with both ASD and ID in their children, the associations appear to be largely explained by factors shared between family members. I.e., prevention of these infections is not expected to reduce the prevalence of ASD or ID in the population. Causal effects of specific, but rare, infections or infections not requiring health care contact cannot be excluded.

OP02.03   Maternal Immune Markers in Early Pregnancy and Children's Risk for Autism

Martin Brynge[1]; Renee Gardner[1]; Hugo Sjöqvist[1]; Brian Lee[2]; Christina Dalman[1]; Håkan Karlsson[1]

[1] Karolinska Institutet, Sweden; [2] Drexel University, United States

Lay Summary: We measured multiple inflammatory markers in archived serum samples from pregnant mothers to children with autism and mothers to controls. We found no strong evidence of maternal immune disturbances among mothers to children with autism. Thus, immune markers in pregnant mothers are likely not reliable predictors of children's risk of autism.

Background: Previous research supports a contribution of early-life immune disturbances in the etiology of autism. Any potential disturbances during fetal development are best addressed by prospective evaluation of maternal markers of inflammation.

Methods: We evaluated levels of eight different acute phase proteins (APP) and 17 cytokines in first trimester maternal serum samples, from 318 mothers to children with autism and 429 mothers to controls, nested within the register-based Stockholm Youth Cohort.

Results: Overall, we observed no consistent associations between high levels of the maternal immune markers and autism. However, maternal levels of CRP in the lowest (OR: 1.92; 95% CI: 1.08-3.42) compared to the middle tertile were associated with increased risk of autism without intellectual disability (ID) or ADHD. Further, both the lowest (OR: 1.78; 95% CI: 1.18-2.69) and highest (OR: 1.64; 95% CI: 1.11-2.43) tertiles of the APP ferritin were associated with increased risk of any autism diagnosis in offspring, with stronger associations still between the lowest (OR: 3.81; 95% CI: 1.91-7.58) and highest (OR: 3.36; 95% CI: 1.73-6.53) tertiles of ferritin and risk of autism with ID. Finally, we observed several associations between cytokines and autism, but the specific pattern varied across the diagnostic sub-groups. Finally, applying a data-driven approach using machine learning algorithms (Random Forest's Variable Importance measurement), the addition of maternal immune markers to other key demographic and maternal variables known to be associated with risk of autism (e.g., maternal psychiatric history) did not improve prediction of autism.

Conclusion: Overall, we found no strong overall trend of maternal immune activation among mothers to individuals with autism in this cohort. However, the pattern of associations varied, which may indicate etiological differences between diagnostic sub-groups. The observed associations between autism and ferritin support a role for iron metabolism in neurodevelopment, particularly for autism with co-occurring ID.

OP02.04   Preference-based instrumental variables rely on important and underreported assumptions: a systematic review

Tarjei Widding-Havneraas[1]; Ashmita Chaulagain[1]; Ingvild Lyhmann[1]; Henrik Daae Zachrisson[2]; Felix Elwert[3]; Simen Markussen[4]; David McDaid[5]; Arnstein Mykletun[1]

[1] Haukeland University Hospital, Norway; [2] University of Oslo, Norway; [3] University of Wisconsin–Madison, United States; [4] Ragnar Frisch Centre for Economic Research, Norway; [5] London School of Economics and Political Science, UK

Lay Summary: We offer a systematic review and methodological assessment of provider preference instrumental variables (PP IV) applications in health research. We find that the use of PP IV has increased, and is predominantly used for treatment

effects in cancer, cardiovascular disease, and mental health. Only 12 percent of applications report the four main assumptions for PP IV. We recommend that future applications more strongly emphasize underlying critical assumptions.

Background: Provider preference instrumental variables (PP IV) designs can identify causal effects when patients receive treatment due to variation in providers' treatment preference. Originally developed in economics it is becoming a popular method for evaluating causal effects in health research. We contribute to the literature on PP IV through a systematic review focused on PP IV applications using a search strategy involving full-text mining, using databases that enable complete article text searches. We present novel data on applications, including academic and clinical areas, reporting of IV assumptions, potential bias from selection on treatment and strength of various PP IV definitions. The review's aim is to (i) provide an introduction to PP IV, (ii) systematically review applications of PP IV in health research, and (iii) evaluate current practice with PP IVs.

Methods: We included studies that applied PP IV for evaluation of any treatment in any population in health research (PROSPERO: CRD42020165014). We searched within four databases (Medline, Web of Science, ScienceDirect, SpringerLink) and four journals (including full-text and title and abstract sources) between January 1, 1998, and March 5, 2020. We extracted data on areas of applications and methodology, including assumptions using Swanson and Hernan's (2013) reporting guideline.

Results: We included 185 of 1087 identified studies. The use of PP IV has increased, being predominantly used for estimating treatment effects in cancer, cardiovascular disease, and mental health. The most common PP IV was treatment variation at the facility-level, followed by physician- and regional-level. Only 12 percent of applications report the four main assumptions for PP IV. Selection on treatment may be a potential issue in 46 percent of studies.

Conclusion: The assumptions of PP IV are not sufficiently reported in existing work. PP IV-studies should use reporting guidelines.

OP02.05   A solution-focused approach (DIALOG+) to improve quality of life for people with chronic depression: findings from a feasibility trial

Philip McNamee[1]; **Lauren Jerome**[2]; Aleksandra Matanov[2]; Victoria Bird[2];

[1] East London NHS Foundation Trust, UK; [2] Queen Mary University of London, UK

Lay Summary: We tested a new approach to structuring routine sessions between clinicians and service users in mental health services, called DIALOG+, with people who have long-term depression. We found initial evidence to show that this way of treating service users may be beneficial and could improve quality of life. The research team are now testing the same approach in a definitive large trial.

Background: DIALOG+ is a technology-supported and solution-focused intervention developed to structure routine meetings between mental health clinicians and their patients. Previous trial work has demonstrated its clinical and cost-effectiveness with psychotic populations, leading to its adoption as a care planning tool across the UK. However, the evidence for DIALOG+ applied to depression is lacking, and this feasibility trial aimed to test the procedures before a larger trial was commenced.

Methods: A two-arm cluster randomised controlled trial design was used. Participants were randomly allocated in a 2:1 ratio (intervention vs active control). Clinicians were recruited if they saw patients regularly within community care settings (at least once a month). Service users who had a clinical diagnosis of depression with a duration of illness of at least 2 years and were in regular contact with a clinician were eligible. DIALOG+ was delivered monthly for 6 months, replacing routine sessions. Patients were assessed on a range of outcome measures at baseline and at 6 months. A subsample of clinicians and service users were invited to participate in a post-intervention, semi-structured interview to discuss their experiences of intervention delivery or receipt.

Results: 36 service users were randomised in total (n=25 to the intervention group and n=11 to the active control group). There was a trend indicating an improvement in quality of life in the intervention group comparative to the control group. Depression symptoms were also seen to decrease as a result of DIALOG+. 7 service users and 6 clinicians were interviewed. Thematic analysis revealed that overall the approach was acceptable but changes to the training and supervision model were needed. The trial procedures were found to be feasible, with few adaptations needed.

Conclusion: This early feasibility evidence shows that DIALOG+ is not only appropriate for service users with chronic depression but may also suggest that it can improve outcomes. A definitive trial is now underway.

OP02.06 Finding the social: reflections from a pilot study, on the use of the ICD 10 Z Codes in the assessment of in-patient needs in an Irish setting

Aidan Cooney[1]; Dr Mohamed Elamin[1]

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Lay Summary: Mental health professionals set out to explore the prevalence of social care and health issues amongst a sample of in-patients. The mental health professionals found that the social care and health issues were not routinely assessed and integrated into care plans. The mental health professional sees social care and health issues such as unemployment, education, homeless and experiences of parental mental illness as a core part of integrated assessment and treatment and could impact on length of stay and readmission.

Background: Health research is increasingly discussing the interactions between multiple social determinants and outcomes through a social inequalities framework. Marmot's report (2010), Fair Society, Healthy Lives, was published. It would frame the discussion on the social determinants of health and health policy. The report's principle of proportionate universalism recognized that there is a social gradient in health – the lower a person's social position, the worse their health. This principle has had an impact on how mental health policy in Ireland, such as Vision for Change (2017, has sought to frame mental health services in Ireland. In everyday practice, the recording of social determinants of health (SDoH) is ad-hoc and not standardized. The aims of this study were firstly; to identify and utilize social determinants of health through employing ICD 10 Z Codes and secondly; to explore the financial burden of poor management of SDoH has on the direct and indirect costs on the department of psychiatry, and thirdly; to consider whether the ICD 10 Z Codes leads to mental health services working collaboratively with other health and social care services.

Methods: This research was a cross-sectional study of patients in a Department of Psychiatry in Ireland. This study used SPSS to perform variance analysis on patients' demographics. The SPSS file record the following variables 1) Patient Demographics 2) Legal Status 3) ICD 10 F and Z Codes and 4) Length of Stay.

Results: The current study is ongoing and is not yet complete. The provision research theme identified are as following - 1 - The identification of social determinants of health has proved to be difficult as they are not routinely recorded in a standardized manner in the patient case files. 2 - There is emerging evidence that patients with Schizophrenia and other psychotic illness were at a greater housing, social, economic and occupational disadvantage in comparison to patients with mood disorders or personality disorders leading to poor outcomes and delayed discharge. 3 - Patients experiencing greater social disadvantage such as disability were to seen to experience involuntary admission via the Police, under the mental health act 2001, whose orders were revoked in 24 hrs of admission, raising human rights concerns.

Conclusion: This study is the first of its kind in the Louth and Meath Mental Health services. The study has found that utilization of a ICD 10 Z codes would capture the social determinants and impact on more person centred mental health outcomes. If such use of the ICD 1O Z Codes were implemented at organisation level in Louth and Meath Mental Health services, to would assist in the development of more integrated care pathways between mental health services and local community resources.

OP02.07 Sedation-associated medications at dementia diagnosis, their receptor activity, and associations with adverse outcomes

Christoph Mueller[2]; Agnes Mbazira[1]; Delia Bishara[1]; Gayan Perera[2]; Bharathi Balasundaram[3]; David Taylor[1]; Justin Sauer[1]; Robert Stewart[2]

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Lay Summary: We identified medications which can cause drowsiness and examined how harmful these are for people with dementia. Medications causing drowsiness led to a higher risk of people with dementia being admitted to hospital and their memory getting worse quicker. However, there were differences between various medication categories. Those differences were quite complex but need to be taken into consideration when medications are reviewed when a person is diagnosed with dementia.

Background: Medications with sedative properties are assumed to be problematic in older adults but have received relatively little research attention.

Methods: We used the South London and Maudsley NHS Foundation Trust (SLaM) Clinical Records Interactive Search (CRIS) platform, a large database of mental health and dementia care in South London. From recorded medications at diagnosis, we ascertained those with drowsiness listed as a side effect (termed 'sedative' hereafter) and subdivided them by frequency, receptor profile, half-life and whether they were psychotropics. Multivariable Cox regression models were applied to determine risk of mortality and emergency general hospitalisation, and generalised estimating equations to investigate annual cognitive decline.

Results: At diagnosis 70.4% of patients with dementia were receiving at least one sedative medication. After controlling for potential confounders receipt of sedative medication at dementia diagnosis was associated with accelerated cognitive decline and a higher hospitalisation risk, but not an increased mortality hazard. Amongst medications with drowsiness as a (very) common side effect, those associated with GABA agonism, psychotropic sedatives and those with a short half-life were associated with a higher risk of mortality. GABA agonist, NMDA antagonist and non-psychotropic sedatives were associated with an increased hospitalisation risk, and accelerated cognitive decline was associated with alpha-1 antagonist, antihistamine, NMDA antagonist, and psychotropic sedatives and those with shortest or longest half-life.

Conclusion: More than two thirds of patients with dementia were receiving at least one medication with potential sedative properties at dementia diagnosis and receipt of these agents was associated with hospitalisation and accelerated cognitive decline. Differences in hazard appear to exist between sedative receptor profiles and these should be taken into consideration in a medication review at the time of dementia diagnosis.

OP03 Pathways to & through care: impact of policy & mental health care

Thurs 8 Sep, 14:30 – 16:15
Lecture Room 2
Chair: Kelly K. Anderson, Western University, Canada

OP03.01 The impact of cannabis legalization on the frequency and health services use for psychotic disorders

Kelly K. Anderson[1]; Rebecca Rodrigues[1]; Britney Le[2]; Suzanne Archie[3]; Jordan Edwards[3]; Tara Elton-Marshall[4]; Jason Gilliland[1]; Robin M. Murray[5]; Lena Palaniyappan[1]; Chris Perlman[6]; Jamie Seabrook[7]; Salimah Shariff[7]

[1] Western University, Canada; [2] ICES, Canada; [3] McMaster University, Canada; [4] University of Ottawa, Canada; [5] King's College London, UK; [6] University of Waterloo - School of Public Health, Canada; [7] Brescia University College, Canada

Lay Summary: We know that the use of cannabis can increase the chances that a person develops a psychotic disorder, and there is a concern that the legalization of cannabis may lead to more people using cannabis, resulting in a greater number of psychotic disorders across the population. This project used data from the health care system in Ontario (Canada) to see whether there were a greater number of cases of psychotic disorder, or more presentations to health services for psychotic disorder, after the legalization of cannabis. These findings will help to inform public health professionals and decision makers about the potential harms of cannabis legalization, so that policies can be put in place to protect the mental health of the population.

Background: Cannabis has been implicated as a causal factor in the onset and persistence of psychotic disorders. A recent review on the association between cannabis use and psychotic disorders concluded that the evidence base is sufficiently robust to warrant a public health approach. Canada and other regions around the world have recently legalized the recreational use of cannabis, and there is concern that any increases in cannabis use following legalization may have consequences for the frequency and health services utilization for psychotic disorders at the population level. We sought to (i) examine changes in the incidence and health service utilization for psychotic disorders pre- and post-legalization of cannabis, and (ii) conduct subgroup analyses by age group, sex, and other socio-demographic factors to identify population subgroups who may have been most impacted.

Methods: We used population-based health administrative data from the province of Ontario (Canada) over the period January 2014 to March 2020. We identified all new cases of psychotic disorder over this period, as well as all contacts with health services with a psychosis-related diagnostic code. We analyzed these data using an interrupted time-series design, which is a robust method for examining population-level effects of a policy in "real world" settings. Data on new cases of psychotic disorder and contacts with services over the pre- implementation period were used to establish an underlying trend, and then we used a similar series of repeated observations over the post-implementation period to evaluate whether the trend is "interrupted" (e.g. change in level or slope) at the point corresponding to cannabis legalization. Subgroup analyses by age, sex, migrant status, and neighbourhood-level marginalization were conducted.

Results: The data are currently being analyzed and results will be available in time for the conference.

Conclusion: Our findings will inform cannabis-related policies and regulations, with an aim of mitigating harm. Rigorous evidence on the population mental health consequences of cannabis legalization is crucial for evaluating whether the public health benefits of cannabis legalization outweigh the notable harms.

OP03.02   ---- WITHDRAWN ----

OP03.03   ---- WITHDRAWN ----

OP03.04 Using research to improve service planning: quantifying need for lifestyle interventions among young adults with mental disorders in Australia

Kate Gossip[1]; Julie John[1]; Imogen Page[1]; Charlotte Comben[1]; Holly Erskine[1]; James Scott[1]; Sandra Diminic[1]

[1] The University of Queensland, Australia;

Lay Summary: We conducted a two-stage approach to consult with experts to determine the proportion of young adults with varying levels of mental illness severity who would benefit from lifestyle interventions (multidisciplinary services that take a holistic approach to improving mental health). We found that the recommended proportion of young adults who would benefit from lifestyle interventions generally increased with illness severity. This study provides estimates that can be used by health service planners to inform resource allocation and guide workforce planning.

Background: Mental illness is the leading cause of disease burden during young adulthood (18-24 years) and impacts significantly on young peoples' lives and prospects. Engaging young adults in treatment for their mental illness can be challenging. Lifestyle interventions are multidisciplinary services that take a holistic approach to improving mental health. They include exercise, diet, sleep hygiene and smoking cessation.

Lifestyle interventions present an engaging service option for young adults that treat symptoms of mental illness, improve physical health problems, and enhance social connectedness. While there is strong evidence for positive outcomes, these services are not widely available to young adults with mental illness. This study aimed to quantify the population-based need for lifestyle interventions to provide pragmatic guidance for health service planners and improve access to lifestyle interventions.

Methods: A two-stage approach was undertaken to determine the proportion of young adults with varying levels of mental illness severity who would benefit from lifestyle interventions, and the relevance of individual and group-based service delivery. This included structured consultation with a group of 12 experts in youth mental health and an online delphi study with 14 respondents with expertise and interest in lifestyle interventions.

Results: The recommended proportion of young adults who would benefit from lifestyle interventions varied between the structured consultation with experts and the delphi study. However, generally, the proportion increased with illness severity. Overall, study participants recommended that a greater proportion of young adults should have access to individually-delivered interventions compared to group interventions.

Conclusion: This study provides estimates that can be used by health service planners to inform resource allocation and guide workforce planning. Service providers can use the results to design services that will address the needs of young adults.

OP03.05   Adolescent gender roles and receiving professional help for mental health problems - a longitudinal study

Eva Lassemo[1]; Jannike Kaasbøll[2]; Norbert Skokauskas[2]; Anne Mari Sund[2]

[1] SINTEF Health Research, Norway; [2] NTNU, Norway

Lay Summary: (1) Investigated associations between levels of depressive symptoms and receiving help, and associations between gender roles and receiving professional help for mental health problems in the short and long run for girls and boys. (2) Level of depressive symptoms in adolescence impacts the degree to which both girls and boys receive professional help for mental health problems in the short and long run. It further seems possessing feminine traits makes boys more likely to receive help for their mental health problems. (3) A better understanding of factors impending help seeking may guide future efforts of both prevention and treatment, and in turn increase quality of life for adolescents and young adults.

Background: An increasing share of adolescents are experiencing depressive symptoms and/or depressive disorders. Depression may persist into adulthood and have lifelong consequences. Concurrently, adolescents are known not to readily seek help for their mental health problems. While female gender is established as one of the strongest predictors of depression, less is known regarding what impact gender roles have on the same. The aim of the present study is twofold. First, to investigate the association between adolescent depressive symptoms and receiving professional help for mental health problems in adolescence and young adulthood. Second to investigate the association between adolescent gender role (feminine and masculine attributes) and receiving professional help for mental health problems in adolescence and young adulthood, adjusted for depressive symptoms in adolescence, both among girls and boys in the normal population.

Methods: This study draws upon data collected in the Youth and Mental Health Study (YAMHS), a population-based, representative, prospective cohort study in Central Norway. We used data from three waves of the study, T1 (mean age 13.7 years) in 1998, T2 in 1999 and T3 (mean age 27.2 years) in 2012 (n=1266). The association between having received professional help for mental health problems and gender role (the Bem Sex Role Inventory (BSRI) short form), adjusted for depressive symptoms (the Mood and Feelings Questionnaire (MFQ)), was analyzed by gender using multivariate statistical analysis.

Results: Increased levels of depressive symptoms in adolescence (at T1), i.e., a higher MFQ score, was positively associated with having received professional help for mental health problems at all time points (T1, T2 and T3) for both genders (p <.015 for all). The odds ratios were found to be slightly, although not statistically significant, higher for boys than for girls. Scoring high on feminine traits on the BSRI at T1 was associated with an increased odds of having received professional help for mental health problems at T1 for boys (p=0.038). No other significant associations were found between gender role and receiving help at any time point.

Conclusion: Personal traits considered feminine, as measured by the BSRI short form, were associated with receiving professional help for mental health problems in adolescent boys. However, the association attenuate over time and was no longer significant at T2 or T3. Further research is needed to disentangle this predicament.

OP03.06   A ten-year cohort study on the stability and trajectories of psychiatric diagnosis in adolescents and young adults in Lazio, Italy

Anna Forastiere[1 2]; Enrico Calandrini[1]; Giulia Cesaroni[1]; Marina Davoli[1]; Agabiti Nera[1]

[1] Lazio Region Health Service/ASL Rome, Italy; [2] University of Rome Tor Vergata, Italy

Lay Summary: The research evaluated the stability of psychiatric diagnoses in young patients and illustrated the trajectories of the diagnostic changes. The diagnostic stability overtime was high for the schizophrenia spectrum disorders, substance use disorders, and eating disorders, and very low for delusional disorders. We found typical patterns of diagnostic conversion, as for schizophrenia, bipolar and personality disorders mutually converting each other. The findings have important implications in clinical practice, research, and public health.

Background: Population studies are useful for understanding the validity and reliability of the underlying diagnostic constructs, the interindividual variability, and the cluster heterogeneity that may reflect different diagnostic orientations. We aimed to evaluate: the diagnostic stability of a large spectrum of psychiatric diagnoses in adolescents and young adult patients attending specialized facilities in the Lazio Region (Italy); the trajectories for all diagnostic categories; the determinants, personal or contextual, that contribute to the stability/ instability of the diagnoses.

Methods: A total of 3,871 subjects aged 11-35 years at their first hospitalization with a psychiatric diagnosis in 2005-2009 were selected from the Lazio Region Hospital Information System and followed up for ten years on subsequent admissions to psychiatric care. Several stability indices were estimated, and, for each diagnostic category, the trajectory was assessed using alluvial graphs. The determinants were considered using logistic regression.

Results: Only 30% of patients were re-admitted to a psychiatric ward in the following ten years. Among those who had a new admission (1,145 subjects), the concordance between first and last diagnosis was 57.8% (weighted kappa 0.45), and the repeated stability was 31.2%. The highest prospective concordance and kappa (k) were schizophrenia spectrum (70%, k=0.53), substance use (54%, k=0.57), and eating disorders (80.9%, k=0.76). Concordance was intermediate for schizophrenia (59%, k=0.41), schizoaffective (35.2%, k=0.41), bipolar (59.4%, k=0.4), and personality disorders (54.9%, k=0.38). Finally, was low for depression (36.6%, k=0.31), and anxiety disorders (22.6%, k=0.28) and very low for delusional (22.7%, k=0.17) and schizophreniform disorders (12.8%, k=0.08). Determinants of instability were: male gender (OR: 0.75, CI: 0.58-0.97), young age (11-19 yrs) (OR: 1.41,CI: 1.00-2.14), first admission to a university hospital (OR: 0.60,CI: 0.42-0.87), and a psychiatric comorbidity (OR: 1.31,CI: 0.92-1.85). The analysis of the trajectories shows that: bipolar and personality disorders increase over time; a proportion of schizophrenia becomes a bipolar disorder or a personality disorder, and, in turn, a proportion of diagnoses of bipolar or personality disorders becomes schizophrenia; anxiety, dissociative and somatoform disorders, are unstable with a preferential shift towards personality disorder, major depression, and schizophrenia spectrum.

Conclusion: Using a population-based approach, this study estimated a lower overall diagnostic stability than that reported in the literature. The low predictive value of the first psychiatric diagnosis suggests a cautious attitude in communicating a "conclusive" diagnosis to a young adult. The instability of the diagnoses remarks on the importance of promoting standardized evaluation in clinical practice to improve risk assessment and early interventions.

OP03.07   Predictive factors for manic conversion in a high-risk group of bipolar disorder with a first onset major depressive episode

Sungwon Choi[1]; Caroline Vandaleur3; Martin Preisig[2]; **Yunna Kwan**[1]

[1] Duksung Woman's University, South Korea; [2] University Hospital of Lausanne, Switzerland; [3] Centre Hospitalier Universitaire Vaudois, Switzerland

Lay Summary: (1) The purpose of this study was to find a variable that could predict the conversion to bipolar disorder when children of bipolar disorder patients experience their first major depressive episode. (2) Early onset of parental bipolar disorder is a strong predictor of conversion. (3) It is possible to find alternatives to the fear and burden of raising children of bipolar disorder patients

Background: Many bipolar disorders begin with the development of a major depressive episode. Many researchers agree that it is important at this stage to find patients who will convert to bipolar disorder in the future. The most common attempt to find conversion predictors is a retrospective study. However, this method, which relies on the patient's recollection, has limitations in its accuracy. A small number of prospective studies report that early onset of depressive episodes, subthreshold hypomanic symptoms, and depressive episodes with psychotic symptoms are predictive of conversion (O'Donovan & Alda, 2020; Faedda et al., 2015). However, the predictors reported in these studies are inconsistent because each study adopted a different study subject and study design. The purpose of this study is to longitudinally trace the cases in which the first major depressive episode occurred among the children of bipolar disorder patients, and to identify the variables that predict the conversion group among them.

Methods: Diagnosis interviews were conducted at 3-year intervals with children who experienced the first major depressive episode among bipolar type 1 and type 2 patients and children of patients with major depressive disorder living in Geneva and Lausanne, the French-speaking regions of Switzerland. . The predictors are the clinical data of the patient's parents, the symptoms and diagnosis at the time of the main depressive episode of the child. Cox regression analysis was used to identify variables that could predict the probability of conversion occurring at a specific time among predictor variables.

Results: Early onset of bipolar disorder in parents (before the age of 20) was found to be the strongest predictor of manic conversion. Among the patient's clinical variables, substance use disorder and agitation were confirmed to have predictive power.

Conclusion: The onset of bipolar disorder in parents was found to be the most powerful means of predicting the onset of bipolar disorder in children. These findings are expected to be usefully utilized for prediction and early intervention in high-risk groups such as children of bipolar disorder patients.

OP03.08   The mental health and benefit profile of patients accessing secondary mental healthcare services: preliminary results of a novel data linkage

Sharon Stevelink[1]; Ava Phillips[1]; Matthew Broadbent[2]; Amelia Jewell[2]; Sarah Dorrington[1]; Ray Leal[1]; Ira Madan[3]; Johnny Downs[4]; Matthew Hotopf[4]; Nicola T Fear[1]

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Lay Summary: We linked data from two datasets, namely electronic mental healthcare records from people who were referred for mental health treatment to the South London and Maudsley NHS Foundation Trust, with benefits records from the Department for Work and Pensions. Many patients had received benefits, and in particular benefits related to unemployment, sickness, disability or income support. We will use this linked data to further explore the impact of the benefits system on people with mental health problems and in particular, how these findings can be used to inform social welfare policies.

Background: 1.8 million people face long-term sickness absence of four weeks or longer, costing the UK society £100 billion annually, with mental disorders being one of the most common causes of sickness absence. This study describes the mental health and benefit profile of patients who accessed secondary mental healthcare services.

Methods: Electronic mental healthcare records of 418,412 patients referred to the South London and Maudsley (SLaM) NHS Foundation Trust were successfully linked with administrative records from the Department for Work and Pensions (DWP). Data from SLaM covered years 2007-2019, whereas data from DWP covered years 2005-2020.

Results: 83% of the patients had received benefits from the DWP. Benefits most frequently received included Employment Support Allowance, Job Seeker Allowance and Income Support. Approximately one in five patients were diagnosed with a mood (affective) disorder followed by disorders due to psychoactive substance abuse or physiological conditions (e.g. dementia) among one in six patients. Benefit receipt across the psychiatric diagnosis spectrum was high, over 80% across most ICD-10/11 codes, except for behavioural syndromes associated with physiological disturbances and physical factors (57.0%) (e.g. eating disorders).

Conclusion: Benefit receipt was high among patients accessing secondary mental healthcare services and varied by psychiatric diagnosis. Implications for social welfare policies, clinical practice and research will be discussed.

OP04 The epidemiology of disordered eating, mental distress & substance use: updates

Thurs 8 Sep, 14:30 – 16:15
Lecture Room 3
Chair: Francesca Solmi, UCL, UK

OP04.01 Sociodemographic differences in clinical presentation and time to referral to mental health services of eating disorder patients in UK primary care

Jane Sungmin Hahn[1]; Joseph Hayes[1]; David Osborn[1]; Helen Bould[2]; Amy Harrison[1]; Eirini Flouri[1]; Glyn Lewis[1]; Naomi Warne[2]; Francesca Solmi[1]

[1] University College London, UK; [2] University of Bristol, UK

Lay Summary: We investigated whether in UK primary care men, ethnic minorities, and those from deprived backgrounds are diagnosed with eating disorders at an older age and referred to secondary care later compared to women, white patients, and those from more affluent backgrounds. Men and Black patients were diagnosed at an older age than women and White patients, and the waiting time between diagnosis and referral was longer for men, Asian and mixed ethnicity patients, and those living in more deprived areas. Our research suggests that structural barriers in accessing eating disorder services might start in primary care and add to individual-level differences in help-seeking in these populations.

Background: Men, people from ethnic minorities and deprived backgrounds are underrepresented in UK eating disorder clinical settings. Research suggests that there might be barriers in accessing eating disorder services for these groups. These barriers might begin with delays in identification of eating disorders in primary care and referral to services, but evidence on this is currently lacking. The aims of this study are to describe differences in 1) age at first diagnosis; 2) type of diagnosis received; and 3) time to referral by sex, ethnicity, and area-level deprivation among English primary care eating disorder patients.

Methods: We used data from patients aged 10 to 50 years with an incident eating disorder diagnosis recorded in Clinical Practice Research Datalink electronic health records between 2000 and 2015. To investigate our aims, we used univariable and multivariable linear (aim 1), multinomial (aim 2), and Cox (aim 3) regression models clustering data for practice and adjusting for calendar year.

Results: In our preliminary analysis, we identified 37,863 patients who received an incident diagnosis of eating disorders in an English CPRD-registered practice between 2000 and 2015. Of these, 19,292 (51%) patients had data on ethnicity and 8,556 (23%) also had data on area-level deprivation. On average men were diagnosed 1.6 years later (95% CI: 1.0 to 2.3) than women. Black patients were diagnosed 1.12 years later (95% CI: 0.01 to 2.23) than white patients. Asian and mixed ethnicity patients were diagnosed 1.8 years earlier (Asian 95% CI: -1.8 to -0.04 mixed ethnicity 95% CI: -2.7 to -0.8) than white patients. Men (Hazard ratio (HR) = 0.68; 95% CI: 0.61 to 0.76) and Asian patients (HR: 0.81; 95% CI: 0.69 to 0.95) waited longer for a referral to an eating disorder service compared to women and white patients. Patients living in the most deprived areas (HR: 0.82; 95% 0.67 to 0.99) were referred later than those living in the most affluent group. Men, Black patients, and those living in more deprived areas were less likely to be given a diagnosis of anorexia nervosa, which had the highest rates of referral.

Conclusion: These preliminary results point to the presence of sociodemographic differences in primary care identification and referral of eating disorder patients. Some of these findings may reflect differences in the underlying epidemiology of eating disorders but may also indicate the lack of knowledge around eating disorders, stigmatising beliefs, and structural barriers. Greater understanding of these barriers is needed to improve primary and secondary care experiences for eating disorder patients who are males, from ethnic minority backgrounds, and living in more deprived areas.

OP04.02 Depressive symptoms in caregivers of adult anorexia and bulimia patients – how are these connected to ED severity? A pilot study

Krisztina Kocsis-Bogar[1]; Michael Ossege[1]; Martin Aigner[2]; Johannes Wancata[1]; Fabian Friedrich[1]

[1] Medical University of Vienna, Austria; [2] Karl Landsteiner University Krems, Austria

Lay Summary: The association between patients' eating disorder(ED) severity and caregivers' depressive symptoms was examined in adult patients with anorexia (AN) and bulimia nervosa (BN) and their key relatives. Caregivers' depressive symptoms showed a significant connection with the ED severity in both groups which was more significant than the relationship of ED severity and patients' own depressive symptoms. It is crucial to offer more support to caregivers as a contribution to a more successful therapy of adult ED patients.

Background: The comorbidity of EDs and mood disorders, specifically depression in adults is well known, just as well as the increased life-time prevalence of depression in caregivers of ED patients. Less is known about the relationship between

patients' ED severity and caregivers' depressive symptoms, especially in the case of bulimia nervosa. Involvement of caregivers is known to be connected to their depressive symptoms, but it is not clear, if involvement is also related to ED severity.

Methods: 55 patient-caregiver (26 AN, 29 BN) dyads were included in the study. Patients' ED symptom severity was measured by Eating Disorder Examination (EDE). Depressive symptoms in patients as well as caregivers were measured by Beck Depression Inventory. Involvement Evaluation Questionnaire was used to measure caregivers' involvement in the life and illness of patients.

Results: Carers' depressive symptoms were a more significant predictor (β: .45, t = 3.30, p=.002) of ED severity than patients' own depressive symptoms (β: .28, t = 2.03, p=.05) in the whole sample (adjusted R2 = .37, F= 6.65, p<.001). When looking at AN and BN patients and their caregivers separately, only caregivers' depressive symptoms remained significant (β: .41, t = 2.21, p=.04 in the AN and β: 0.58, t = 2.73, p=.01 in the BN group) and patients' depressive symptoms lost their significance as predictors of ED severity. Involvement could not predict ED severity significantly in either of the groups.

Conclusion: The association of ED severity and caregivers' depressive symptoms points out the burden carers of patients with ED carry, which in turn may prevent caregivers to help their relatives more effectively. Based on our data this conclusion can be drown for carers and patients with BN as well as AN. All of this may contribute to negative caring experiences and helplessness, which may become risk factors for a full-blown depressive episode or a chronic depression in carers. A broader support for caregivers of adult ED patients both with AN and BN can be regarded as potentially preventive care for depression in caregivers and a contribution to a more effective treatment of ED patients.

OP04.03   Attempted suicide rates and exposure to the COVID-19 pandemic: interrupted time series analysis of a nationally representative sample

Stephen Levine[1]; Yael Travis-Lumer[2]; Yair Goldberg[2]; Sophia Frangou[3]; Arad Kodesh[4]

[1] University of Haifa, Israel; [2] Israel Institute of Technology, Israel; [3] University of British Columbia, Canada; [4] Meuhedet Health Services, Israel

Lay Summary: We compared the suicide attempt rates before and during the COVID-19 pandemic. Results showed that the interval of the COVID-19 was associated with a 37% reduced suicide attempt rate compared to the interval before COVID-19, but the rate is likely to increase after lifting COVID-19 restrictions. Implementing public health strategies for suicide prevention is warranted after lifting COVID-19 restrictions.

Background: We aimed to characterize the association between the protracted biopsychosocial coronavirus disease 2019 (COVID-19) pandemic exposures and incident suicide attempt rates.

Methods: Information was ascertained on a nationally representative cohort based on electronic health records from 2013 to 2021 (N = 852 233), and an interrupted time series study design used. For the primary analysis, the effect of the COVID-19 pandemic on incident suicide attempts warranting in-patient hospital treatment was quantified by fitting a Poisson regression and modeling the relative risk (RR) and the corresponding 95% confidence intervals (CI). Three scenarios were forecast to predict attempted suicide rates ten months after lifting social restrictions. Fourteen sensitivity analyses were implemented to challenge the robustness of the results.

Results: Despite the increasing trend in the unexposed interval, the interval exposed to the COVID-19 pandemic was statistically significant (p<0.001) associated with a reduced RR of incident attempted suicide (RR: 0.63; 95% CI: 0.52-0.78). Consistent with the primary analysis, sensitivity analysis of sociodemographic groups and methodological factors were statistically significant (p<0.05). Similarly, statistical significance was not attenuated for COVID-19 lockdown intervals or illness status. All three forecast scenarios projected a suicide attempt rate increase at ten months after lifting social restrictions from 12.49 (7.42-21.01) to 21.38 (12.71-35.99).

Conclusion: The interval exposed to the protracted biopsychosocial coronavirus disease 2019 (COVID-19) pandemic exposures was associated with a reduced suicide attempt rate compared to the unexposed interval. However, the suicide attempt rate is likely to increase ten months after lifting social mitigation policies, highlighting the need for public health policy for suicide prevention.

OP04.04   Longitudinal study on perceived stress, coping strategies, and mental health status among adolescents during the COVID-19 pandemic in Switzerland

Meichun Mohler-Kuo[1]; Natalia Estévez-Lamorte[1]; Susanne Walitza[2]

[1] HES-SO University of Applied Sciences and Arts of Western Switzerland, Switzerland; [2] University Hospital of Psychiatry Zurich, Switzerland

Lay Summary: We investigated associations between perceived COVID-19-related stress, coping strategies, and mental health status among adolescents during the first lockdown of the COVID-19 pandemic and one year after the lockdown in Switzerland. Participants reported less COVID-19 related stress one year after the lockdown whereas mental health status remained stable and perceived stress and pre-existing psychiatric problem were significantly linked to all mental health outcomes at both time points. Girls were more affected by the pandemic than boys and youths with pre-existing psychiatric problems are especially vulnerable to its detrimental effects.

Background: The COVID-19 pandemic has been both an acute and chronic threat to the well-being of the general population, due to the numerous challenges posed by social disruption, including social isolation, financial insecurity, and confinement-related stress (e.g., interruptions in daily routines, important events, and plans). Children and adolescents might be especially vulnerable to these challenges, since they are facing significant changes in all aspects of life This longitudinal, prospective study investigated associations between perceived COVID-19-related stress, coping strategies, and mental health status among children and adolescents during the first lockdown of the COVID-19 pandemic and one year after the lockdown in Switzerland within a large national sample.

Methods: A self-report on-line survey was completed by 553 children and adolescents (age-range 12-18 years in 2021) in the summers of 2020 and 2021. The same questionnaires were used to assess the symptoms of ADHD, oppositional defiant disorder (ODD), depression and anxiety. In addition, we also assessed COVID-19- related stressors and coping strategies. Differences over time in the prevalence of perceived stress and mental health problems from 2020 to 2021 were compared using Generalized Estimating Equations (GEE) to handle correlated outcomes when repeated measurements of the same participant have been performed over time.

Results: Overall, participants reported less COVID-19 related stress one year after the lockdown, though mental health status remained stable. 'Challenges at home or with others' were significantly associated with mental health problems in both genders, whereas 'trouble getting medical care or mental health services' was associated with mental health problems in girls. Perceived stress and pre-existing psychiatric problem were significantly linked to all mental health outcomes at both time points. Parents' poor relationships with partners during the lockdown was associated with increased anxiety symptoms in their children. Using cognitive restructuring to cope with stress was associated with less, while negative coping was associated with more anxiety, depression, and attention deficit hyperactivity disorder (ADHD) symptoms one year post lockdown.

Conclusion: Girls appear to have been more affected by the pandemic than boys, with youths with pre- existing psychiatric problems especially vulnerable to its detrimental effects. Healthcare and school professionals should work to identify high-risk children with negative and avoidant coping strategies and train youths to use positive coping strategies.

OP04.05   ---- WITHDRAWN ----

OP04.06   The natural history of DSM-5 alcohol use disorder symptoms: Prospective cohort study of 565 young adult regular drinkers

Tim Slade[2]; Siobhan O'Dean[2]; Louise Mewton[1]; Wendy Swift[3]

[1] University of New South Wales, Australia; [2] University of Sydney, Australia; [3] Royal Prince Alfred Hospital, Australia

Lay Summary: We interviewed 565 regular alcohol users five times across a two and a half year period to determine which alcohol use disorder symptoms emerge first and which first onset symptoms correlate with a faster transition to alcohol use disorder. Social problems from drinking or drinking despite impacts on work/school/home as the first onset symptoms were associated with a speedier transition to alcohol use disorder. These findings hold promise for identifying which individuals may be at greater risk of developing an alcohol use disorder and point to specific symptom manifestations that might be amenable to intervention in order to disrupt the pathways to disorder.

Background: Alcohol use disorder (AUD) is a major contributor to the burden of disease and is most prevalent among young adults. Prevention and early intervention of AUD is a public health priority, yet relatively little is known about how AUD emerges, which symptoms of AUD come first and whether there are modifiable risk factors that forecast the development of the disorder.

Methods: Data for this study came from the RADAR study, a prospective cohort study of 565 regular alcohol users (mean age 18.9 at baseline, 48% female) interviewed five times every six months across a two and a half year period. AUD symptoms and diagnoses were assessed according to DSM-5 and ICD-11 diagnostic criteria by trained clinical psychologists using the SCID-IV-RV. Survival analyses modelled the time from first alcoholic drink to the emergence of any AUD symptom and determined which first-emergent AUD symptoms were associated with a speedier transition to disorder.

Results: By the final time point 54.8% of the sample had experienced at least one DSM-5 AUD symptom with 26.1% meeting criteria for DSM-5 AUD. The median time from first AUD symptom to a diagnosis of AUD was 4 years. Social problems from drinking or drinking despite impacts on work/school/home as the first onset symptoms were associated with a speedier transition to alcohol use disorder.

Conclusion: When social or role problems emerge as the first symptoms of AUD the transition to AUD occurs at a faster rate. Targeting these symptoms with appropriate prevention or early intervention approaches might help avert a significant proportion of AUD cases from developing.

OP04.07   ---- WITHDRAWN ----

OP04.08 Using Artificial Intelligence to Identify Clinical and Risk Markers for Mental Disorder (InPREMENT Study)

Jorge Cervilla[1]; Pérez-Gutiérrez Ana[1]; Gutiérrez Blanca[1]
[1] University of Granada, Spain

Lay Summary: This study shows how to explore the occurrence of mental symptomatology in a large community-based sample to identify a short number clinical markers and potential risk factors for Mental Disorder (MD). We interviewed 4507 participants to elicit mental symptoms leading to a transdiagnostic diagnosis of any MD. Artificial Intelligence (AI) was use to generate an overall MD score obtained from a minimal amount of mental symptoms (clinical markers). We then, explore potential determinants of such MD score to identify risk markers for MD.

Background: A transdiagnostic approach to MD is increasingly gaining scientific terrain although few studies have used MD as an outcome. We aim to estimate an index of MD using smart AI data reduction techniques to identify the minimal amount of clinical markers leading to a MD diagnosis.

Methods: Multi-stage sampling using standard stratification techniques was used from the region of Andalusia (South Spain) population census to identify a a target representative sample of 4596 subjects, 70% of which had to be replaced for a variety of previously previewed reasons (Cervilla et al., 2016). A final sample of 4507 of those approached completed all assessments. Mental symptoms were elicited using the Spanish version of the MINI Neuropsychiatric Interview and a variety of biological, psychological, environmental and social exposures was also assessed. Random Forest AI techniques were used to obtain a reduced number of mental symptoms that explained high levels of variance of MD and to generate a continuous MD score. Such score was finally used as our main study outcome when a multivariate pack of potential risk markers was also identified using multivariable regression techniques.

Results: Although the substitution rate was rather high, we obtained a fairly high response rate at 83% of approached participants. Out of 198 items in the MINI, we obtained a parsimonious group of 18 mental symptoms explaining most of the MD variance (Sensibility 90%; Specificity: 97%) and that was computed to an MD score. MD score was significantly associated with poorer global functioning and physical health, less social autonomy, higher exposure to previous life events, lower levels of social support, alcohol abuse, drugs use and nicotine dependence

Conclusion: Identifying a minimal number of mental symptoms to explore in the community or at primary care level, particularly if that is done along with assessment of a variety of psychosocial risk factors for MD can help to early identification and intervention .

OP04.09 Accuracy of the Development and Well-Being Assessment screening items in screening young people for eating disorders

Jessica O'Logbon[1]; Tamsin Newlove-Delgado[2]; Sally McManus[3]; Suzanne Hill[3]; Frances Mathews[2]; Lauren Cross[1]; Katharine Sadler[3]; Tamsin Ford[1];
[1] University of Cambridge, UK; [2] University of Exeter, UK; [3] National Centre for Social Research, UK

Lay Summary: (1) We examined the diagnostic accuracy of the Development and Well-Being Assessment (DAWBA) eating disorder screening questions in 4,057 11–19-year-olds and their parents. (2) Parental report was the most accurate and specific predictor of an eating disorder, however, parent and child answers combined captured more cases. (3) Clinicians

may ask the screening questions to parents first to rule out eating disorder cases, and follow-up by speaking to children / young people, using clinical judgement to balance the evidence when their accounts conflict.

Background: Eating disorders are increasingly prevalent among young people, yet we lack brief screens for this age range. We examine the test accuracy of the Development and Well-Being Assessment (DAWBA) eating disorder screening items and explore whether increased clinical demand is being driven by increased population prevalence.

Methods: DAWBA data from 4,057 11–19-year-olds and their parents, who took part in the 2017 Mental Health of Children and Young People in England (MHCYP) survey, was used to calculate sensitivity, specificity, positive and negative predictive values under two assumptions about false negatives (observed vs rate of 2.4% from pilot data) and two threshold scores (standard vs 2+ threshold for both informants). This was a probability sample selected from the NHS patient register from the general population in England.

Results: Parental report was the most accurate predictor of an eating disorder (93.6%; 95% CI: 92.7 - 94.5). Sensitivity increased when parent and child answers were combined. The 2+ threshold for children and young people offered greater diagnostic accuracy for self-reports (55.6%; 95% CI: 52.4 - 55.8) and when combined with their parents (48.2%; 95% CI: 43.3 - 53.1) but produced more false negatives. The prevalence of eating disorders of 1% in 17-19-year-olds, and 0.6% in 11-16-year-olds in 2021, which are similar to the prevalence of eating disorders reported in 2017 (0.8% and 0.6% respectively). However, estimates for boys (0.2 to 0.4%) and young men (0.0 to 0.4%) provide tentative evidence of population-level increases.

Conclusion: Our findings highlight the importance of speaking to both parents and children / young people during clinical assessment and using clinical judgement to balance the evidence when their accounts conflict. This is especially useful amongst children and young people with 'sub-threshold' eating problems, who may experience difficulties, but do not meet the criteria for a diagnosis.

OP05 Public & community mental health: from concepts to practice

Thurs 8 Sep, 14:30 – 16:15
Lecture Room 4
Chair: Jen Dykxhoorn, UCL, UK

OP05.01   Conceptualising public mental health: development of a conceptual framework for public mental health

Jen Dykxhoorn[1]; David Osborn[1]; Laura Fischer[1]; Michael McGrath[2]; Louise Lafortune[3]; Becca Bayliss[1]; Carol Brayne[3]; Liam Crosby[1]; Bobbie Galvin[1]; Emma Geijer Simpson[4]; Oli Jones[5]; Paula Moehring[1]; Mylene Petermann[5]; Ami Vadgama[5]

[1] UCL, UK; [2] Monash, Australia; [3] University of Cambridge, UK; [4] Newcastle University, UK; [5] McPin Foundation, UK

Lay Summary: Researchers within the Public Mental Health Programme have spent the last year trying to determine what are the key factors affecting public mental health. We have used a range of approaches, including academic literature searches, in-person and online consultations with public health practitioners and members of the public to decide on a list of the key factors influencing public mental health. These have been summarised in a conceptual framework, which can be used to help people understand public mental health and can be used by local authorities and public health to design interventions that focus on a key determinant in order to improve mental health and well-being in the UK.

Background: Public mental health, broadly defined, is the science and art of promoting mental health and well-being, preventing mental illness, and supporting those with mental health problems. While much of the research has focused on individual-level risk factors, there are myriad factors beyond the individual which influence mental health. In the Public Mental Health programme from the School of Public Health Research, we aimed to identify a comprehensive list of determinants from the academic literature, grey literature, and stakeholder consultations that will feed into the development of a conceptual framework of the determinants of public mental health.

Methods: We conducted a state-of-the-art review of conceptual frameworks for mental health (Prospero registration: CRD42019138753), a grey literature search of reports and policy documents, using citation tracking, and have held consultations with public health practitioners, and members of the public to identify the determinants of public mental health. This comprehensive list was prioritised through iterative consultation with public health practitioners, academic researchers, and members of the public. The final list of determinants was organized into four domains and visually represented on an interactive website: www.publicmentalhealth.co.uk

Results: In addition to individual determinants (e.g. income, education, marital status, adverse live experiences), we identified a range of wider determinants that were linked to public mental health, including built environment, community social capital, school/workplace climate, social integration, societal expectations and norms, policies and laws, and public rhetoric. From this initial list of 68 determinants, we prioritised 55 determinants which were rated as both important and amenable to public health action. These were organized into four domains: individual, family, community, and structural. These determinants were organised into a conceptual framework which summarised the key determinants of public mental health. The framework can be accessed at www.publicmentalhealth.co.uk

Conclusion: The conceptual framework developed through mixed methods summarises our current state of knowledge on the key determinants of public mental health. Importantly, it brings together academic literature, policy documents, practitioner perspectives, ad public views into a meaningful overview of the broad determinants of public mental health within the individual, family, community, and structural domains. This framework can provide conceptual grounding for public health interventions and shape our understanding of the causes of mental health in the population.

OP05.02   A quantitative approach to the intersectional study of mental health inequities in UK young adults during the COVID-19 pandemic

Darío Moreno-Agostino[1]; Charlotte Woodhead[1]; George B. Ploubidis[1]; Jayati Das-Munshi[1]

[1] ESRC Centre for Society and Mental Health, UK

Lay Summary: We provide an overview of the mental health levels in the UK young adult population during the COVID-19 pandemic by age, sex, ethnicity, sexual orientation, and socioeconomic position, acknowledging the uniqueness of the experiences and levels of each combination of those multiple social identities and positions. The largest mental health inequities were found by sexual orientation, with sexual minorities showing worse mental health levels than heterosexuals across cohorts/generations, sexes, ethnicity groups, and socioeconomic levels. These results highlight the importance of providing mental health support to sexual minorities, as well as further studying the experiences of discrimination lived by sexual minorities in different ethnic groups and economic levels.

Background: Existing evidence on the population mental health levels during the COVID-19 pandemic suggests that some groups (e.g., younger people, women, sexual and gender minority groups) have been disproportionately affected. However, most studies have focused on the inequities across these subgroups in isolation, reporting them independently from each other or acknowledging their intersectionality in a limited way, such as at the intersection between age and sex or gender. We therefore aimed to provide a sociodemographic mapping of the mental health levels in the population across intersections defined by multiple, co-constituting social identities and positions, and explore if there were intersectional effects that went beyond the main (or additive) effects of each of those variables in isolation.

Methods: We used data from two British cohorts born in 1990 and 2000-2002, respectively, collected in February/March 2021 (during the third UK nationwide lockdown). Using Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy (MAIHDA) models, we analysed intersectional inequities in anxiety and depressive symptomatology, loneliness, and life satisfaction, obtaining estimates of the predicted mental health levels and intersectional effects (i.e., the "excess" beyond the sum of the main/additive effects) at each intersection of cohort/generation, birth sex, racial/ethnicity group, sexual orientation, and socioeconomic position.

Results: Most of the variability in all the outcomes was found within the intersections. The differences across intersections were largely accounted for by the main/additive effects of the variables adopted to define those intersections. We found evidence of mental health inequities by cohort/generation, birth sex, racial/ethnicity group, socioeconomic position, and sexual orientation, with the largest gaps observed in the latter. We did not find evidence of intersectional effects (effects unique to specific intersections, going beyond the main/additive effects).

Conclusion: The inequities observed in our study cut across the intersectional strata studied. The large gaps found by sexual orientation in all the explored mental health outcomes support and extend existing evidence that sexual minority groups were disproportionately affected by the pandemic. Interventions to provide support, along with further research on the intersectional experiences of discrimination across racial/ethnic groups and economic levels, are crucial to improve mental health inequities in sexual minority groups.

OP05.03 Socioeconomic position at the age 30 years and the later risk of mental disorder: a Finnish nationwide register-based cohort study

Christian Hakulinen[1]; Petri Böckerman[2]

[1] University of Helsinki, Finland; [2] LABORE, Finland

Lay Summary: We examined the association between socioeconomic position at the age 30 years and the later risk of mental disorder across the spectrum of different mental disorder categories. We found that low socioeconomic position was associated with an increased risk of developing any type of mental disorder. These findings highlight the strong socioeconomic gradient in mental health.

Background: The association between socioeconomic position (SEP) and the incidence of mental disorders has been widely documented. Regarding the different measures of SES, personal income has been more rarely used than the other measures, and the importance of different measures has rarely been compared in the same study. The aim of the present study was to examine the association between SES at the age of 30 and the subsequent risk of the most mental disorders.

Methods: In this register-based study, all persons born in Finland between 1966 and 1986, who were living and alive in Finland at the end of the year when they were 30 years of old were included in the study cohort. Educational attainment, employment status, and personal total income were used as the alternative measures of socioeconomic position. Information on mental disorders were obtained from the Finnish Care Register for Health Care and the sickness absence register of the Social Insurance Institution of Finland. The association between SES at the age 30 years with later mental disorders were examined using Cox proportional hazards and competing risk models. Additional analyses were conducted using sibling design to account for otherwise unobserved shared family characteristics that have an influence on both socioeconomic position and the incidence of mental disorders.

Results: The study population consisted of 1.2 million persons who were followed up to the end of the year when they turned 30 until first diagnosis of mental disorder, date of emigration from Finland, death, or 31st December 2017, whichever came first. Before the age 30 years, 7% were of the study population with a mental disorder. Over the follow-up period, 26% of the study population were diagnosed with a mental disorder. Lower socioeconomic position at the age 30 years was consistently associated with a higher risk of being later diagnosed with a mental disorder, even accounting for shared family characteristics for siblings. Diagnostic specific analyses showed that the associations were considerably stronger when substance misuse disorders or psychotic disorders were used as an outcome. Absolute risk analyses showed that by the age 52 years, 58% of persons who had a low education level at the age 30 years were later diagnosed with a mental disorder.

Conclusion: These findings highlight the strong socioeconomic gradient in mental health and support policies that allocate disproportionate amount of preventive measures to persons with low socioeconomic position to mitigate the disease burden of mental disorders in the society.

OP05.04   Early-life socioeconomic deprivation and trait anxiety in young adulthood

Pavla Cermakova[1]; Lenka Andryskova[2]; Milan Brazdil[2]; Klara Mareckova[2]

[1] National Institute of Mental Health - Czechia, Czech Republic; [2] Masaryk University, Czech Republic

Lay Summary: We studied how growing up in poor households influences development of anxiety two decades later. We found that people who grew up in poor households had lower cognitive ability as adolescents, were more likely to be anxious as young adults and had a lower connectivity in multiple areas of the brain. If we prevent children from growing up in poor households, we may improve mental health of the population.

Background: Experience of early-life socioeconomic deprivation (ELSD) may increase the risk of anxiety in young adulthood. This association may be mediated by cognitive functions in adolescnece and may be mirrored in the alterations of the functional connectivity of the hippocampus and lateral prefrontal cortex (LPFC).

Methods: We analyzed 122 participants enrolled in the Czech arm of the birth cohort of the European Longitudinal Study of Pregnancy and Childhood (ELSPAC). Information about ELSD was collected via questionnaire from mothers during the first 18 months of participants' lives. At age 13, cognitive ability was measured with the Wiener Matrizen-Test. At age 23–24, participants underwent examination by resting-state functional connectivity and assessment of anxiety with the Spielberger State-Trait Anxiety Inventory. The association of ELSD with the outcomes in adolescence and young adulthood was assessed with multiple linear regression and a mediation analysis.

Results: Higher ELSD was associated with greater trait anxiety, but not state anxiety. Global connectivity of the right hippocampus as well as connectivity between the right hippocampus and the left middle temporal gyrus mediated the association between ELSD and trait anxiety in women, while this was not found for men. Higher ELSD was also associated with lower cognitive ability in adolescence, which, in turn predicted greater trait anxiety in young adulthood. Resting state functional connectivity between the right LPFC and a cluster of voxels including left precentral gyrus, left postcentral gyrus and superior frontal gyrus mediated the relationship between lower cognitive ability in adolescence and higher trait anxiety in young adulthood.

Conclusion: Early preventive strategies targeted at children from socioeconomically deprived families may yield long-lasting benefits for mental and cognitive health of the population.

OP05.05   Wealth distribution moderates the relation between stressful life events, resilience and affective psychopathology

Tommaso B. Jannini[1]; Isabella Federico[1];Flaminia Reda[2]; Giulia D'Aurizio[2]; Valentina Socci[2]; Giorgio Di Lorenzo[1]; **Rodolfo Rossi**[1]

[1] University of Rome Tor Vergata, Italy; [2] Università degli Studi dell'Aquila, Italy

Lay Summary: 1) we measured major depression as well as generalised anxiety scores and we used the Gini coefficient as a measure of wealth distribution 2) we found that wealth distribution moderated the mediation effect of resilience between the presence of a stressful event and the selected outcomes 3) Since wealth distribution enhances the buffer role of resilience, public health interventions aimed at achieving the so called 'efficient inequality range' may eventually boost people's ability to face adversities and therefore improve mental health outcomes.

Background: Stressful life events are widely known to contribute to the onset of various psychiatric disorders, ranging from post-traumatic stress disorder to major depression. Conversely, resilience, acting as a buffer, is largely considered a protective mechanism against life stressors. Recent evidence highlights instead how wealth distribution independently affects different psychopathological outcomes. Aim of this study is to explore the role of wealth distribution as a moderator of the relation between life stressors, resilience and depression/anxiety symptoms.

Methods: We measured major depression and generalized anxiety (Patient Health Questionnaire - PHQ-9 and Generalized Anxiety Disorder Questionnaire – GAD-7, respectively) as well as resilience (Resilience Scale for Adults – RSA) scores via an online questionnaire in Italy. The Gini coefficient was used to measure wealth distribution. Moderated mediation was assessed using Structural Equation Modeling and inspecting bootstrapped indirect effects.

Results: Twenty-one thousand three hundred and thirty-four subjects completed the questionnaire (80.52% female). In the whole sample, life stressors were associated with depressive and anxiety symptoms. Resilience mediated the effect of stressful events on depressive and anxiety symptoms. The moderated mediation analysis revealed that wealth distribution moderated the mediation effect of resilience between the presence of a stressful event and the selected outcomes.

Conclusion: Taken together, our results show that wealth distribution enhances the buffer ability of resilience against aversive events. Thus, public health interventions aimed at achieving the so called 'efficient inequality range' may eventually boost people's ability to face adversities and therefore improve mental health outcomes.

OP05.06   Potential for Increased Epilepsy Awareness: Impact of Health Education Program in School on Teachers and Children

Meena Kolar Sridara Murthy[1]; Dr. Prakashi Rajaram[1]

[1] National Institute of Mental Health and Neuro Sciences, India

Lay Summary: 1. The present study compared the efficacy of the intervention of a health education program among three groups in school, that is, researchers imparted training to children, post Training Of Teachers (TOT), and teachers imparted training to children. 2. It was found that no textbooks had subject matter on epilepsy and teachers had a negative attitude towards epilepsy such as it being a sin. 3. Children with epilepsy are more vulnerable for social isolation and psychological issues bringing a need to study the efficacy of the training programs on epilepsy.

Background: Diagnosis of epilepsy leads to a considerable amount of negative psychological effect especially on school going children as they have to face a lot of discrimination in school environment from their teachers and peers. This makes it more challenging to live with the disorder more than the disorder itself. Health education thereby becomes a crucial component and an effective tool for mass communication to eradicate misconceptions. Awareness among teachers and children with regard to epilepsy is the need of the hour. The present study aimed to educating the school teachers and students about epilepsy after evaluating their knowledge, attitude, beliefs, and practices.

Methods: The study was conducted among government school teachers and students in Bangalore. A total of 39 teachers from eight schools participated in a three-day training program on epilepsy. 50 children participated in the study and each session was instantly assessed by taking feedback from the students about their perception of the quality, subject matter and its importance, time period of education sessions, and recommendation for improvements. Post-assessments were done after a month post-intervention. A video was shown and post intervention manuals were created and handed over to teachers for future reference. An intervention module was framed by the researchers on the basis of the precedent assessment, targets, and recommendations of health experts. The intervention module also included Information Education Communication (IEC) and a video of 12 minutes was prepared on first aid that can be provided to a person with epilepsy.

Results: 1. Children with epilepsy are more vulnerable for stigmatization, social exclusion, emotional and psychological problems 2. No textbooks had subject matter on epilepsy to impart knowledge 3. Teachers had limited knowledge and negative attitude towards epilepsy. 4. After the intervention, the teacher's knowledge and awareness increased significantly. 5. It was seen that there is a difference between pre-and post- assessment in all three groups and among the groups on KAP. After intervention, KAP changed significantly.

Conclusion: This is a first study conducted to assess the impact of teachers imparted training to children thereby making it even more unique in its contribution to the educational pedagogy as school curriculum does not have epilepsy related lessons in their syllabus and thus children and teachers lack knowledge on epilepsy. The present study demonstrates that through imparting the training from teachers to pupil in creating awareness is more effective than a trainer. Acceptance of teachers training is more effective. Hence, the epilepsy awareness in curriculum or in teachers training syllabus would help to prevent unacceptable practices and change the attitude of the pupil as well as teacher.

OP05.07   Importance of various domains of life: Adjusting expectations to cope with stigma experiences?

Robert Moosbrugger[1]; Monika Nowotny[2]; Alfred Grausgruber[1]

[1] Johannes Kepler University, Austria; [2] Gesundheit Österreich, Austria

Lay Summary: We analysed the importance of various domains of life and how these assessments are associated with perceived stigma and feelings of belonging. We found that the perceived extent of stigmatization goes along with lower importance of life domains and lower perceptions of societal belonging. Interview data indicate that lowering expectations is a strategy to cope with distress of reduced opportunities on the individual level. Nevertheless, on the societal level distress due to exclusion from what is perceived as desirable remains. Therefore, counteracting stigma means counteracting social inequalities as well.

Background: Despite the predominant normative belief in equal opportunities, life chances vary. Discrimination experiences – public or structural – lead to negative consequences for people suffering from mental illnesses. Beside exclusion i.e. in the housing and labour market, research shows that social environments tend to avoid people with mental illnesses. A society described by the term inclusive has to provide everybody with the chance to pursue their vision of the good life (as far as possible), implying that forms of disrespect have to be minimized and mutual recognition fostered. Nevertheless, collective as well as individual (negative) ascriptions affect self-concepts and lead to strategies like resignation or adjustment to more achievable life goals. Persisting stereotypes are obstacles in pursuing what is considered important, causing distress to those affected. If structures for opportunities and available resources are not sufficient, one strategy to

cope with distress is to lower the own expectations.

Methods: Data from the project Monitoring Public Stigma Austria 1998-2018 allows an approximation to the following questions: - How important are various domains of life for people with a mental illness (compared to the general population)? - How is stigma associated with the importance of the various domains and how does it affect the "perceived place in society"? We conducted a quantitative survey (n=344) among people with lived experience to determine the associations sketched above. Additionally, we elaborate on how experts by experience cope with situations in which desirables and structures for opportunities do not match. For this we draw on the results of qualitative interviews (n=20).

Results: We found that in our sample the overall importance of the domains of life concerning work, family, and friends are valued lower than in the general population in Austria. Perceived stigma goes along with considering domains of life as less important and is associated with a perceived lack of social recognition. Therefore, we assume that lowering own expectations is a coping strategy for dealing with perceived stigmatization and discrimination. However, as this is associated with a lack of perceived recognition this strategy only seems to relieve emotional distress concerning life goals, nevertheless the distress of being excluded remains. Qualitative data illustrate this hypothesis.

Conclusion: On the one hand downplaying the importance of certain dimensions is a strategy to resolve distress on the individual level. On the other hand, on a collective level the problem of unequal opportunities still remains, affecting perceptions of belonging.

OP05.08 Affective and social experiences and mental health needs during large-scale social movements: A study of the 2019-2020 protests in Lebanon

Sarah Badin[1]; Racha Ghoussaini[1]; Alice Recho[1]; Serge Yaacoub[1]; Richard Dagher[1]; Tassnim Elhalabi[1]; **Martine Elbejjani**[1]

[1] American University of Beirut, Lebanon

Lay Summary: We assessed affective and social experiences and mental health needs during the five- month nation-wide protests that occurred in Lebanon in 2019-2020. We found that exposure to violence was elevated among protest participants (direct exposure) and non-participants (via media coverage), and that participation in the protests was related to more positive social and affective experiences, but higher mental health needs, whereas non-participation had negative affective experiences and reported more disruptions in daily functions. Results reveal a widespread impact on affective and daily experiences for both protest participants and non-participants and call for more recognition and response preparedness for these collective experiences.

Background: Large-scale social movements, such as protests and revolutions, have been on the rise globally, in response to various contexts (including racial discrimination, climate change, and socioeconomic inequalities), affecting in the past decades 99% of the world's population. Yet, the impact of these movements remains understudied. In October 2019, a nation-wide protest movement began in Lebanon in response to economic and political unrest and lasted until March 2020, when the COVID-19 pandemic hit Lebanon. We assessed affective and social experiences and mental health needs during the five-month nation-wide protests in Lebanon and their relationship to participation in the protests.

Methods: Data come from an online survey distributed to a random sample of students, staff, faculty, and alumni of the American University of Beirut, and on social media platforms (≥18y and residing in Lebanon in the 5 months of protests). The survey assessed exposure to incidences of violence, affective perceptions related to the protests (using the International Positive and Negative Affect Schedule Short Form and items assessing perceptions of social engagement and cohesion), and mental health needs.

Results: Among respondents (n=794, mean age=32.2 (SD=13.6)), 67% participated in the protests; younger age (not gender or socioeconomic factors) was related to participation. 81% of protest participants experienced violent events (the most frequent being conflicts with the authorities and tear gas) and 2/3rd of non- participants reported witnessing violent events in media coverage. Yet, 45% of protest participants reported perceiving the protests as mostly non-violent (vs. 24% of non-participants). Participants reported a higher positive influence of the protests on social support (49%), social engagement (69%), and sense of cohesion (81%) and hope (68%) compared to non-participants (10%, 21%, 32%, and 28% respectively). Non-participants reported higher disruptions in mobility, employment, and financial security. Active engagement in the protests and perceiving the protests as necessary were related to higher positive affective scores. Mental health needs were higher among protest participants, with 22.4% having sought and 32.4% having wanted to seek mental health services (vs. 12% and 17% among non-participants).

Conclusion: Results show that protests are highly affective experiences for participants and non- participants, and that direct participation is associated with more positive affective and social indicators and higher mental health needs. Results advocate for research on the multifaceted impact of large-scale social movement, particularly on mental health.

OP06 At the interface of physical & mental health: daily activities, comorbidity & mortality

Thurs 8 Sep, 14:30 – 16:15
Lecture Room 5
Chair: Martin Preisig, Centre Hospitalier Universitaire Vaudois, Switzerland

OP06.01 Daily time use among individuals with schizophrenia spectrum disorders and the Italian general population

Giovanni De Girolamo[1]; Manuel Zamparini[1]; Cristina Zarbo[1]

[1] IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Italy

Lay Summary: We investigated the differences in daily time use between patients with Schizophrenia Spectrum Disorder (SSD) and a representative sample of the Italian general population, and explored the associations between daily time use and psychiatric severity/levels of functioning of patients with SSD. We found that patients with SSD spend significantly more time engaged in non-productive activities than the general population, and a greater amount of time spent in non-productive activities was associated with higher severity of psychopathology and lower levels of functioning. The study of daily time use in people affected by severe mental disorders has particular relevance because people suffering from severe mental disorders, in particular SSD, can improve their quality of life and self-esteem if engaged in activities that increase their skills and sense of self-efficacy.

Background: Schizophrenia Spectrum Disorder (SSD) causes significant limitations to individuals' life. However, little is known about daily time use differences between patients and general population. We compared the daily time use of patients with SSD collected with a representative sample of the general population surveyed by the Italian National Institute of Statistics (ISTAT). Moreover, we investigated the associations between daily time use and psychiatric severity/levels of functioning of patients with SSD.

Methods: From October 2020 to October 2021, 290 outpatients with SSD and 298 patients living in Residential Facilities (RFs) with SSD were recruited at 37 Italian mental health services and assessed for socio- demographic/clinical information and daily time use. A paper-and-pencil questionnaire was used to rate daily time use. The general population (N=2,940) was assessed for sociodemographic information and daily time use in 2013 by ISTAT. The groups were matched for age, gender, and educational level. Statistical analyses included chi-squared tests, ANOVA tests, t-tests, Pearson's correlations and non-parametric corresponding tests.

Results: We found that patient with SSD spend significantly more time engaged in non-productive activities than the general population, independently of age, gender and employment status. Among patients, daily activities were not different among different age groups, and women living in RFs were more engaged in productive activities than males. Furthermore, a greater amount of time spent in non-productive activities was associated with higher severity of psychopathology and lower levels of functioning

Conclusion: This study provides a deep understanding of how patients with SSD spend their daily time and how daily time use is associated with different clinical outcomes. These findings provide useful suggestions for rehabilitation and social inclusion of patients with SSD

OP06.02 Objectively assessed sleep and physical activity in depression subtypes and their mediating role in the association with cardiovascular risk factors

Jennifer Glaus[1]; Femke Lamers[2]; Sun Jung Kang[3]; Marie-Pierre Strippoli[4]; Kathleen R Merikangas[3]; Martin Preisig[4]

[1] Lausanne University Hospital, Switzerland; [2] Amsterdam Public Health Research Institute, Netherlands; [3] National Institute of Mental Health, United States; [4] University Hospital of Lausanne, Switzerland

Lay Summary: We examined associations between objectively assessed sleep and physical activity with depression subtypes and their mediating role in the association with cardiovascular risk factors. The atypical depression subtype was associated with a later sleep midpoint and decreased physical activity. Sleep and physical activity only partially mediated the association between atypical depression and elevated Body Mass Index (BMI). Clinical settings should pay particular attention to the atypical subtype of depression with sleep disturbances and sedentarity for the prevention of cardiovascular diseases.

Background: Previous studies have shown the associations between major depressive disorder (MDD) and its subtypes with cardiovascular risk factors (CVRFs), such as increased Body Mass Index (BMI), diabetes, hypertension and the metabolic syndrome (MeS). However, knowledge on specific mechanisms involved in this comorbidity is scarce. Both sleep and

physical activity have been considered as modifiable factors for MDD and CVRFs. Yet, only few studies have examined these lifestyle factors for the associations between MDD and CVRFs using objective measures. Accordingly, the aim of this study was to investigate the associations of sleep and physical activity with MDD and CVRFs, as well as their potential mediating role for the associations between MDD and its subtypes with CVRFs.

Methods: The sample consisted of 2317 participants (54% women; age mean=61.8, SD=10.0 years) recruited from the general population, who underwent comprehensive somatic and psychiatric evaluations. MDD and its subtypes were assessed via a clinical diagnostic interview, whereas CVRFs, sleep and physical activity were objectively measured. Linear and logistic regression models with adjustment for potential confounders were performed to test the association between MDD, sleep/physical activity with CVRFs.

Results: The atypical subtype of MDD was associated with a later sleep midpoint (β: 0.18; 95% CI: 0.03-0.33) and decreased level of moderate-to-vigorous physical activity (MVPA) levels (β: -9.39; 95% CI: -17.81,-0.97). Moreover, sleep midpoint was associated with higher, and MVPA with lower BMI (β: 0.38; 95% CI: 0.19-0.57; β: -0.02; 95% CI: -0.02,-0.01; respectively). Atypical MDD was also associated with higher BMI (β: 2.39; 95% CI: 1.69-3.09). When sleep or physical activity were added in the model, atypical MDD, sleep and MVPA were all associated with a higher BMI, and the association between atypical MDD and BMI did only slightly reduce in strength (3% when sleep was included in the model, and 8% when MVPA was included).

Conclusion: Our findings imply that sleep and physical activity might only partially mediate the association between atypical depression and BMI. Atypical MDD, sleep and physical activity may also all be independent risk/protective factors for CVRFs. Clinical settings should consider a holistic approach that include both physical and mental factors for the prevention of sleep disturbances, sedentarity and CVRFs in persons with MDD.

OP06.03 Associations of physical activity by actigraphy with current major depression and remitted depression subtypes in a population-based cohort study

Caroline Vandeleur[1]; Maulde Rovero[2]; Marie-Pierre Strippoli[1]; Pedro Marques-Vidal[1]; Martin Preisig[1]

[1] University Hospital of Lausanne, Switzerland; [2] Zurich University, Switzerland

Lay Summary: What you did: Discover the links among subtypes of major depression and physical activity using direct diagnostic interviews and state-of-the-art actigraphy techniques using wrist-worn accelerometers. What you found: 1) Participants experiencing a current major depressive episode were found to be physically inactive. 2) Participants with a history of the remitted combined atypical-melancholic subtype revealed lower physical activity than participants with no history of major depression over lifetime. Why it's important: By providing knowledge on modifiable lifestyle factors, researchers and clinicians may help promote lifestyle changes in the management of depressive episodes and their physical consequences.

Background: It is well known that people with mental disorders are less physically active than healthy controls. Physical inactivity may enhance health problems and is associated with increased mortality. However, the association of major depressive disorder (MDD) in particular, with subsequent physical activity (PA) is still poorly understood. Moreover, few studies have examined subtypes of MDD and PA using current state of the art methodology. Accordingly, our aim was to explore the associations between MDD subtypes (atypical, melancholic, combined atypical-melancholic and unspecified) established by direct diagnostic interviews and PA measured using state-of-the-art actigraphy techniques.

Methods: The sample stemmed from CoLaus|PsyCoLaus, a population-based cohort study, and consisted of 2494 participants (55.1% women; mean age: 62.4) who wore an accelorometer for 14 days after the second physical evaluation and completed a semi-structured psychiatric interview at the second or third follow-up evaluations. Activity behavior patterns were defined according to the combination of the level of moderate-to- vigorous intensity PA and sedentary behavior. The subtypes of MDD were further divided into current major depressive episodes (MDE) and remitted episodes of MDD and associations with PA were assessed using multinomial logistic regression analyses.

Results: Having a current major depressive episode (MDE; all subtypes together) was associated with a high risk of being physically inactive, and people with a remitted combined atypical-melancholic episode revealed lower PA levels, compared to participants with no history of MDD. These results remained significant after adjusting for socio-demographic characteristics and a lifetime history of anxiety, alcohol and drug use disorders.

Conclusion: The present study supports significant associations between current MDE or remitted combined atypical-melancholic MDD and lower levels of PA. As physical inactivity is a major risk factor for cardiovascular diseases, managing the level of PA is important to manage biological dysregulations which often accompany the atypical and melancholic subtypes of MDD. Our findings therefore emphasize the importance of monitoring PA in clinical settings in the management of depressive episodes and their physical consequences.

OP06.04 Predictors of falls and fractures leading to hospitalisation in 36 101 people with affective disorders: a large representative cohort study

Ruimin Ma[1]; Gayan Perera[1]; **Eugenia Romano**[1]; Davy Vancampfort[2]; Ai Koyanagi[2]; Robert Stewart[1]; Christoph Mueller[1]; Brendon Stubbs[1]

[1] King's College London, UK; [2] KU Leuven, Belgium

Lay Summary: In this large cohort study, we examined predictors of falls and fractures leading to hospitalisation among people with clinically diagnosed affective disorders. We found that from our sample of 36,101 participants, 816 (incidence rate 9.91 per 1000 person-years) and 1117 (incidence rate 11.92 per 1000 person-years) experienced either a fall or fracture, respectively. Important risk factors also emerged. Targeted prevention programmes should hence be considered for this clinical group, in order to reduce hospitalization risk.

Background: Falls and fractures are strongly related to increased healthcare expenses in the general population. Several strategies have been implemented by governments to prevent falls in the general population, but data on people with affective disorders are scarce despite them reporting a poorer physical health. Hence, we aimed to examine a large representative cohort to investigate predictors of falls and fractures leading to hospitalisation among people with clinically diagnosed affective disorders.

Methods: We examined a large cohort of people with affective disorders (International Classification of Diseases- 10th version [ICD-10] codes F30–F34) diagnosed between January 2008 and March 2016, using data from the SLaM BRC Case Register. Falls and fractures leading to hospitalisation were obtained from linked national hospitalisation data. Multivariable Cox proportional hazards analyses were administrated to identify predictors of first falls and fractures.

Results: Of 36,101 people with affective disorders (mean age 44.4 years, 60.2% female), 816 (incidence rate 9.91 per 1000 person-years) and 1117 (incidence rate 11.92 per 1000 person-years) experienced either a fall or fracture, respectively. In multivariable analyses, older age, analgesic use, increased physical illness burden, previous hospital admission due to certain comorbid physical illnesses and increase in attendances to accident and emergency services following diagnosis were significant risk factors for both falls and fractures. Having a history of falls was a strong risk factor for recurrent falls, and a previous fracture was also associated with future fractures.

Conclusion: Over a mean 5 years' follow-up period, about 8% of people with affective disorders were hospitalised with a fall or fracture. Several similar factors were found to predict risk of falls and fracture, like older age, comorbid physical disorders and analgesic use. Routine screening programs for bone mineral density and fall prevention programmes should be considered for this clinical group.

OP06.05 Osteoporosis referral and treatment among people with severe mental illness: a ten-year data linkage study

Ruimin Ma[1]; Eugenia Romano[1]; Katrina Davis[1]; Robert Stewart[1]; Mark Ashworth[1]; Davy Vancampfort[2]; Fiona Gaughran[1]; Brendon Stubbs[1]; Christoph Mueller[1];

[1] King's College London, UK; [2] KU Leuven, Belgium

Lay Summary: By linking primary and secondary health record, this research investigated treatment and referral for osteoporosis in people with severe mental illness (SMI). People with SMI were more likely to be prescribed with osteoporosis medications and be referred for osteoporosis, compared to non-SMI controls. Despite these findings, this research suggests that these outcomes does not appear to be translating into reduced rate of falls and fractures among this population. More proactive strategies to treat osteoporosis at a younger age for patients with SMI are therefore encouraged.

Background: People with severe mental illness (SMI) are at increased risk of osteoporosis but minimal information is available on their treatment and referral. We investigated differences in these outcomes between patients with/without SMI in linked primary and specialist care data.

Methods: People with SMI aged 18+ at diagnosis with both primary and mental healthcare records between 1st May 2009 and 31st May 2019 from a south London catchment were matched 1:4 to randomly selected controls on gender, age and duration of primary care follow-up. Outcomes included prescription of osteoporosis medications and referrals for osteoporosis, analysed using multivariable logistic regression analyses.

Results: The study included 2,269 people with SMI and 9,069 matched non-SMI controls. People with SMI were more likely to have a recorded prescription of osteoporosis medications (OR: 3.54; 95% CI: 2.87, 4.35) and be referred for osteoporosis (OR: 1.51; 95% CI: 1.09, 2.08) within 2 years after the date of first SMI diagnosis after adjusting for ethnicity, deprivation and Charlson Comorbidity Index. Factors including older age (osteoporosis medications: OR: 1.04; 95% CI: 1.03, 1.05; osteoporosis referral: OR: 1.05; 95% CI: 1.04, 1.07) and being prescribed with Class A analgesics (osteoporosis medications: OR: 1.91; 95% CI: 1.31, 2.77; osteoporosis referral: OR: 1.77; 95% CI: 1.02, 3.07) are significant predictors for osteoporosis management

pathways within SMI patients.

Conclusion: People with SMI are more frequently prescribed medications for osteoporosis and referred to osteoporosis screening than the general population. Given the many risk factors for osteoporosis in this group, this increased rate of referrals may well be warranted, and there is need to pay more attention to this at- risk group. Screening studies are needed to determine whether the rate of referral is proportional to the need.

OP06.06 Mortality and Life-Years Lost Following Physical Comorbidity in People with Substance Use Disorders: A Retrospective Nation-wide Cohort Study

Tomas Formanek[1]; Dzmitry Krupchanka[3]; Karolina Mlada[2]; Petr Winkler[2]; Peter Jones[1]

[1] University of Cambridge, UK; [2] National Institute of Mental Health - Czechia, Czech Republic; [3] World Health Organization, Switzerland

Lay Summary: In this registry-based, retrospective nation-wide cohort study, individuals with pre- existing SUD had an elevated risk of mortality after the onset of 27 out of 29 physical health conditions: for 12 conditions, the risk was more than double. For most conditions, people with SUD lost substantially more life- years than their counterparts without SUD. Clinical vigilance for comorbidity and high-quality integrated treatment for people with SUD may by life-saving.

Background: Substance use disorders (SUD) constitute a major global public health problem attributable largely to their subsequent comorbidity with other health conditions. This study aimed to investigate relative all-cause mortality and life-years lost (LYL) following hospitalization for 29 subsequent physical comorbid conditions in people with pre-existing SUD, when compared with matched counterparts without SUD.

Methods: This was a retrospective cohort study on data from the Czech nationwide registers of all-cause hospitalizations and deaths, covering the time-period from 1994 to 2017. The study consisted of individuals with pre-existing SUD who subsequently developed one or more of 29 comorbid physical health conditions, and up to three counterparts without SUD but hospitalised for the same physical health condition and matched on sex, age (+-3 years) and discharge year at first hospitalization for that condition. All-cause mortality following the first hospitalization for each physical health condition until 2017, and LYL for disease onset at ages 30, 45, 60 years, and before the age 81 years were examined.

Results: The 29 cohorts comprised a median of 6 324 individuals (interquartile range = 10 280). After adjusting for potential confounders using Cox proportional hazards models, individuals with pre-existing SUD had an increased risk of mortality after the onset of 27 out of 29 physical health conditions, relative to their counterparts without SUD. The adjusted hazard ratios ranged from 1.25 (1.20 to 1.30) for chronic liver disease to 3.84 (1.85 to 8.01) for multiple sclerosis; for 12 health conditions, the risk of all-cause cause mortality more than double in the group with pre-existing SUD. When compared with the general population via mortality tables, people with pre-existing SUD displayed substantial LYL after the onset of most of the subsequent physical health conditions, and, for the majority of comorbidities, considerably more LYL than their counterparts without SUD.

Conclusion: Individuals with pre-existing SUD were more likely to die after the onset of most comorbid physical health conditions and, in most cases, demonstrated markedly more LYL than their counterparts without SUD. These findings strongly suggest that clinical vigilance and quality integrated treatment for people with SUD may be life-saving and should be given higher priority on the public health agenda.

OP06.07 Mortality in Major Depressive Disorders and its suptypes during an 11-year follow-up

Martin Preisig[1]; Marie-Pierre Strippoli[1]; Caroline Vandeleur[1]; Julien Vaucher[1]; Pedro Marques- Vidal[1]; Peter Vollenweider[1]

[1] Lausanne University Hospital and University of Lausanne, Switzerland

Lay Summary: The goal of our presentation was to determine the associations of MDD and its subtypes (atypical, melancholic, unspecified) and cardiovascular and all-cause mortality during an 11-year follow-up period in 4872 people recruited from the community. The 35 to 75 year-old participants of the study who accepted thorough physical and psychiatric evaluations were followed-up after 5 and 11 years. Vital status could be assessed in 98.8% of the baseline sample. During the follow-up period 181 participants had died. Those who met diagnostic criteria for MDD at the psychiatric investigation had an approximately 60% increased mortality during the follow-up period than those who did not. Among the subtypes of MDD, people with atypical MDD had the highest risk to die during the follow-up period followed by those with melancholic or unspecified MDD. In conclusion, our data support strong associations between MDD as a whole as well as each of its subtypes with elevated mortality. These associations, which were not restricted to cardiovascular death, considerably varied across subtypes of MDD and may be largest for the atypical subtype.

Background: Despite significant heterogeneity of risk estimates across studies, empirical evidence supports associations of

major depressive disorder (MDD) with cardiovascular and all-cause mortality. Recent studies have also revealed that mainly the atypical MDD subtype is associated with cardio-vascular risk factors. However, up to this day there are hardly any data on specific associations of MDD subtypes with cardiovascular and all-cause mortality. Accordingly, our goals were to determine the associations of MDD and its subtypes (atypical, melancholic, unspecified) and cardiovascular and all-cause mortality during an 11-year follow-up period in a population-based cohort.

Methods: Data stemmed from CoLaus|PsyCoLaus a prospective cohort study that followed-up 35 to 75 year-old randomly selected residents of an urban area in Switzerland. A total of 4872 participants (53.5% women) accepted at least one thorough physical and a psychiatric evaluation including a semi-structured diagnostic interview. They were followed-up after 5 and 11 years. Vital status at follow-up could be assessed in 98.8% of the baseline sample.

Results: During the follow-up period 181 participants had died. A lifetime history of MDD was significantly associated with elevated mortality (HR: 1.64, p<.05). Among the MDD subtypes, atypical MDD revealed the strongest association with mortality (HR: 2.54, p<.01), followed by melancholic (HR: 1.63, n.s.) and unspecified MDD (HR: 1.62, p<.05). Although the associations of MDD and the atypical and melancholic subtypes with cardiovascular mortality were larger in size than those with non-cardiovascular mortality, they failed to reach the level of statistical significance due to the still relatively rare occurrence of these events.

Conclusion: Our data support strong associations between MDD as a whole as well as each of its subtypes with elevated mortality. These associations, which were not restricted to cardiovascular death, considerably varied across subtypes of MDD and may be largest for the atypical subtype.

OP07 The epidemiology of comorbid mental & physical health
Fri 9 Sep, 14:30 – 16:15
Lecture Room 1
Chair: Helen Lockett, Equally Well, New Zealand

OP07.01 Trends in association between physical illnesses and common mental disorders: Analysis of four nationally representative surveys in England

Gayan Perera[1]; Siobhan D'Almeida[1]; Danuka Tennakoon[1]; Robert Stewart[1]

[1] King's College London, UK

Lay Summary: We analysed four national survey data from Adult Psychiatric Morbidity Survey (APMS) to investigate trends in the association between physical illness and common mental disorders (CMD). We found a Stronger association between physical illnesses and CMD among the youngest and oldest working- age cohorts during four surveys from 1993 to 2014. Therefore, health professionals must work with establishments including employers and educational settings to ensure people with physical illnesses are supported well to prevent them from getting common mental disorders.

Background: There is strong evidence for an association between physical illness and mental health. However, the association between physical illness and mental health remains unclear in different years, different birth cohorts, and various age groups.

Methods: Data were analysed from the British National Surveys of Psychiatric Morbidity of 1993, 2000, 2007 and 2014. Serious illness mentioned 6 months before the survey was the primary exposure of interest and common mental disorder (CMD) the primary outcome – both ascertained identically in all four surveys (CMD from the revised Clinical Interview Schedule). multivariable logistic regression models were used to investigate associations.

Results: 24,324 respondents between the ages 16 to 64 were included in the 4 surveys. After adjusting for sociodemographic factors, strongest and weakest association between serious illness and CMD was observed in 2007 (OR: 4.02; 95% CI: 2.42, 6.66, p-value: <0.001) and 1993 respectively (OR: 2.73; 95% CI: 1.689, 4.43, p-value: <0.001). The oldest working age, 55- 64 year-olds, had the strongest association between serious illness and CMD in the 1993 and 2000 surveys while 16- 24 year-olds had the strongest associations in the 2007 and 2014 surveys. In terms of birth cohorts, respondents born in the 10 year period between 1940- 49, had the strongest association between serious illness and CMD (OR: 4.58; 95% CI: 2.92, 7.18), p-value: <0.001) and respondents born before 1939 had the weakest associations (OR: 2.74; 95% CI: 1.82, 4.11, p-value: <0.001).

Conclusion: A stronger association between physical illnesses and CMD was observed among the youngest and oldest working-age cohorts during four surveys from 1993 to 2014. Therefore, health professionals must work with establishments including employers and educational settings to ensure people with physical illnesses are supported well to prevent them from getting common mental disorders.

OP07.02 Service user experiences of respect and discrimination in physical health care: results from an online survey

Ruth Cunningham[1]; Debbie Peterson[1]; **Helen Lockett**[2]; Cameron Lacey[1]

[1] University of Otago, New Zealand; [2] Equally Well, New Zealand

Lay Summary: This paper presents results from an online survey of experiences of physical health care by people with mental health or addiction issues. We conducted an online survey with 354 responses from people who had recently been seeing mental health or addiction services, including 58 who identified as Māori. They described their good and bad experiences of health care, including feeling discriminated against for mental health and other reasons and not being treated with respect. Overall Māori participants described worse health care experiences. Hearing directly from people with lived experience helps doctors, services and policy makers find better ways to provide care.

Background: Health care quality is an important factor in unequal physical health outcomes for people with experience of mental illness and addiction. Understanding the health care experiences, both good and bad, of people with mental health and addiction issues, is important for shedding light on how differences in physical health care quality can be addressed. This study is part of a larger project which draws on national linked health data, together with narratives of service user experience, to identify points of intervention within the health care system to improve physical health care quality.

Methods: An online survey was developed by a multidisciplinary research team, led by a researcher with lived experience. The survey was disseminated through peer and service networks and social media throughout New Zealand. Participation for anyone over 18 who had used a mental health or addiction service in the past five years. The survey was disseminated through peer and service networks and via social media. The survey asked both closed ended and open ended questions

about experiences of health care for physical health problems in different settings (general practice, emergency department, hospital, pharmacy). Descriptive analysis was performed of quantitative results, comparing Māori and non-Māori participants. Thematic analysis is currently underway on free text responses using health care quality and discrimination frameworks.

Results: 408 people responded to the survey, of whom 358 provided sufficient data to be included in the analyses. Survey respondents had a wide range of mental health diagnoses, types of provider seen, and lengths of time receiving mental health addiction services. Initial analysis indicates that survey respondents reported lower levels of respect and feeling listened to by emergency department and hospital staff than by general practitioners and pharmacists. Māori participants reported higher levels of unfair treatment due to mental health and addiction issues, and higher levels of mental health and addiction issues distracting from physical health issues. Many participants reported multiple axes of unfair treatment, including age, gender, sexual orientation and ethnicity. Further analysis of free text responses including narratives provided by participants will also be presented.

Conclusion: Unfair treatment from physical health care providers is common, both due to mental health and addiction issues and due to other factors. Overall Māori participants report more overshadowing of physical health concerns and unfair treatment. Narratives of health care experience, including experiences from people from more disadvantaged ethnic groups, provide a powerful tool for understanding and addressing health care barriers to better health outcomes for people with experience of mental health and addiction issues.

OP07.03   Obesity as pleiotropic risk state for mental health throughout life

Alexander Kautzky[1]; Elma Dervic[1]; Peter Klimek[1]; Stefan Thurner[1]; Michael Leutner[1]
[1] Medical University of Vienna, Austria

Lay Summary: Obese inpatients showed increased risk for psychiatric disorders such as depression and anxiety, that were more common in women, and psychosis spectrum disorders and nicotine addiction, that were more common in men, compared to inpatients treated for other diagnosis. The risk for psychiatric comorbidity was highest in young patients and often occurred within a couple of years after being diagnosed with obesity. Consequently, metal health problems must be timely considered in obese patients in a sex and age specific manner to allow adequate support.

Background: Obesity, a highly prevalent disorder and central diagnosis of the metabolic syndrome, is linked to mental health by clinical observations and biological pathways. Patients with a diagnosis of obesity may show long-lasting increases in risk for receiving psychiatric co diagnoses.

Methods: Austria national registry data covering inpatient services for approximately 9 million patients were analyzed. Patients with hospital stays between 1997 and 2002 were excluded to establish a comparable baseline health status for associations regarding diagnostic patterns between 2002 and 2014. Links between a hospital diagnosis of obesity (ICD-10: E66) and disorders grouped by level 3 ICD-10 codes were investigated stratified by decadic age groups, with a special focus on the F chapter for psychiatric diagnosis. Associations between obesity and all other diagnoses were tested for significance with the Cochran-Mantel-Haenszel method, providing odds ratios (OR) and p-values corrected for multiple testing. Subsequently, data were split by sex to test for gender-specific effects. Additionally, the direction of each association was calculated by time-order- ratios to establish which diagnosis commonly precedes the other.

Results: Hospital stays of 3 million patients without a diagnosis of obesity (1,510,543 female, mean age44.41 ± 18.2 years) could be compared to 163,185 patients with obesity (82,846 female, mean age 53.11 ± 16.59 years). Across the whole range of ICD-10 diagnoses, associations were most densely concentrated in the F chapter in age groups up to 30 years. Next to well-known other disorders of the metabolic syndrome such as diabetes mellitus type 2, dyslipidemia, hypertension and coronary artery disease, comorbidity rates were highest for psychiatric disorders. Patients with a diagnosis of obesity showed increased odds across all age groups for depression, psychosis spectrum, anxiety, eating and personality disorders (all $p<0.01$, all OR > 1.5; corrected for multiple testing). Associations were dependent on sex, with females showing increased risk (ORs 1.4 - 4) compared to males for all associated psychiatric disorders except schizophrenia and nicotine addiction. Regarding time patterns, for all psychiatric co-diagnoses except psychosis spectrum disorders F20 and F25, obesity was significantly more often the diagnosis received first and mostly manifested within a time of three years.

Conclusion: In addition to the well-recognized role in promoting disorders of the metabolic syndrome and severe cardiometabolic sequalae, obesity commonly precedes severe mental health disorders. Risk is most pronounced in young age groups and particularly increased in female patients. Consequently, thorough screening for mental health problems in obese patients is urgently called for to allow prevention and facilitate adequate treatment.

OP07.04   Young people's mental health treatment in the community: the relationship with transdiagnostic distress and social functioning over two years

Sharon Neufeld[1]; Paul Wilkinson[1]; Ian Goodyer[1]; Peter Jones[1]

[1] University of Cambridge, UK

Lay Summary: In a community sample of young people, we looked at whether those with mental health treatment had less distress over two years than those who did not access services, and whether improvements in family and friendship support helped explain the improvements in distress. We found that adolescents and young adults who reported using mental health treatment experienced less distress over two years, and treatment appeared to improve family support in adolescents by decreasing their distress. Our results show how important it is for young people with mental health problems to access services; adolescents may show broader benefits than just improved mental health.

Background: Previously we have shown that adolescent mental health service contact is related to a reduction in subsequent depression three years later (Neufeld et al, 2017). Crucially, this community sample allowed for a non-service using comparison group and adjusted for participants' initial likelihood to access services using propensity weighting. However, it is unknown whether these effects extend beyond depression to transdiagnostic distress, or whether effects persist after Child and Adolescent Mental Health Services (CAMHS) terminate. Further, there remain questions as to what mechanisms may drive the apparent effects of mental health services; improved social support is an important candidate.

Methods: In 2,403 young people, we determined whether self-reported mental health treatment was associated with reduced transdiagnostic distress over two years in adolescents (ages 14-18) and emerging adults (ages 19-24). Transdiagnostic distress was based on the general factor from a bifactor model of self-reported depressive, anxiety, antisocial, and psychotic-like symptoms, and obsessions, compulsions, and well-being. Propensity weighting adjusted for participants' initial likelihood to access services, based on background factors, and baseline distress, social environment, and harmful behaviours. To explore mechanisms of treatment effectiveness, we assessed whether perceived family functioning and friendships mediate this process using latent growth curve analysis. Unclear direction of effects in the literature supported exploring alternate models.

Results: 4.7% of adolescents and 8.8% of emerging adults self-reported current treatment for any mental health problem at baseline. In both groups, treatment was significantly related to decreased transdiagnostic distress over two years, following propensity-weighting and adjustment for subsequent treatment. Of the potential mediators, treatment was only related to improvements in adolescent family functioning. Model comparison indicated that distress significantly mediated effects of treatment on family functioning in adolescents.

Conclusion: While transitioning into adult services may interrupt young people's mental health treatment, here adolescents reported less access to care than emerging adults. However, findings imply that for distressed young people who do access treatment, adult mental health services may be as effective as CAMHS in improving mental health. Treatment appears to improve perceived family functioning in adolescents by decreasing their distress. Thus, for adolescents who access services, the positive benefit of mental health treatment may be more holistic than improved symptoms alone. Findings highlight the ongoing need of increased access to mental health services.

OP07.05   Psychiatric comorbidities in epilepsy: population co-occurrence, genetic correlations and causal effects

Viktor Ahlqvist[1]; Christina Dardani[2]; Paul Madley-Dowd[2]; Harriet Forbes[2]; Jessica Rast[3]; Caichen Zhong[3]; Renee Gardner[1]; Christina Dalman[1]; Kristen Lyall[3]; Craig Newschaffer[4]; Torbjörn Tomson[1]; Michael Lundberg[1]; Daniel Berglind[1]; Neil M. Davies[2]; Brian K. Lee[3]; Cecilia Magnusson[1]; Dheeraj Rai[2]

[1] Karolinska Institutet, Sweden; [2] University of Bristol, UK; [3] Drexel University, United States; [4] Pennsylvania State University, United States

Lay Summary: We examined to what extent people with epilepsy are diagnosed with psychiatric conditions, and what might explain the high rate of psychiatric diagnoses in people with epilepsy. We found that half of all Swedes with epilepsy have a psychiatric diagnosis and that a likely explanation for this is environmental factors. Understanding why people with epilepsy are more often diagnosed with psychiatric conditions is central if we are to address the global burden of epilepsy, with our results highlighting the need for future research into environmental causes of this burden.

Background: Psychiatric comorbidities are common in epilepsy, with a substantial impact on the life of people with epilepsy. The reasons for such comorbidities are largely unknown.

Methods: We employed a series of methodological approaches to address this knowledge gap. First, using nationwide Swedish health registries we quantified the lifetime prevalence of psychiatric conditions among people with epilepsy. Second, we investigated whether identified observational associations can be attributed to a shared underlying genetic

aetiology using cross-trait linkage disequilibrium score regression. Third, we assessed potential bidirectional causal relationships by using two-sample Mendelian randomization.

Results: There were substantial psychiatric comorbidities among individuals with epilepsy (Adjusted lifetime prevalence [%] 44·1; 95% CI: 43·8 to 44·4). People with epilepsy were more likely than those without epilepsy to be diagnosed with a wide range of neurodevelopmental and psychiatric conditions. In line with such co-occurrence, we found evidence of genetic correlations between epilepsy and certain neurodevelopmental and psychiatric conditions. For example, we observed a genetic correlation between epilepsy and attention- deficit/hyperactivity disorder (rg: 0·27; 95% CI: 0·13 to 0·40, p=8·96×10^−5) – a correlation that was more pronounced in focal epilepsy (rg: 0·48; 95% CI: 0·17 to 0·79, p=2·56×10^−3). However, there was only a modest genetic correlation between epilepsy and a majority of the considered psychiatric conditions – contrary to what one would expect if population co-occurrence was due to a shared genetic origin of psychiatric conditions and epilepsy. Despite evidence of an underlying genetic correlation between some psychiatric conditions and epilepsy, there was limited evidence to suggest bidirectional causal relationships between epilepsy and neurodevelopmental and psychiatric conditions.

Conclusion: Our findings confirm that individuals with epilepsy have a tremendous burden of psychiatric morbidity and that there exist important genetic correlations between epilepsy and different psychiatric comorbidities, in particular for attention-deficit/hyperactivity disorder. Furthermore, our findings are inconsistent with a causal effect of epilepsy on psychiatric conditions and psychiatric conditions on epilepsy.

Therefore, in the absence of causal effects in either direction and widespread genetic correlations, our findings suggest that there might be an environmental origin for the psychiatric comorbidity in epilepsy.

OP07.06 Subsequent Psychiatric Hospitalizations in People with Pre-existing Rheumatic Diseases: A National Registry-based Retrospective Cohort Study

Karolina Mlada[2]; Tomas Formanek[1]; Marketa Husakova[3]; Pavel Mohr[2]

[1] University of Cambridge, UK; [2] National Institute of Mental Health - Czechia, Czech Republic; [3] Institute of Rheumatology, Czech Republic

Lay Summary: Using data from the Czech nation-wide health registers of all-cause hospitalizations and deaths, the present study examined the risk of subsequent hospitalization for specific mental disorders in individuals with pre-existing rheumatic diseases, when compared with matched counterparts. It showed that the individuals with rheumatic diseases have markedly higher risk of subsequent hospitalization for anxiety disorders. These results imply a need to address the specific mental health needs of people with rheumatic diseases.

Background: The link between rheumatic and psychiatric diseases is supported by evidence from registers of patients with rheumatic diseases; however, studies based on nation-wide health registers and utilizing matched designs are scarce. This study used data from the Czech nation-wide health registers to investigate the risk of subsequent hospitalizations for specific mental disorders in people with rheumatic diseases, compared with matched counterparts without rheumatic diseases.

Methods: This national retrospective cohort study used data from the Czech registers of all-cause hospitalizations and deaths, covering the time-period from 1994 to 2017. Individuals hospitalized for rheumatic diseases in the time-period from 1999 to 2011 (index hospitalization) were exactly matched with five counterparts without rheumatic diseases on age, sex, month and year at the index hospitalization: individuals with a history of psychiatric hospitalization, established separately per specific mental disorders (ICD-10 codes F0x, F1x, F2x, F3x, F4x, F5x and F6x), five years prior to the index hospitalization were excluded. Cox proportional hazards models were used to assess the risk of psychiatric hospitalization arising in the period of five years from the index hospitalization, specifically for each mental disorder. The occurrence of death was accounted for in the models.

Results: The overall number of individuals per cohorts for specific F-diagnoses ranged from 146,460 to 147,474 (one to five exposed to unexposed ratio). After adjusting for age, sex and year at the index hospitalization, people with rheumatic diseases had a 1.41 times higher risk of hospitalization for subsequent anxiety disorders (1.21 to 1.64), when compared with counterparts without rheumatic diseases. Conversely, individuals with rheumatic diseases exhibited a decreased risk for hospitalization for subsequent substance use disorders (0.64; 0.52 to 0.78). The 95% confidence interval was consistent with a 5% lower to a 25% higher risk for subsequent organic disorders, 35% lower to 25% higher risk for subsequent psychotic disorders, 10% lower and 41% higher risk for affective disorders, 40% lower to 360% higher risk for subsequent behavioral syndromes, and 13% lower and 80% higher risk for subsequent personality disorders in people with rheumatic diseases.

Conclusion: People with rheumatic diseases have markedly higher risk of subsequent hospitalization for anxiety disorders than their counterparts without rheumatic diseases. Addressing the specific mental health needs of individuals with rheumatic diseases is warranted.

OP07.07   Killing pain? A 15-year population-based registry study of the use of prescription analgesics, anxiolytics and hypnotics among young people in Norway

Helle Stangeland[2]; Marte Handal[1]; Svetlana Skurtveit[1]; Helene Aakvaag[2]; Grete Dyb[2]; Tore Wentzel-Larsen[2]; Monica Baumann-Larsen[3]; John Anker Zwart[3]; Kjersti Storheim[3]; Synne Stensland[2]

[1] Norwegian Institute of Public Health, Norway; [2] Norwegian Centre for Violence and Traumatic Stress, Norway; [3] Oslo University Hospital, Norway

Lay Summary: We studied trends in use of prescription medication for pain, anxiety and sleep problems in all children, adolescents and young adults in Norway over the last 15 years. We found that from age 15 young people use more painkillers and addictive medications with increasing age, and that the use of painkillers and less addictive sleep aids (melatonin) has increased over time. This is important because the results suggest that young people are using more medications for their pain, anxiety and sleep problems than they used to, and because frequent use of these medications can lead to negative health consequences, including addiction and misuse.

Background: The ongoing opioid epidemic has been a global concern for years, increasingly due to its heavy toll on young people's lives and prospects. Few studies have investigated trends in use of the wider range of potentially addictive drugs prescribed to alleviate pain, psychological distress and insomnia in children, adolescents and young adults.

Methods: Our aim was to study dispensation as a proxy for use of prescription analgesics, anxiolytics and hypnotics across age groups (0-29 years) and sex over the last 15 years in a large, representative general population. The study used data from a nationwide prescription database (NorPD), which included information on all drugs dispensed from any pharmacy in Norway from 2004 through 2019.

Results: Age-specific trends revealed that the prevalence of use among children and adolescents up to age 14 was consistently low, with the exception of a substantial increase in use of melatonin from age 5. From age 15-29, adolescents and young adults used more prescription drugs with increasing age at all time points, especially analgesics and more addictive drugs. Time trends also revealed that children from age 5 were increasingly dispensed melatonin over time, while adolescents from age 15 were increasingly dispensed analgesics, including opioids, gabapentinoids and paracetamol. In contrast, use of benzodiazepines and z-hypnotics slightly declined among young adults over time. Although trends were similar for both sexes, females used more prescription drugs than their male peers overall.

Conclusion: The upsurge in use of prescription analgesics, anxiolytics and hypnotics among young people is alarming. Public health interventions and a proactive approach across research and clinical practice are needed to better understand the etiological mechanisms driving the increase in prescription drug use.

OP08 Children & young people's mental health: from social determinants to intervention
Fri 9 Sep, 14:30 – 16:15
Lecture Room 2
Chair: Anna-Clara Hollander, Karolinska Institutet, Sweden

OP08.01   Adverse childhood experiences and the impact on child mental health: A secondary data analysis using the UK Millennium Cohort Study

Kate Allen[1]; G.J. Melendez-Torres[1]; Tamsin Ford[2]; Chris Bonell[3]; Vashti Berry[1]

[1] University of Exeter, UK; [2] University of Cambridge, UK; [3] London School of Hygiene and Tropical Medicine, UK

Lay Summary: We looked at how three types of negative childhood experiences interact and group together, the characteristics of these groups, and how these groupings might affect child mental health from
3-17 years of age. We found that parental domestic violence and abuse, mental ill-health, and substance misuse group together, that families experiencing this tended to be White, young parents from low socioeconomic backgrounds, and that these experiences were related to worse child mental health. Our findings suggest it's important to work with families to prevent/reduce these three harmful experiences early on in a child's life and this should involve working with whole families as well as working to reduce poverty.

Background: Parental domestic violence and abuse (DVA), mental ill-health (MH), and substance misuse (SU) are three adverse childhood experiences (ACEs) that can have a negative impact on parents and children. However, little is known about if and how these three ACEs interact during sensitive periods of child development and the multiplicative impacts this might have on child outcomes. We aimed to examine how parental DVA, MH, and SU cluster during early childhood, the demographic and contextual profiles of these clusters, and how these clusters might relate to child trajectories of MH.

Methods: We used data from the Millennium Cohort Study (MCS); a nationally representative cohort which follows the lives of ~19,000 UK children born between 2000-2002. MCS collect data in seven sweeps including when the cohort child was: 1) 9-months-old; 2) 3-years-old; 3) 5-years-old; 4) 7-years-old; 5) 11- years-old; 6) 14-years-old; and 7) 17-years-old. We conducted our analysis in three stages: 1) we used latent class analysis to create latent classes of parental DVA, MH, alcohol use, and drug use using data measured at age 3; 2) we used latent growth curve modelling to create latent trajectories of child MH using parent-reported strengths and difficulties questionnaire total difficulties scores measured at ages 3-17; and 3) we used a case- weight approach to relate latent classes of parental DVA, MH, and SU to child MH trajectories, using Wald chi- squared to test for differences between latent-class-specific child MH trajectories.

Results: We identified three latent classes of DVA, MH, and SU at child age 3: high-frequency alcohol use (11·9%), multiple adversity (3·5%), and low-level adversity (84·6%). Each class was related to distinct demographic and contextual profiles; the multiple adversity class had higher conditional probabilities of being White, young parents, from low-socioeconomic backgrounds. Children exposed to multiple adversity displayed worse MH at age 3 (intercept = 2·274; p<0·001) as compared to the low-level adversity (intercept = 2·228; p<0·001) and high-frequency alcohol use class (intercept = 2·068; p<0·001). However, latent growth factors (i.e., linear and quadratic terms) of child MH trajectories did not differ by latent class and there was significant variability in the intercept and growth terms for each latent class.

Conclusion: Parental DVA, MH, and SU cluster during a sensitive period of child development in a large general population UK cohort. Experiencing this cluster was associated with worse child MH at age 3, resulting in worse MH across time. Intervening early in child development and taking a syndemic approach to addressing these clustered-issues is essential.

OP08.02   The socio-economic gradient in adolescent mental health: findings from 72 countries

Thomas Steare[1]; Esme Elsden[1]; David Bann[1]; Praveetha Patalay[1]

[1] University College London, UK

Lay Summary: We analysed data from a cross-national survey to investigate whether household wealth is universally associated with adolescent mental health across different countries, and to identify what country- level factors might explain any differences in the association. We expect to find that adolescent mental health is more strongly linked to their household wealth in rich countries with high levels of income inequality. The findings could help us understand how living in a household with low levels of wealth might impact adolescent mental health.

Background: The socio-economic gradient of mental health refers to the higher rates of mental health problems seen in people with lower levels of occupational status, education, wealth, and income. Often assumed to be universal, this

relationship could differ across countries and settings. I will present analyses investigating whether the association between household wealth and adolescent mental health is universal across countries, and what country-level factors may be associated with the steepness of a socio-economic gradient. Understanding what country-level factors such as inequality and country wealth are linked to the steepness of a country's socio-economic gradient could help us understand how policies and wider socio-economic context influence inequalities within a country.

Methods: Data was drawn from the 2018 Programme for International Student Assessment (PISA) study: a cross-sectional survey that features over 500,000 15-year-old students across different countries and regions. The PISA dataset features measures on wealth, measured through the assessment of household possessions, and four mental health outcomes that were assessed in 72 of the participating countries: psychological distress, hedonia, life satisfaction, and eudemonia. The Slope Index of Inequality will be calculated for each country and mental health outcome to identify the relative degree of a country's mental health inequality according to adolescents' household wealth. Mixed-effects liner regression will be used to investigate the relationship between countries' socio-economic gradient and country-level factors, including income inequality and Gross Domestic Product per capita.

Results: Initial analyses highlight differences between countries in the extent of the socioeconomic gradient observed. Ongoing analyses to investigate the role of country level factors such as wealth and inequality are being conducted and will be presented.

Conclusion: There are implications for research and policy of these observed differences in the direction and extent of the socioeconomic gradient in mental health outcomes across countries; these will be discussed.

OP08.03 Child Behavioral Inhibition and Family Environment: Results from The ABCD Study

Lara Abou Ammar[1]; Stephen McCall[1]; Rawan Hammoud[1]; Wael Shamseddeen[1]; Martine El Bejjani[1]

[1] American University of Beirut, Lebanon

Lay Summary: In this study we assessed the association between family conflict as reported by children and their parents with child behavioral inhibition, in addition to examining whether the agreement between the child and parent assessment of family conflict is associated with BI. The results showed that child- reported family conflict is associated with BI; the greater the conflict perceived by the child, the more inhibited he/she tends to be, whereas parent-reported family conflict was associated with lower BI on the highest level of conflict. We have also found that agreement between parent and child in their evaluation of family conflict is linked with lower child BI scores. Our findings show the important effect of family conflict on the development of child behavioral inhibition, and provides a new way of intervention focusing on the agreement between the child and the parent in their evaluation of family conflict.

Background: Behavioral Inhibition (BI) refers to the child's fearful and heightened behavioral reaction to unfamiliar people, objects, contexts, or challenging situations. Behavioral inhibition is a major risk factor for anxiety disorders, specifically social anxiety disorder, which is one of the most prevalent anxiety disorders among youths. Prior research suggests that family environment and early social experiences influence BI. Moreover, studies have shown that BI doesn't persist in all children, motivating the identification of social environment factors that can shape or modify BI. This study aims to (1) examine the association of each child- reported family conflict and parent-reported family conflict with BI. (2) Assess whether the agreement between children- and parent-reported family conflict is associated with child BI.

Methods: Data come from the first release of the Adolescents Brain Cognitive Development (ABCD) Study, a study conducted in the USA on child behavioral and cognitive development. Our analytical sample included 11,168 children aged 9-10 from the ABCD baseline sample, after adopting a complete observation approach. Child behavioral inhibition was measured using the PhenX child version of the Behavioral Inhibition/ Behavioral Activation Scale while family conflict was measured using the 9-item Family Conflict subscale of the Moos Family Environment Scale (FES). We estimated the association of family conflict measure with BI using linear multilevel mixed models accounting for clustering within family, and adjusted for sociodemographic and household composition factors and the presence of parental psychopathologies. Associations of child-reported conflict and parent-reported conflict with BI were examined separately, then mutually adjusted for each other. We also examined association of parent-child conflict score agreement with BI.

Results: Child perceptions of family conflict were associated with BI, with higher levels of child-reported conflict associated with higher BI scores, whereas for parent-reported conflict, only the highest level (7-9) of parent-reported conflict was negatively associated with BI. There was a 65.5% agreement between parents and children in their evaluation of family conflict, especially in the scores ranging between 1 to 3. The agreement between child and parent perceptions of family conflict was associated with lower BI scores.

Conclusion: Our results support the links between family environment and BI and suggest that child and parent-reported assessments of family conflict might be capturing different information, highlighting the need for integrating information from both when assessing elements of the family environment, which are key contributors to child development. A better

understanding of the convergence and differences in parent- and child- perceived family conflict and their predictors is needed and can have important implications for research and interventions.

OP08.04   Informal help-seeking for mental health concerns in the Mental Health of Children and Young People in England 2017 survey

Frances Mathews[1]; Tamsin Newlove-Delgado[1]; Tamsin Ford[2];
[1] University of Exeter, UK; [2] University of Cambridge, UK

Lay Summary: We used a large sample of children, young people and parents to examine levels of help- seeking for mental health concerns from 'informal' sources, which included friends and family, internet and telephone helplines, and self-help groups. We found that young people were more likely to seek help and advice for a mental health concern from 'informal' sources than the parents of younger children, those from white ethnic backgrounds also had higher levels of informal help seeking. This is important, as contact with 'informal' sources can provide support for mental health concerns, as well as playing a role in encouraging people to approach 'formal' services.

Background: The majority of children with mental health diagnoses are not in contact with specialist sources of help. 'Informal' sources can play an important role in mental health support for children, young people and families as well as acting as a precursor to formal help-seeking. However, less is known about the characteristics of those using these sources and the relationship between informal and formal help. Using a population probability sample from England, the first part of this study aimed to examine help-seeking or advice for mental health concerns from a range of 'informal' sources including peers, friends and family, the internet / social media and self-help organisations. (The second part of our study involves comparison with a follow-up of the same sample during Covid-19, which we will present if these data are available (due August 2022)).

Methods: Using data from 7,608 parents of children aged 5-16 and young people aged 17-19 who participated in the NHS Digital Mental Health of Children and Young People in England (MHCYP) 2017 survey, we described contact with informal help for mental health concerns as defined above. We examined contact by age, gender and ethnicity, and by DSM-IV diagnosis, as determined by the validated Development and Wellbeing Assessment. Design and non-response weights were applied to adjust for selection probabilities and non-response bias

Results: [PROVISIONAL RESULTS] Young people aged 17-19 years reported the highest levels of informal help-seeking (40.3%; 95% CI: 37.0-43.6) compared to parents of 5-10 year olds (13.0%; 95% CI: 11.9-14.2) and 11-16 year olds (12.9%; 95% CI: 11.7-14.1). Young people aged 17-19 with a disorder had the highest levels of reported informal help seeking (59.8%; 95% CI: 52.0-67.1). Differences in gender were only apparent for young people; 35.3%(95% CI: 31.0-40.0) of young men reported informal help-seeking compared to 45.6% of young women (95% CI: 40.7-50.3). Participants of White British background were considerably more likely to seek informal help (44.4%; 95% CI: 41.2-47.7%) than those of Black/African/Caribbean/Black British descent (21.4%; 95% CI: 8.2-45.3).

Conclusion: Our findings suggest that informal help-seeking for mental health concerns is patterned by age, gender and ethnicity, and may imply that some groups are less likely to receive support, advice and signposting to formal help, potentially perpetuating inequalities. Social restrictions imposed during Covid- 19 are likely to have further altered patterns of help seeking. A better understanding of this area can help to facilitate pathways to professional help for those that need it, and to target and support groups which may be under-served by 'formal' services.

OP08.05   Are socioeconomic differences in utilisation of mental health care among Swedish adolescents explained by differences in mental health status?

Joseph Muwonge[1]; Christina Dalman[1]; **Anna-Clara Hollander**[1]
[1] Karolinska Institutet, Sweden

Lay Summary: We studied if differences in mental health status could explain the socioeconomic differences in the use of mental health services among Swedish adolescents. We found that adolescents from a less affluent background with no or mild symptoms of poor mental health were more likely to access any type of mental health care than their peers of a more affluent background, but this was neither the case for boys with severe symptoms nor for girls with moderate to severe symptoms. Girls from a less affluent background had fewer visits to outpatient care compared to girls from a more affluent background even in the group who had self-reported severe symptoms. The barriers to mental health care among girls from low-income households warrant further attention.

Background: Current evidence on inequalities in mental health care utilisation among adolescents is limited, since only a few studies have simultaneously investigated both the need for and the utilisation of care. The aim of this study is to investigate socioeconomic differences in utilisation of mental health care by Swedish adolescents when accounting for

differences in their mental health status.

Methods: We analysed a cohort of 3,517 students aged 13-14 years in 7th grade who were followed up in 8th and 9th grade. Socioeconomic status included parents' highest attained educational level dichotomised into parents with and without tertiary education and equivalised disposable household income categorised into tertiles. Mental health care use was measured as recorded visits to outpatient and inpatient specialist care and/or claimed psychotropic medication during 7th to 9th grade. Mental health status was measured using self-rated, and parent-rated Strengths and Difficulties Questionnaire at each grade. We performed a main and moderated 1) multilevel logistic regression analysis to predict at least one visit (access) in 7th to 9th grade, and 2) multilevel negative binomial regression to predict number of outpatient visits among adolescents in contact with mental healthcare services. Models were stratified by sex and adjusted for calendar year, region of residence and parental country of birth.

Results: Compared to other boys, boys in lower socioeconomic status were more likely to access any type of mental health care i.e., adjusted odds ratio (aOR) = 1.83 (95% confidence interval, 1.29 to 2.59) for boys in the lowest vs highest income tertile, and aOR: =1.47 (1.02 to 2.12) for no tertiary vs tertiary parental education. When accounting for the moderation of mental health status, lower socioeconomic status was still associated with a higher likelihood of access to care among adolescents with no/mild symptoms but not among boys with severe symptoms or girls with moderate to severe symptoms. We found similar results when we separately studied access to specialist care and care for neuropsychiatric disorders. Compared to their peers in contact with care, boys to parents without tertiary education and girls in low-income households had fewer outpatient visits i.e., adjusted incidence rate ratio, aIRR: 0.77 (95% CI: 0.60 to 0.98) for boys and respectively aIRR: 0.58 (0.41 to 0.83) for girls. The significant underutilisation among girls of lower socioeconomic status remained even within the group with (self-reported) severe symptoms.

Conclusion: There are socioeconomic differences in use of mental health care by Swedish adolescents when accounting for their mental health status, however they vary by sex of child and extent of utilisation. Lower socioeconomic status is associated with increased access to mental health care among adolescents but only for those with no or mild symptoms. Among girls in contact with care, lower income is associated with underutilisation of outpatient specialist care even for groups with severe symptoms. The barriers to mental health care among girls from low-income households warrant further attention.

OP08.06   Neighbourhood characteristics and the treated incidence rate of borderline personality pathology in a specialist service for young people

Brian O'Donoghue[1]; Chantal Michel[2]; Katherine Thompson[3]; Marialuisa Cavelti[2]; Scott Eaton[3]; Jennifer Betts[3]; Claire Fowler[3]; Stefan Luebbers[4]; Michael Kaess[5]; Andrew Chanen[3]

[1] St Vincents University Hospital, Ireland; [2] University of Bern, Switzerland; [3] Orygen, Australia; [4] Swinburne University of Technology, Australia; [5] University of Heidelberg, Germany

Lay Summary: Borderline personality can have a severely negative impact upon a young persons life and affect their relationships, education and employment. However, little is known about the impact of the wider social environment on this disorder. We found that young people affected by borderline personality pathology attending a specialist service were more likely to come from socially deprived and fragmented neighbourhoods. These findings have implications for where services should be located and how they should be resourced.

Background: The impact of the wider social environment on the development of mental health disorders has been researched considerably in specific disorders, however it has yet to be examined in borderline personality disorder (BPD). This study aimed to determine whether the treated incidence rate of borderline personality pathology (BPP) is associated with neighbourhood characteristics, specifically social deprivation and social fragmentation. The associations will be examined for those with full threshold BPD and those with sub-threshold BPD.

Methods: This study included young people aged 15 to 24 who attended the Helping Young People Early (HYPE) clinic between August 2000 and February 2008, a specialist early intervention service for young people with emerging (sub-threshold) or full threshold BPD. The service covers a defined catchment area of over a total of 1 million residents in western and northwestern metropolitan Melbourne, Australia. Diagnoses were confirmed using the Structured Clinical Interview for DSM-IV Personality Disorders and census data from 2006 was used to determine the at-risk population and to obtain measures of social deprivation and fragmentation.

Results: 282 young people were included and of these, 78.0% (n=220) were female and the mean age was 18.3 years (SD±2.7). A total of 42.9% (n=121) met criteria for full threshold BPD and 57.1% (n=161) had sub- threshold BPD. There was over a sixfold increase in the treated incidence rate of BPP in the neighbourhoods of above average deprivation (quartile 3) (incidence rate ratio (IRR)=6.45; 95% CI: 4.62-8.98, p<0.001) and this was consistent in the sub-groups. This association was also present in the most socially deprived neighbourhood (quartile 4: IRR: 1.63; 95% CI: 1.10-2.44), however only for those with sub-threshold BPD. The treated incidence of BPP increased incrementally with the level of social fragmentation (quartile

3: IRR: 1.93; 95% CI: 1.37-2.72, quartile 4: IRR: 2.38; 95% CI: 1.77-3.21).

Conclusion: BPP has a higher incidence in the most socially deprived and socially fragmented neighbourhoods. These findings have implications for both service delivery and also potentially understanding aetiological factors further.

OP08.07 Reciprocal associations between affective decision-making and mental health in adolescence

Francesca Bentivegna[1]; Eirini Flouri[1]; Efstathios Papachristou[1]

[1] University College London, Institute of Education, UK

Lay Summary: Our study aimed at understanding how emotional problems such as worrying a lot and experiencing difficulties with peers, and behavioural problems such as being hyperactive and behaving in a disruptive way, are related to the capacity of making decisions and taking risks in early adolescence. The findings of our study suggest that children with behavioural problems are more likely to take greater risks and to make poorer decisions in adolescence; conversely, children showing poor decision-making skills are more likely to experience behavioural problems in adolescence, too. Given the potential severe consequences that behavioural problems can lead to in both adolescence and adulthood, our findings are important as they help further elucidate the complex links between these problems and making poor decision, as well as inform interventions aiming to promote better decision-making and cope with existing behavioural problems.

Background: Poor affective decision-making has been shown to associate cross-sectionally with mental ill-health in clinical populations, however, evidence from general population samples is scarce. Moreover, whether decision-making is prospectively and reciprocally linked to mental health in youth in the general population have yet to be examined. We hypothesised that we would find bidirectional associations between various aspects of affective decision-making and emotional and behavioural problems in early adolescence, with stronger associations for behavioural problems.

Methods: Data were drawn from the Millennium Cohort Study, a UK birth, population-based cohort study. The analytic sample included children with complete data at ages 11 and 14 years on the Cambridge Gambling Task, assessing various aspects of decision-making (delay aversion, deliberation time, quality of decision-making, risk adjustment, risk-taking), and the Strengths and Difficulties Questionnaire, measuring internalising (emotional symptoms, peer problems) and externalising problems (conduct problems, hyperactivity). The sample was imputed to maximise the sample size. Cross-lagged panel analysis was used to estimate simultaneously reciprocal associations between different measures across time and the stability of each measure across consecutive timepoints.

Results: The final sample included 13,366 participants. Findings of cross-lagged panel models adjusted for confounding revealed a negative reciprocal association between hyperactivity and quality of decision- making, but also positive reciprocal associations between conduct problems and delay aversion, and between peer problems and deliberation time. Unidirectional longitudinal associations were found mainly from emotional and behavioural problems to risk-taking and risk adjustment: specifically, increased hyperactivity and conduct problems predicted decreased risk adjustment, whereas conduct problems were positively and emotional and peer symptoms were negatively associated with later risk-taking.

Conclusion: These results suggest a tendency for mental health problems to impair later decision- making, rather than for poor decision-making to worsen mental health. Moreover, it seems that behavioural rather than emotional problems are associated with decision-making. Given the role of behavioural problems in later adverse outcomes across life domains, policy makers should focus on their reduction and prevention to improve decision-making and a range of other outcomes.

OP08.08 Optimising the implementation of a universal web-based mental health service for Australian secondary schools: A cluster randomised controlled trial

Mirjana Subotic-Kerry[1]; Andrew Mackinnon[1]; Dervla Gallen[1]; Simon Baker[1]; Melinda Achilles[1]; Belinda Parker[1]; Cassandra Chakouch[1]; Nicole Cockayne[1]; Helen Christensen[1]; Bridianne O'Dea[1]

[1] Black Dog Institute, University of New South Wales, Australia

Lay Summary: We examined the effectiveness of two implementation strategies for improving adolescent students' uptake and engagement with 'Smooth Sailing', a web-based mental health service designed to improve help-seeking intentions for mental health. We hypothesized that the targeted strategies would be associated with greater levels of student engagement when compared to the standard service and greater student engagement with the service would be associated with greater improvements in help-seeking and symptoms of anxiety and depression. These findings have implications for the sustainability of this type of service model in schools and for the implementation of digital school-based mental health services more broadly.

Background: Secondary schools are increasingly delivering digital mental health interventions to identify and support students in need of mental healthcare with varied success. Schools are diverse and dynamic settings, yet few studies have

gone beyond the confines of clinical trials to examine 'real-world' translation. As a result, many mental health interventions have failed to reach the full potential for improving student outcomes and schools remain unable to provide appropriate and timely care to all who require it. This trial examined the effectiveness of two student-level implementation strategies (class time allocation, financial incentive) for improving adolescent students' uptake of and engagement with the Smooth Sailing service and the impact of the targeted strategies on student mental health outcomes.

Methods: A cluster randomised trial involving 1295 secondary students from 20 schools in regional and urban locations across two states in Australia (New South Wales and South Australia) was conducted. Schools were assigned to one of three conditions (i) standard Smooth Sailing service, (ii) standard service with additional class time, (iii) standard service with financial incentives, for 12 weeks. The primary outcome was student engagement, measured by the number of modules accessed at 12-weeks post-baseline. Secondary outcomes included help-seeking intentions for mental health problems and symptoms of anxiety and depression.

Results: The final sample consisted of 1295 students from 20 schools. The mean age of participants is 14.0 years (SD: 0.7; 49.7% female). The mean number of modules accessed by participants (range: 0 to 7) for the standard service, class time and financial incentive conditions were 1.59 (SD: 1.92), 2.31 (SD: 1.99) and 2.44 (SD: 2.40) respectively. It was hypothesized that improvements in help-seeking intentions for mental health problems, symptoms of anxiety and depression would be mediated by students' engagement with the service, with the targeted strategies associated with greater effects. These results alongside service satisfaction and barriers to service use will be presented at the conference.

Conclusion: The findings of this study provide valuable insight into the benefits of targeted implementation strategies for increasing the engagement in and effectiveness of digital mental health interventions among youth. Addressing these barriers represents a critical aspect of translational research, that will help this type of service model and digital school-based mental health services more broadly, to move beyond development and efficacy studies into dissemination and implementation.

OP09 The impact of the COVID-19 pandemic on mental health: latest updates

Fri 9 Sep, 14:30 – 16:15
Lecture Room 5
Chair: Peter Butterworth, The Australian National University, Australia

OP09.01   COVID-19, lockdowns or the per-existing trend: What caused the poorer mental health of Australians during 2020?

Peter Butterworth[1]

[1] The Australian National University, Australia

Lay Summary: This study investigates the drivers of mental health in Australia in 2020, using data from a large national study that follows the same individuals and households over several years. Young people (aged < 25 years) had much worse mental health during COVID-19 regardless of whether they were in lockdown or not, whereas the mental health of women was tied to their experience of lockdown. Understanding the unique circumstances of different groups of people can help provide more targeted and effective support.

Background: Many studies have examined population mental health during the COVID-19 pandemic, but disentangling the factors associated with increased levels of mental distress is challenging. This study examines whether the mental health of Australians during 2020 reflected the experience of lockdown, a general impact of the pandemic, or the continuation of a trend of worsening mental health evident well before the COVID-19 pandemic.

Methods: The analysis draws on seven annual waves of data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. Most fieldwork for the 2020 survey was conducted between August and October, and coincided with a COVID-19 lockdown in the state of Victoria. Mental health was assessed by the five-item Mental Health Inventory, which was used to identify survey respondents likely to have clinically significant mental distress. The analysis was restricted to respondents who provided survey data in 2019, 2020 and at least one prior wave. The final sample comprised 13326 respondents, who each contributed (on average) 6.5 waves of data. Random-effects regression analyses modeled within-person variability over time. The analyses contrasted the mental health outcomes expected for each individual in the absence of the COVID-19 pandemic with the change observed in mental health across most of Australia in late 2020 (the COVID-19 effect) and the change observed in survey respondents from Victoria who were experiencing lockdown.

Results: Pre-COVID trends indicated both men (Odds Ratio = 1.12) and women (OR: 1.08) were expected to experience higher rates of mental distress in 2020 relative to 2019. Women who were experiencing lockdown policies showed a further increase in rates of mental distress (OR: 1.70). There were no significant effects of either COVID-19 or lockdown on men's mental health. Analysis stratified by both age and gender showed evidence of a COVID-19 effect for young men and women (aged 17-24 years; ORs=1.5). In addition, women aged between 25 and 54 years, or aged 70 years and older (but not men) experienced higher rates of mental distress during lockdown (ORs between 2.1 and 2.6).

Conclusion: This analysis of longitudinal data from a nationally representative survey identified different drivers of mental health for different groups of Australians during 2020. There was a general trend of increasing distress for many, young people experienced worse mental health irrespective of whether they were in lockdown or not, whereas women's mental health was closely tied to their experience of lockdown. The current study reinforces the importance of high-quality data to inform policy responses that target and protect population mental health.

OP09.02   The effects of the COVID-19 pandemic on mental health: Evidence from a nationally-representative longitudinal study

Phil Batterham[1]; Amy Dawel[1]; Alison Calear[1]; Louise Farrer[1]; Yiyun Shou[1]; Alyssa Morse[1]; Michelle Banfield[1]; Amelia Gulliver[1]; Nicolas Cherbuin[1]; Sonia McCallum[1]; Rachael Rodney Harris[1]; Kristen Murray[1]

[1] The Australian National University, Australia

Lay Summary: We measured mental health in 1296 Australian adults during the first 12 weeks of the COVID-19 pandemic. Although most people did not experience mental ill health, people who were struggling with financial, health, work or social problems tended to have increased depression, anxiety, suicidal thoughts and alcohol use. Ensuring that people have good access to health, financial and social supports during disasters is important for preventing mental illness.

Background: Few representative, longitudinal studies have assessed the impacts of the COVID-19 pandemic on mental health in the adult population. The economic and social impacts of public health restrictions may influence the mental health of the population, including increased risk of mental ill health. This longitudinal study examined changes in depression, anxiety, suicidal thoughts and alcohol use during the COVID pandemic in Australia.

Methods: A representative sample of 1296 Australian adults was recruited at the beginning of COVID restrictions in late-

March 2020, and followed up every 2 weeks over 7 waves to June 2020, and again in March 2021. Mental health and alcohol use were assessed using validated measures. Putative predictors included COVID exposures (direct, financial, employment, social), health status, adversity, and sociodemographic characteristics.

Results: Growth mixture models identified three latent trajectories for depression symptoms (low/stable 81%; moderate/stable 10%; severe/declining 9%) and four for anxiety symptoms (low 77%; moderate/increasing 10%; moderate/declining 5%; mild/fluctuating 8%). Factors associated with a poorer trajectory included existing diagnoses, financial distress, social and work impairment, female gender and younger age. Recent suicidal thinking was reported by 17% at baseline, with no significant change over time. There was a small but significant decrease in alcohol use in May-June 2020.

Conclusion: Depression and anxiety symptoms were elevated for a minority of Australian adults early in the COVID-19 pandemic, and typically resolved. Specific vulnerable groups included individuals experiencing financial, work or social impairment, people with a mental illness, females, and young adults. Although there was minimal change in suicidal ideation or alcohol use over time, certain groups had poorer outcomes. Priorities for population mental health in a pandemic include remote delivery of health services and policy to ensure that at-risk populations are clinically, socially and economically supported.

OP09.03 Job loss and job instability during the Covid-19 pandemic and the risk of depression and anxiety among Swedish employees

Sandra Blomqvist[1]; Marianna Virtanen[2]; Anthony LaMontagne[3]; Linda Magnusson Hanson[1];

[1] Stockholm University, Sweden; [2] University of Eastern Finland, Finland; [3] Deakin University, Australia

Lay Summary: Economic crisis is a recurrent phenomenon. We found that becoming unemployed during the Covid-19 pandemic increased the risk of depression while other types job loss or instability were unrelated to depression and anxiety. This information is important for the outline and choice of future job retention schemes with the aim of supporting jobs and employees.

Background: The restrictions that aimed to contain the spread of the SARS Cov-2 virus and the economic decline that followed in many countries imposed temporary or permanent job losses for many employees. A better understanding of mental health consequences of these different types job losses is still warranted though. We aimed to investigate if exposure to furlough, dismissal, notice, workplace downsizing and unemployment, respectively, amid the pandemic was associated with depression and/or anxiety.

Methods: Participants consisted of an originally representative sample of the Swedish working population already enrolled in a cohort study on work and health. Those who in 2020 agreed to be contacted for similar research purposes received one web survey in February 2021 and one in 2022 asking them about work and health conditions amidst the Covid-19 pandemic. A total of n=2602 responded to one or both surveys, among which we studied self-reported exposure to furlough, layoff, workplace downsizing and unemployment, respectively, in relation to anxiety (GAD-7) and depression (PHQ-9) using logistic regression analyses. We adjusted for prior anxiety and depression, sociodemographic and socioeconomical conditions as well as pre- pandemic information about support, loneliness and economy.

Results: Respondents were on average 58 years old and the majority were women 58% (n=1508). Of the job loss or instability categories of interest, downsizings n=262 (10.1%) and furlough n=212 (8.2%) were the most common, followed by unemployment n=79 (3.0%) and layoffs n=52 (2.0%). Questions of unemployment during the pandemic were restricted to those currently not in work whereas those currently in work were asked about dismissals and notice (here layoff). Mean scores of depression and anxiety were slightly higher among exposed than in the total sample (PHQ-9: mean 3.3, GAD-7: mean 2.3), particularly among the unemployed (mean 5. 4, and 3.6) and those laid off (mean 4.4 and 3.3).

Conclusion: Employees that experienced workplace downsizings, furlough, dismissals or notices during the pandemic did not have an elevated risk of anxiety or depression compared to unexposed employees. However, having an unemployment spell during the pandemic was associated with a higher risk of depression. Overall, it seemed that older age was protective of mental health problems while prior mental health problems, loneliness and lack of support increased the risk thereof.

OP09.04 A cohort study assessing impact of the COVID-19 pandemic on young adults' mental health in Switzerland

Simon Foster[1]; Natalia Estévez-Lamorte[2]; Susanne Walitza[1]; Meichun Mohler-Kuo[2]

[1] University Hospital of Psychiatry Zurich, Switzerland; [2] HES-SO University of Applied Sciences and Arts of Western Switzerland, Switzerland

Lay Summary: We assessed the impact of the COVID-19 pandemic on young adults' mental health in 2020 and 2021 and

compared it to the pre-pandemic mental health. We found significant increase in symptoms of Depression, Generalized Anxiety Disorder (GAD) and Attention-Deficit / Hyperactivity Disorder (ADHD) in second pandemic year in young women. 'Uncertainty about future' is the most important stressor associated with mental health among young adults.

Background: The COVID-19 pandemic has caused large-scale interruptions in people's lives worldwide and likely exerted several detrimental effects on mental health. However, most studies have been restricted to pandemic mental health data alone, only a few seeking to compare pandemic to pre-pandemic mental health. The main aim of the current study was to estimate the pandemic's effect on young Swiss adults' mental health by comparing pandemic to pre-pandemic mental health.

Methods: Prospective cohort study of 3840 young Swiss adults who participated in the S-YESMH study in 2018 and were followed-up in 2020 and 2021. Outcomes were self-reported symptoms of depression, generalized anxiety disorder (GAD), attention-deficit/hyperactivity disorder (ADHD), thoughts about death or self-harm, and risky single-occasion drinking (RSOD). Generalized estimation equations (GEE) stratified by birth sex was used estimated population trends for outcome prevalence rates from 2018 to 2021. Logistic regression and mediation analysis stratified by birth sex estimated the relationship between COVID-19-related stress and both depression and GAD symptoms in 2021, adjusted for pre-pandemic covariates.

Results: Evidence was found of increased depression, GAD, and ADHD among young women in 2021 and increased depression among young men in 2020, resulting from the COVID-19 pandemic. Detrimental effects primarily manifested in the second pandemic year among women, but already after the first pandemic wave among men. Conversely, RSOD dropped during the pandemic in both women and men, although the heaviest level of RSOD resumed pre-pandemic levels by the second pandemic year. Among COVID-related stressors, uncertainty about the future was highly associated with depression, GAD and ADHD among women in 2021.

Conclusion: Young Swiss women's and men's mental health appears to have been adversely affected by the COVID-19 pandemic, especially during the second pandemic year. One positive effect is that risky alcohol consumption declined. Uncertainty about future' is the most important stressor associated with mental health among young adults .

OP09.05   The relationship of childhood adversity, biomarkers, and polygenic susceptibility with older adults' psychological distress during the pandemic

Katie Taylor[1]; Andrew Steptoe[1]; Eleonora Iob[2]

[1] University College London, UK; [2] King's College London, UK

Lay Summary: Our research explored the relationship between childhood adversity (e.g., emotional, physical, and sexual abuse), stress hormones, markers of the immune system, and genetics with older adults' psychological wellbeing during the COVID-19 pandemic. We found that childhood adversity was consistently associated with higher levels of depression, anxiety, and loneliness during the pandemic and that the relationship between elevated stress hormones and increased psychological distress was stronger amongst participants who experienced childhood adversity. These results demonstrate the lasting impact of childhood adversity on older adults' mental health responses to the pandemic and suggest an important role for stress hormones in the relationship between childhood adversity and mental health.

Background: Adverse childhood experiences (ACEs) are linked to poorer mental health outcomes, and growing evidence implicates biological and genetic pathways from early adversity to psychopathology. However, little is known about the relationship of ACEs and their underlying biological and genetic mechanisms with older people's mental health responses to the COVID-19 pandemic.

Methods: We tested the associations of ACEs, hair cortisol, C-reactive protein (CRP), and polygenic scores (PGS) with depression, anxiety, and loneliness among older adults during the COVID-19 pandemic, accounting for the potential interplay of ACEs with biological and genetic risk markers. Data were drawn from the English Longitudinal Study of Ageing, a prospective cohort study of older adults living in England. Retrospective information on ACEs were collected in 2006/7, while CRP and hair cortisol were measured at wave 6 (2012/13). Psychological distress was assessed before the pandemic (2018-19) and at two COVID-19 assessments in 2020 (June-July and November-December). Associations were tested on 2,050 participants using linear/logistic regression models and were adjusted for pre-pandemic outcome measures.

Results: The results showed that ACEs were associated with higher levels of depression (OR: 2.55; 95% CI: 1.81, 3.59) anxiety (OR: 1.84; 95% CI: 1.13, 3.01), and loneliness (β: 0.28; 95% CI: 0.14, 0.42) during the pandemic. Hair cortisol was related to an increased risk of depression (OR: 1.15; 95% CI: 1.04,1.26), and CRP was associated with greater loneliness scores (β: 0.16; 95% CI: 0.03, 0.30). The relationship between cortisol and psychological distress was larger among participants with ACEs (e.g., $OR_{depression}$: 1.07; 95% CI: 1.00, 1.14).

Conclusion: These results highlight the lasting impact of adverse childhood experiences on older adults' mental health responses to new environmental stressors. They also implicate biological mechanisms in the pathophysiology of later-life psychological distress.

OP09.06   The impact of the COVID-19 pandemic on adolescent mental health: a natural experiment

Rosie Mansfield[1]; Joao Santos[3]; Jessica Deighton[4]; Daniel Hayes[2]; Tjasa Velikonja[4]; Jan R Boehnke[5]; Praveetha Patalay[1]

[1]University College London, UK; [2]King's College London, UK; [3]The University of Manchester, UK; [4]Anna Freud National Centre for Children and Families, UK; [5] University of Dundee, UK

Lay Summary: 1. With the aim of overcoming existing limitations of research (e.g., a lack of pre- pandemic, national-level data and a comparable control group), and providing robust causal evidence on the impact of the COVID-19 pandemic on adolescent mental health, the current study made use of a naturally occurring experiment within two ongoing school-based trials. 2. The COVID-19 pandemic led to increased adolescent depressive symptoms and decreased life satisfaction however, there was no overall effect of the pandemic on externalising difficulties 3. By analysing two groups of adolescents assessed across two years and controlling for several relevant school and pupil characteristics, the current study was better able to isolate the impact of the COVID-19 pandemic on adolescent mental health from age and longer-term trends than previous studies.

Background: Despite widespread concern about the impact of COVID-19 on adolescent mental health, there remains limited empirical evidence which can causally attribute changes to the pandemic. The current study aimed to overcome existing methodological limitations by exploiting a serendipitously occurring natural experiment within two ongoing, multi-phase cluster randomised controlled trials.

Methods: Depressive symptoms, externalising difficulties, and life satisfaction were assessed at baseline (phase 1 [pre-COVID-19 group]: Sep – Oct 2018, phase 2 [COVID-19 group]: Sep – Oct 2019) and 1-year follow-up (pre-COVID-19 group: Jan – Mar 2020, COVID-19 group: Feb – Apr 2021). Participants in phase 1 (N = 6,419) acted as controls. In phase 2, participants (N = 5,031) were exposed to the COVID-19 pandemic between the baseline and follow-up assessments providing a natural experimental design. The primary analysis used a random intercept linear multivariable regression model with phase (exposure to the COVID-19 pandemic) included as the key predictor while controlling for baseline scores and individual and school-level covariates.

Results: Depressive symptoms were higher and life satisfaction scores lower in the group exposed to the COVID-19 pandemic. Had the COVID-19 pandemic not occurred, we estimate that there would be 6% fewer adolescents with high depressive symptoms. No effect of exposure to the pandemic on externalising difficulties was found. Exploratory analyses suggest that the negative impact of the pandemic on adolescent mental health may have been greater for females than males. Across both the control and the COVID-19 group, adolescents eligible for free school meals (FSM) showed lower life satisfaction than those not eligible. However, adolescents of higher socio-economic position revealed a greater difference in life satisfaction between the control and COVID-19 group, with scores decreasing towards levels reported by the FSM eligible group.

Conclusion: The COVID-19 pandemic increased adolescent depressive symptoms and decreased life satisfaction beyond changes expected based on existing trends. Females' mental health may have been impacted by the pandemic more than males. Given the widespread concern over rising adolescent mental health difficulties prior to the pandemic, this paper calls for urgent action. A properly resourced, multi-level, multi- sector public health approach for improving adolescent mental health is necessary.

OP09.07   Age and depression during the COVID-19 pandemic in Spain: the role of social relationships, resilience, and socioeconomic factors

Aina Gabarrell-Pascuet[1]; María Victoria Moneta[1]; Beatriz Olaya[1]; José Luis Ayuso- Mateos[2]; Elvira Lara[2]; Josep Maria Haro Abad[1]; Joan Domènech-Abella[1]

[1] Sant Joan de Déu Research Institute, Spain; [2] Instituto de Investigación Sanitaria Princesa, Spain

Lay Summary: We analysed the longitudinal association between age and risk for major depressive disorder (MDD) before and during the COVID-19 pandemic in Spain and its potential mediation variables. The risk of MDD increased among younger adults during the pandemic. Feeling lonely, having financial problems, and low resilience partly explained this association.

Background: Data collected during the COVID-19 pandemic suggests an increase in the prevalence of major depressive disorder (MDD) among younger adults. However, the causes of such an increase are unclear. The current study assesses the association of age groups (18-29, 30-44, 45-64, and 65+ years) and MDD risk before and during the COVID-19 pandemic in Spain and quantifies the effect of potential mediating variables, such as loneliness, social support, resilience, and socioeconomic factors, on the association.

Methods: A nationally representative sample of Spanish adults was interviewed before and during the COVID-19 pandemic

(N=1,853). MDD in the previous 30 days was assessed using the Composite International Diagnostic Interview (CIDI) at each interview. Loneliness was measured through the 3-item University of California, Los Angeles (UCLA) loneliness scale, social support was assessed with the 3-item Oslo Social Support Scale (OSSS-3), resilience through the 6-item Brief Resilience Scale (BRS), and worsened economy and unemployment due to the COVID-19 pandemic through a direct question (i.e., if the economic situation worsened due to the COVID-19 pandemic and its consequences, and if the participants were temporally unemployed due to the COVID-19 pandemic, respectively). Regression models were constructed to quantify the association between age groups and potential mediating factors, as well as their moderating effects, on the association between age group and MDD.

Results: No statistically significant differences in MDD risk by age group were found before the pandemic. Changes in MDD risk from pre- to during the pandemic were not statistically significant among the older age groups (45-64 and 65+), while among the younger (18-29 and 30-44 years) the probability of having MDD increased from 0.06 (95% CI: 0.01-0.12) to 0.25 (95% CI: 0.12-0.39) and from 0.02 (95% CI: 0.001-0.05) to 0.12 (95% CI: 0.05-0.18), respectively. The younger groups reported a higher probability to be lonely, to have low social support, and to present low resilience. Young people were more likely to have a financial situation and/or employment situation that had worsened during the pandemic. The 33.9% of the association between younger age and MDD during the COVID-19 pandemic was explained by loneliness (12.9%), financial problems (9.6%), and low resilience (11.4%).

Conclusion: The identification of vulnerable age-groups allows for the design of more specific strategies to fight the adverse short and long-term mental health effects derived from the COVID-19 pandemic. Our findings suggest that strategies to decrease the impact of a pandemic on depressive symptoms among young adults should address loneliness, provide tools to improve resilience, and improve their financial support.

OP09.08   Short-term improvement of mental health after a COVID-19 vaccination

Charilaos Chourpiliadis[1]

[1] Karolinska Institutet, Sweden

Lay Summary: This longitudinal study included 7,925 Swedish adults with self-reported COVID-19 vaccination and symptoms of mental health responding from December 2020 to October 2021. The prevalence of depressive or anxiety symptoms was lower one month after vaccination compared to one month before vaccination. Receiving vaccination against COVID-19 is associated with short-term improvement in mental health.

Background: The role of COVID-19 vaccination on the mental health of the general population remains poorly understood. The aim of the study was to assess the short-term change of depressive and anxiety symptoms in relation to COVID-19 vaccination among Swedish adults.

Methods: Design: A prospective cohort study with monthly data collections on self-reported depressive and anxiety symptoms from December 2020 to October 2021 and COVID-19 vaccination from July to October 2021. Setting: The Omtanke2020 Study, Sweden. Participants: 7,925 participants of the Omtanke2020 study with complete data on depressive and anxiety symptoms and vaccination status. Intervention(s) or Exposure(s): Receiving the first or second dose of a COVID-19 vaccine. Main outcomes(s) and Measure(s): Binary measures of depression (PHQ-9, cut-off ≥10) and anxiety (GAD-7, cut-off ≥10) one month before the first dose, one month after the first dose, and, if applicable, one month after the second dose. For individuals not vaccinated or chose to not report vaccination status (unvaccinated individuals), we selected three monthly measures of PHQ-9 and GAD-7 with 2-month intervals in-between based on data availability.

Results: 5,079 (64.1%) individuals received two doses of COVID-19 vaccine, 1,977 (24.9%) received one dose, 305 (3.9%) were not vaccinated, and 564 (7.1%) chose not to report vaccination status. There was a lower prevalence of depression and anxiety among vaccinated, compared with unvaccinated, individuals, especially after the second dose. Among individuals receiving two doses of vaccine, the prevalence of depression and anxiety was lower after both first (aRR: 0.82; 95% CI: 0.76-0.88 for depression; aRR: 0.81; 95% CI: 0.73-0.89 for anxiety) and second (aRR: 0.79; 95% CI: 0.73-0.85 for depression; aRR: 0.73; 95% CI: 0.66-0.81 for anxiety) dose, compared with before vaccination. Similar results were observed among individuals receiving only one dose (aRR: 0.76; 95% CI: 0.68-0.84 for depression; aRR: 0.82; 95% CI: 0.72-0.94 for anxiety, comparing after first dose to before vaccination). These results were independent of age, sex, recruitment type, body mass index, smoking, relationship status, history of psychiatric disorder, number of comorbidities, COVID-19 infection status, and seasonality.

Conclusion: Conclusions and Relevance: We observed a positive short-term change in depressive and anxiety symptoms among adults receiving a COVID-19 vaccine in the current pandemic.

OP10 Progress in the epidemiology of suicidality & self-harm: latest findings

Sat 10 Sep, 08:30 – 10:00
Concert Hall
Chair: Trine Madsen, Danish Research Institute of Suicide Prevention, Denmark

OP10.01   COVID-19 symptoms, SARS-CoV2 infection and subsequent suicidal ideation in the French population-based EPICOV cohort: a propensity score analysis

Camille Davisse-Paturet[1 2]; Massimiliano Orri[3]; Stéphane Legleye[1 4]; Aline-Marie Florence[1 5]; Jean-Baptiste Hazo[6]; Josiane Warszawski[2 5]; Bruno Falissard[1 2]; Marie-Claude Geoffroy[3]; Maria Melchior[1 7]; Alexandra Rouquette[1 2]

[1] INSERM; [2] Paris-Saclay University, UVSQ, France; [3] McGill University, Canada; [4] Ensai, France; [5] APHP, France; [6] French Ministry of solidarities and health, France; [7] Sorbonne University, France

Lay Summary: We investigated if COVID-19 was associated with higher risk of subsequent suicidal ideation in the general population. We found that only self-reported COVID-19 symptoms but not positive SARS-CoV2 serology were associated with subsequent suicidal ideation. People recovering from symptomatic COVID-19 may therefore need psychological support to minimize risk of suicidal ideation.

Background: Symptomatic COVID-19 was found to be associated with suicidal ideations in cross- sectional or case studies. SARS-CoV2-induced neurological damages might underlined this association but findings are inconsistent. We longitudinally investigated association between COVID-19 and subsequent suicidal ideations in the general population, using both self-reported symptoms and serology.

Methods: Using data from the nationwide French EpiCov cohort, COVID-19 infection was assessed through 1) self-reported symptoms of sudden loss of taste/smell or fever alongside cough, shortness of breath, or chest oppression between February and November 2020, and 2) SARS-CoV2 infection confirmed using a SARS-CoV2 Spike protein ELISA test screening in dried-blood-spot samples. Suicidal ideation was defined as having thought about suicide since December 2020. Propensity scores of both Covid-19 symptoms and SARS- CoV2 infection were computed from logistic regression adjusted for sociodemographic characteristics and health characteristics, including pre-pandemic history mental health disorders. Inverse probability weights (IPW) were then used as adjustment strategy in weighted modified Poisson regression models to investigate association between Covid-19 and subsequent suicidal ideation.

Results: Amongst 51 657 participants, 1.67%; 95% CI: 1.53% - 1.81% reported an occurrence of suicidal ideation between December 2020 and July 2021, 9.59%; 95% CI: 9.26% - 9.93% had a serology-confirmed SARS-CoV2 infection and 13.33%; 95% CI: 12.95% - 13.71% reported COVID-19 symptoms between February and November 2020. Participants reporting COVID-19 symptoms had almost a 1.5 fold increased risk of subsequent suicidal ideation (Relative Risk: 1.44; 95% CI: 1.21 – 1.71) while those with a positive serology were not at risk (RR: 0.87; 95% CI: 0.69 - 1.11).

Conclusion: There is longitudinal evidence of higher risk of subsequent suicidal ideation in individuals reporting COVID-19 symptoms. Although the exact role of SARS-CoV2 in the central nervous system has yet to be clarified, especially its high inflammatory inducing potential, at minima psychological support needs to be offered to individuals recovering from symptomatic COVID-19. In the future, monitoring the evolution of these suicidal ideation will help understand the mid- and long-term psychological effects of the pandemic

OP10.02   Self-injury, suicidal ideation and -attempt and eating disorders in young people following the initial and second COVID-19 lockdown

Stine Danielsen[2]; Andrea Joensen[1]; Per Kragh Andersen[1]; Trine Madsen[2]; Katrine Strandberg- Larsen[1]

[1] University of Copenhagen, Denmark; [2] Danish Research Institute for Suicide Prevention, Copenhagen Research Center for Mental Health, Denmark

Lay Summary: We compared the proportion of young people with self-injury, suicidality, and symptoms of eating disorders respectively before and during the COVID-19 lockdown. We found that the proportion of self-injury, suicidality and symptoms of eating disorders remained the same or even decreased during lockdown. Knowledge about the impact of the COVID-19 lockdown on mental health is important to plan and implement prevention strategies.

Background: The initial COVID-19 lockdowns have had negative effect on different mental health measures, especially in young women. However, the impact on self-injury, suicidality and eating disorder (ED) are less elucidated and remains inconsistent. We compare self-reported self-injury, suicide ideation and -attempt and symptoms of EDs from before through different pandemic periods until spring 2021.

Methods: Young participants in the Danish National Birth Cohort reported measures of self-injury, suicidality and EDs in an 18-year follow-up in 2015-2021 and in a COVID-19 survey in spring 2021 when participants were aged 19-24 years. Changes

in measures from pre to post lockdown were estimated with longitudinal data (N=7,597) and with repeated cross-sectional data (N=24,625) by linear regression.

Results: In the longitudinal comparisons 14% of women and 7% of men reported self-injury pre lockdown, which decreased 6%-points (95% CI:-7% to -5%) for women and 3%-points (95% CI: -4% to -2%) for men during lockdown. For suicide ideation, the pre lockdown proportions were 25% and 18% for women and men respectively, and decreased 7%-points (95% CI: -8% to -6%) for women and 3%-points (95% CI: -5% to -1%) for men. For suicide attempt no change was observed. Pre lockdown 15% and 3% of women and men, respectively, had symptoms of EDs, which decreased 2%-points (95% CI: -3% to -1%) for women. We observed no changes in proportions of self-injury, suicide ideation or EDs in the repeated cross-sectional data.

Conclusion: Our findings provide no support for increase in self-injury, suicidality and EDs following the lockdowns, and if anything, indicate a reduction in self-injury and suicide ideation as well as EDs in women.

OP10.03   Situational factors of mental health among health care workers during COVID-19 pandemic: results from the HEROES-CZ Longitudinal Study

Matěj Kučera[1 2 3]; Pavla Cermakova[1 2]; Katrin Wolfová[1 2]; Miroslava Janoušková[1]; Jaroslav Pekara[4]; Jana Šeblová[5 6]; Dominika Šeblová[1 7]

[1] Charles University, Czech Republic; [2] National Institute of Mental Health, Czech Republic; [3] Vrije Universiteit, the Netherlands; [4] Medical College Prague, Czech Republic; [5] Kladno Regional Hospital, Czech Republic; [6] Motol University Hospital, Czech Republic; [7] Columbia University Irving Medical Center, United States

Lay Summary: We studied the impact of COVID-19 pandemic on mental health of healthcare workers and the role of situations that health care workers lived and worked in. Healthcare workers in the Czech Republic were followed at two time points. Only working in settings with COVID-19 positive patients had the main effect.

Background: Since December 2019, the COVID-19 pandemic has generated an unprecedented pressure and emotional burden on healthcare workers, who are at increased risk of poor mental health. We aimed to determine which factors are associated with depressive symptoms, psychological distress and suicide ideation of health care workers in the Czech Republic during COVID-19 pandemic.

Methods: The HEROES-CZ Longitudinal Study is a prospective cohort study developed within the The COVID-19 HEalth caRe wOrkErS study (HEROES), which is a coordinated effort to evaluate the impact of COVID-19 pandemic on mental health of healthcare workers in 26 countries across 4 continents. In the Czech Republic, the first wave of data collection was initiated in summer 2020 (n=929 with no missing values) and the second one in the spring of 2021 (n=1206 with no missing values). Evaluated situational predictors were type of occupation, contact with COVID-19 patients and caring responsibilities. Mental health outcomes were at least moderate level psychological distress (measured with the Generalized Health Questionnaire), moderate depressive symptomatology (Patient Health Questionnaire; PHQ-9) and suicide ideation (combined relevant items from two instruments: Columbia Suicide Severity Scale and PHQ-9). In each wave, we estimated separate logistic regression models for all mental health outcomes, adjusting for age, sex, education, number of people in a household, and self-reported previous mental and physical health conditions.

Results: We observed higher prevalence of mental health symptoms in wave 2 than in wave 1: psychological distress (wave 1: 21.10 % vs wave 2: 45.05 %), depressive symptoms (wave 1: 10.79 % vs wave 2: 21.35 %) and suicide ideation (wave 1: 6.30 % vs wave 2: 7.54 %). Strongest association was found for working in settings with COVID-19 patients (proportion in wave 1: 17.01 % vs in wave 2: 68.68 %) in all of mental health outcomes: psychological distress (wave 1 OR: 1.38; 95% CI: 1.00-2.00; wave 2 OR: 1.75; 95% CI:1.31-2.34), risk of moderate depressive symptoms (wave 1 OR: 2.38; 95% CI:1.49-3.8; wave 2 OR: 2.13; 95% CI:1.43-3.18) and suicide ideation in the first wave (wave 1 OR: 2.01; 95% CI:1.06-3.78). Having caring responsibilities and type of occupation didn't have a statistically significant effect on mental health outcomes.

Conclusion: Out of three predictors, the main association was observed in working in settings with COVID-19 patients. Future research should examine interaction with other possible situational factors together with caring responsibilities and working in settings with COVID-19 patients to focus on better understanding at-risk population in similar situations.

OP10.04   Utilisation and acceptability of formal and informal support for UK adolescents following self-harm before and during the first COVID-19 lockdown

Rohan Borschmann[1]; Galit Geulayov[2]; Karen Mansfield[2]; Paul Moran[3]; Hawton Keith[2]; Mina Fazel[2]

[1] University of Melbourne, Australia; [2] University of Oxford, UK; [3] University of Bristol, UK

Background: Little is known about the perceived acceptability and usefulness of supports that adolescents have accessed following self-harm, especially since the onset of the COVID-19 pandemic. We aimed to examine the utilisation and acceptability of formal, informal, and online support accessed by adolescents following self-harm before and during the

pandemic.

Methods: Cross-sectional survey (OxWell) of 10,560 secondary school students aged 12-18 years in the south of England. Information on self-harm, support(s) accessed after self-harm, and satisfaction with support received were obtained via a structured, self-report questionnaire. No tests for significance were conducted.

Results: 1,457 (12.5%) students reported having ever self-harmed and 789 (6.7%) reported self-harming during the first national lockdown. Informal sources of support were accessed by the greatest proportion of respondents (friends: 35.9%; parents: 25.0%). Formal sources of support were accessed by considerably fewer respondents (Child and Adolescent Mental Health Services: 12.1%; psychologist/ psychiatrist: 10.2%; general practitioner: 7.4%). Online support was accessed by 8.6% of respondents, and 38.3% reported accessing no support at all. Informal sources of support were rated as most helpful, followed by formal sources, and online support. Of the respondents who sought no support, 11.3% reported this as being helpful.

Conclusion: More than a third of secondary school students in this sample did not seek any help following self-harm. The majority of those not seeking help did not find this to be a helpful way of coping. Further work needs to determine effective ways of overcoming barriers to help-seeking among adolescents who self-harm and improving perceived helpfulness of the supports accessed.

OP10.05 Alcohol use and its association with suicide attempt, suicidal thoughts, and self-harm: results from the Adult Psychiatric Morbidity Surveys

Sarah Ledden[1]; David Osborn[1]; Paul Moran[2]; Alexandra Pitman[1]

[1] University College London, UK; [2] University of Bristol, UK

Lay Summary: We looked at how different alcohol use behaviours and consequences of drinking affect suicide attempt, suicidal thoughts and non-suicidal self-harm in the English population. Our main finding reports that higher scores on a harmful alcohol use measure are associated with higher risk of experiencing suicide attempt, suicidal thoughts and non-suicidal self-harm in the previous year. We also found that the more alcohol use affected a person, both psychologically and their ability to function daily, had a greater impact on suicidal and self-harm behaviours than alcohol consumption patterns. These findings are important for informing clinical practice and public health messaging on the mental health impacts of alcohol use, in addition to helping to understand the relationship between alcohol use and suicidal behaviours more generally.

Background: A link between alcohol use and suicidality is well established, but the nature and mechanisms of this association are not well understood. Most research on the topic are conducted in clinical populations, with few studies exploring this association in the general population. Gaining a greater insight into the relationship between the spectrum of alcohol use across the population and suicidality may help to improve our understanding of this relationship. This study investigated the association between specific domains of harmful alcohol use and suicide attempt, suicidal thoughts, and non-suicidal self-harm in a general population sample.

Methods: Participants included 14,949 adults aged 16+ years, recruited from general population private households for the 2007 and 2014 Adult Psychiatric Morbidity Surveys. Alcohol use was measured using the Alcohol Use Disorder Identification Test (AUDIT). Domains of alcohol use relating to risk categories, drinking quantity and frequency, binge-drinking, dependence symptoms, harmful effects, and concern from others were derived from relevant AUDIT items. Self-reported past year suicide attempt, suicidal thoughts, and non-suicidal self-harm were measured using the Clinical Interview Schedule-Revised.

Results: We found a linear association between total AUDIT score and the three outcomes: suicide attempt (odds ratio (OR)=1.06; 95% CI: 1.03-1.09), suicidal thoughts (OR: 1.05; 95% CI: 1.03-1.07) and non- suicidal self-harm (OR: 1.04; 95% CI: 1.01-1.08). Dependence symptoms, harmful effects of alcohol use, and daily or almost daily binge drinking were associated with increased odds of suicidal behaviour. There was no association with the other domains of alcohol use and our three outcomes.

Conclusion: A linear association was observed between total AUDIT score and suicide attempt, suicidal thoughts, and non-suicidal self-harm in a nationally representative English general population sample. Our findings suggest that harmful effects of alcohol use and disruption to day-to-day functioning due to alcohol use may underlie the relationship between alcohol use and suicide and self-harm related outcomes to a greater extent than higher alcohol consumption. These findings can inform clinical practice on regular monitoring of suicide risk in people who report harmful drinking. Longitudinal research is needed to further understand these relationships.

OP10.06 Risk of suicide attempt and suicide associated with benzodiazepine: a nationwide case-crossover study

Marie Tournier[1]; Anne Bénard-Laribière[1]; Fabrice Jollant[3]; Emilie Hucteau[3]; Ana Jarne- Munoz[3]; Papa-Yatma Diop[3]; Antoine Pariente[1]; Emmanuel Oger[2]; Julien Bezin[1];

[1] University of Bordeaux, France; [2] University of Rennes, France; [3]INSERM, France

Lay Summary: We assessed the risks of suicide attempt and suicide associated with a recent use of benzodiazepine, by comparing the frequency of benzodiazepine dispensing between a risk period (within 30 days before the event) and two matched reference periods for each patient. This nationwide study supports an association between recent benzodiazepine use and both suicide attempt and suicide. Whatever the nature of the association, these results strengthen the need for screening for suicidal risk carefully before initiation and during treatment when prescribing benzodiazepines.

Background: Previous studies found an association between benzodiazepine exposure and both suicide death and suicide attempts. A major limitation of these studies was confounding by indication bias. A case crossover study (CCO) was carried on to estimate the risk of suicide attempt and suicide associated with benzodiazepines, using data from the nationwide French reimbursement healthcare system databases (SNDS).

Methods: Patients ≥16y, with hospitalised suicide attempt or suicide death between 2013 and 2016, and at least one benzodiazepine dispensing within the 120 days before their act (observation period) were included and categorized according to the identification of psychiatric history over the year preceding the observation period. For each patient, frequency of benzodiazepine dispensing was compared between a risk period (days -30 to -1 before the event) and two matched reference periods (days -120 to -91, and -90 to -61). Self-controlled CCO analyses were adjusted for psychotropic drugs use within the observation period. A CCO considering a negative control explored residual indication bias, and a case-case-time-control analysis addressed time-trend bias.

Results: Among the population without recent psychiatric history, 34,076 individuals attempted suicide and 4,354 were suicide victims. Among the population with recent psychiatric history, 77,474 cases attempted suicide and 7,958 died from suicide. Benzodiazepine dispensing appeared higher in the 30-day risk period than in reference ones. The comparison yielded adjusted odds ratios of 1.74 for hospitalised suicide attempt (95% confidence interval 1.69 to 1.78) and 1.45 for suicide (1.34 to 1.57) in individuals with recent psychiatric history, and of 2.77 (2.69 to 2.86) and 1.80 (1.65 to 1.97) for individuals without such. The complementary analyses confirmed the association.

Conclusion: Using methods with increased bias control, this nationwide study supports an association between recent benzodiazepine exposure and both suicide attempt and suicide death. Even if residual confounding cannot be fully ruled-out, these results strengthen the need for awareness of benzodiazepines prescribers and the importance of screening for suicidal risk carefully before drug initiation as well as conducting an appropriate monitoring during treatment when prescribing benzodiazepines.

OP10.07 Traumatic Brain Injury and Risk of Subsequent Suicide Attempt

Katrine Ineson[1]; Annette Erlangsen[1]; Merete Nordentoft[1]; Michael Benros[2]; **Trine Madsen**[1]

[1] Danish Research Institute of Suicide Prevention, Mental Health Center Copenhagen, Denmark; [2] Mental Health Center Copenhagen, Denmark

Lay Summary: 1. We carried out a nationwide register-based study examining the association between traumatic brain injuries (TBI) and the risk of subsequent suicide attempt. 2. After adjustment for multiple factors we found that the risk of suicide attempt was more than two-fold higher in both men and women, respectively, with TBI compared with men and women without a TBI . 3. Our findings indicate that preventive efforts focused on mental well-being at the time of or soon after traumatic brain injury may be important to avoid a trajectory towards suicidal behaviour.

Background: Traumatic brain injury (TBI) may cause long lasting sequelae, including psychiatric illness, and is the leading cause of disability in people under the age of 40 years. Little is known about the association between TBI and suicide attempt, and the aim was to examine this association.

Methods: In a retrospective cohort study, we used nationwide register data that covered all individuals aged 10+ living in Denmark during 1980-2016 (n=7,706,043). Of these, 587,522 individuals had a medical contact for TBI. Incidence rate ratios (IRR) for each sex were calculated by Poisson regression analyses while adjusted for relevant covariates including fractures not involving the skull, epilepsy, and psychiatric diagnoses.

Results: During follow-up 124,764 individuals had at least one suicide attempt, of which 16% were preceded by a TBI. Individuals with TBI had higher rates of suicide attempt (females IRR: 2.58; 95% CI: 2.52-2.65; males IRR: 2.79; 95% CI: 2.73-2.86) compared to individuals with no TBI in adjusted analyses. Repeated TBI was associated with higher rates of suicide attempt compared to no TBI; IRR's after ≥5 TBI contacts for females and males were 4.79 (95% CI: 3.67-6.24) and 5.74 (95%

CI:5.00-6.59), respectively, compared to individuals without TBI. The first 6 month interval after last TBI diagnosis was associated with the highest rates of suicide attempt (females IRR: 4.71; 95% CI: 4.36-5.09; males IRR: 5.61; 95% CI: 5.25-5.99).

Conclusion: This nationwide retrospective cohort study found higher rates of suicide attempt among individuals with hospital contact for TBI, compared with individuals without TBI. The findings suggest that preventive efforts at the time of or soon after TBI diagnosis may help mitigate a trajectory towards suicidal behaviour.

OP11 New directions in global public mental health

Sat 10 Sep, 08:30 – 10:00
Lecture Room 2
Chair: Antonia Errazuriz, Pontifica Universidad Católica de Chile, Chile

OP11.01 The relationship of gross national income and healthcare expanses with duloxetine efficacy: a meta-regression analysis

Thomas Klein[1]; Stefan Weinmann[2]; Thomas Becker[1]; Markus Koesters[1]

[1] Ulm University, Germany; [2] Vivantes Klinikum Am Urban, Germany

Lay Summary: (1) What we did: In this meta-analysis, we re-analysed individual participant data from 23 antidepressant pharmacologic trials for duloxetine to examine the relationship of its efficacy with indicators of the country's wealth where they were conducted. (2) What we found: We found that the higher wealth and healthcare expanses are in a country, the weaker is the efficacy of duloxetine as well as placebo. (3) Why these findings are important: These findings put the idea into question that the results from antidepressant trials are valid independently from the country where the results came from, which is inconsistent with the development to apply more and more trial result from low- and middle income countries to treatment in high income countries.

Background: Although more and more pharmaceutical trials have been relocated to low and middle income countries in recent decades, there is little evidence regarding the transferability of trial outcomes across countries. We analysed randomised controlled trials (RCTs) of duloxetine conducted in different countries to investigate whether per capita gross national income (GNI) and healthcare expenditure (HE) are associated with pre-post treatment changes of depression severity and differences in duloxetine-placebo effect sizes.

Methods: For this meta-analysis, individual participant data (IPD) from multi-centre RCTs investigating duloxetine efficacy in patients with depression were provided by the manufacturer. In case of trials conducted in only one country, data extracted from published reports also entered analyses. A meta-regression approach was applied to analyse associations of GNI and HE with standardised pre-post mean change using raw score standardisation (SMCR) and comparative effect size, i.e. the mean differences (MD) in pre-post effect size between duloxetine and placebo treatment.

Results: 23 trials (including 8417 randomized participants) entered analyses. Regression coefficients indicated a negative linear relationship of SMCR with GNI (β: -3.61, R^2 = 14.8%, p<0.001) and HE (β: -4.72, R^2 = 24.8%, p< 0.001) for participants treated with duloxetine. Similar associations were found for placebo treatment (GNI: β: -3.52, R^2 = 23.8%, p< 0.001; β: -3.34, R^2 = 21.0% p< 0.001). Neither GNI nor HE was associated with the MD between duloxetine and placebo pre-post differences.

Conclusion: These findings suggest that the higher economic wealth and healthcare infrastructure in the respective country an antidepressant trial was conducted, the weaker is the standardized mean change in depressive symptoms, while the mean difference between duloxetine and placebo was stable independent from trial location. Thus, these findings challenge the idea of the universal transferability of antidepressant trial outcomes across countries. Understanding the results of antidepressant RCTs demands more sophisticated clarification of context factors involved in determining effectiveness of antidepressant medication. In light of the globalization of clinical trials, this should be discussed with a view to socio-economic context in their countries of origin.

OP11.02 Prevalence of depressive and anxiety disorders in Latin America: a systematic review and meta-analysis

Antonia Errazuriz[1]; Dalia Avello[2]; Juan Pablo Ramirez[1]; Rodrigo Beltran[1]

[1] Pontificia Universidad Catolica de Chile, Chile; [2] Portland State University, United States

Lay Summary: This study is the first systematic review and meta-analysis of its kind to estimate the prevalence of depressive/anxiety disorders in the general population of Latin America. Following a rigorous methodology and two parallel tracks, forty studies from seven countries representing over half a billion adults were selected to estimate lifetime, 12-month, 6 months and current prevalence. Meta regressions to test the effects of levels of human development, interpersonal violence, income and gender inequality at time of data gathering on the overall prevalences were conducted.

Background: Although the prevalence of depressive/anxiety disorders is well documented in high- income countries, less is known about its presence in Latin America and its association with levels of human development, interpersonal violence and income and gender inequality.

Methods: We followed PRISMA guidelines, GATHER reporting practices, and registered protocols (PROSPERO: CRD42019143054, CRD42020190238) to conduct two searches varying exclusively on the condition studied (i. depressive; ii. anxiety disorder) using PubMed, PsycINFO, Cochrane Library, SciELO and LILAC to identify relevant studies published by

Nov. 2021. A hand-search for additional unidentified studies was also conducted. Selected studies were screened against inclusion criteria [Condition: depressive or anxiety disorder defined according to validated diagnostic criteria (ICD or DSM) and assessed using a structured interview; Context: conducted in a Latin American country; Population: general adult (15+)] and their quality assessed using JBI´s checklist for prevalence studies. Stata was used to estimate pooled estimates stratified across key variables such as diagnostic nomenclature, structured interview, sex and country, using a random- effect meta-analysis model. Meta regression procedures were developed to test the effect of country-level (i.e. HDI, homicide rate, Gini index and GII) and location-level (i.e. population size) data on the overall prevalence for each study period.

Results: From 15,341 unique records in the depressive disorder track, 49 articles, representing 40 studies, were included in the meta-analysis. Overall lifetime, 12-month, 6-month and current prevalence were estimated at 13% (11%-14%), 5% (5%-6%), 4% (3%-5%) and 3% (2%-4%) respectively. At each time point, prevalence varied by sex and between countries. Preliminary results indicate that the prevalence of depressive disorder is modulated by the country's levels of human development and interpersonal violence. From 12,759 unique records in the anxiety disorders track, 54 articles, representing 36 studies, were included in the meta-analysis. Lifetime, 12-month, 6-month and current prevalence are being estimated for agoraphobia; GAD; OCD; panic disorder; social anxiety disorder and aggregated anxiety disorders (i.e. "any anxiety") and the effects of country- level variables are being tested.

Conclusion: Knowledge of the prevalence, distribution of depressive and anxiety disorders in the understudied region of Latin America and its association with country-/level- data is of interest not only to the international research community but can serve as a reliable instrument for health prioritization and system planning to policy makers.

OP11.03   Depression care in Brazil: A cascade of intersectional inequities

Milagros Ruiz[1]; João Luiz Bastos[2]; Helena Mendes Constante[2]

[1] University College London, UK; [2] Federal University of Santa Catarina, Brazil

Lay Summary: We investigated whether there was equal access to depression care, including diagnosis by a health professional, regular health care visits, and access to specialised treatment among Brazilian adults according to race, gender, education and their intersections. While Black men with low education were least likely to receive a depression diagnosis, Black women with low education were least likely to have access to specialised treatment for depression. Depression care in Brazil should mitigate the complex patterns of inequity experienced by multiply marginalised individuals.

Background: Substantial research has shown that the prevalence of major depressive disorder (MDD) is strongly influenced by race, gender, and socioeconomic position. However, a deeper understanding of inequities in access to care for MDD according to these social markers is yet to be reached.

Methods: We analysed data from 87,187 adults from the 2019 Brazilian National Health Survey to test two hypotheses derived from the inverse care law: women, Black, and low-education participants have a higher prevalence of MDD, but lower access to each step of the depression care cascade, including diagnosis by a health professional, regular healthcare visits, and access to specialised treatment.

Results: Among adults with high depressive symptoms, the odds of receiving a depression diagnosis were lowest for Black men with low education (OR: 0.60 95% CI: 0.38, 0.93) compared to White men with high education. Among diagnosed adults, the odds of having regular health care visits for depression were lowest for Black men irrespective of having low (OR: 0.65 95% CI: 0.29, 1.47) or high (OR: 0.74 95% CI: 0.35, 1.56) levels of education. Among adults who received regular health care visits for depression, Black women with low education (OR: 0.25 95% CI: 0.04, 1.39) were least likely to obtain specialised treatment for depression.

Conclusion: Our findings suggest the inverse care law applies to the depression care cascade in Brazil through indication that its healthcare system perpetuates a multi-layered system of oppression that overlooks multiply marginalised individuals. Adequate screening by health care professionals should mitigate the complex patterns of inequity revealed by our findings.

OP11.04   Spirituality and religious participation in the prevention and management of depression and anxiety in young people

Shilpa Aggarwal[1]; Judith Wright[2]; Amy Morgan[2]; George Patton[2]; Nicola Reavley[2]

[1] Public Health Foundation of India, India; [2] University of Melbourne, Australia

Lay Summary: We identified 74 English-language scientific studies from three electronic databases and held group discussions with lived experience consultants to know if holding and practicing spiritual and religious beliefs can protect young people against depression and anxiety and help in their treatment. We found that the religious practices may protect young people against depression and, to a lesser extent, anxiety, especially over shorter periods of time. Intervention studies support the integration of aspects of religious and spiritual practices into interventions, particularly for young people at risk

or with higher symptom levels of anxiety and depression.

Background: Religion has played an important part in shaping the psychosocial and moral development of young people historically. In the context of a recent emphasis on social and cultural determinants of mental health, questions have been raised about the extent to which it may play a role in promoting well-being and reducing risks for common mental health problems characterised by anxiety and depression.

Informed by lived experienced consultants, we reviewed the evidence is to understand: The role of spirituality and religious involvement (formal and informal) in prevention, and management of depression and anxiety in young people.

Methods: We undertook a systematic review, and quality appraisal of 45 longitudinal studies and 29 interventions studies exploring the role of spirituality and religious involvement (formal and informal) in prevention, and management of depression and anxiety in young people. Focus group discussions were conducted with lived experience consultants (n=12) based in Delhi, India and Mumbai, India. In addition, one- on-one interviews were conducted with religious leaders (n=2) based in India with over 30 years of experience in leading worship and providing guidance and instruction to young members of their communities.

Results: An overwhelming majority of studies included in the review were from the high-income countries and used a Judeo-Christian concept of religion. Only a single longitudinal and a few (n=15) intervention studies were from low- and middle-income countries, where 90 percent of the adolescent population live. Participation in religious and spiritual activities in adolescence and young adulthood can have short- to medium- term protective effects in depression and to a lesser extent in anxiety. Meta-analysis of high- quality longitudinal studies (n=25) showed negative religious coping has a small but statistically significant positive effect on depressive symptoms (Pearson's r= 0.17; 95% confidence interval (CI) 0.079, 0.259) and spiritual well-being has a small negative effect on depressive symptoms (Pearson's r=-0.153, CI -0.187, -0.118). Interventions based on spirituality, and psychotherapies that integrate these beliefs in the management of depression and anxiety in young people, may be beneficial. Not all studies found religion to be helpful. In some studies, increased religious attendance was related to greater anxiety in early adolescence. Lived experience consultants considered these beliefs to be a way of life. The beliefs influenced their lifestyle choices, how they connect with themselves and other people, and their reactions in difficult times.

Conclusion: Spiritual and religious beliefs are highly accessible to young people when they are under stress. Although we could not draw definitive conclusions due to inconsistencies in the evidence base, the review helped us understand the ways the beliefs can offer support to young people thereby having a preventive role in depression and can be integrated in the interventions for depression and anxiety.

OP11.05   Definitions and scope of the mental health burden of global climate change

Francis Vergunst[1]; Helen Berry[2]

[1] University of Oslo, Norway; [2] Macquarie University, Australia

Lay Summary: Climate change is one of the most pressing challenges facing humanity. We reviewed research on how climate change is impacting mental health and wellbeing to create a conceptual model that describes the domains of mental health that are affected and how they interact and relate to one another. We found that climate change is negatively impacting multiple mental health domains – including rates of mental disorders (e.g., PTSD, depression, anxiety), sub-clinical psychological distress, harmful substance use, suicide, and worry about the impacts of climate change. We also find that people with pre-existing mental health problems, women, children, and those living in low- and middle-income countries are most at risk. Strategies to improve global mental change must consider the emerging threat of climate change so that preventive and adaptive action can be taken.

Background: Climate change is described by the World Health Organisation as the "single biggest health threat facing humanity". It is increasing the frequency and intensity of extreme weather events – such as heatwaves, droughts, wildfires, storms, and floods – which are undermining the mental health and wellbeing of global populations. However, further work is needed to define the dimensions and scope of this burden, including the domains that will be impacted, their relationship to one another, and how they can be tracked and mitigated.

Methods: In this narrative synthesis, we review literature on climate change and mental health to create a conceptual model of distinct but overlapping psychosocial domains that are being impacted by climate change and how these domains relate to and interact with one another.

Results: Evidence from the empirical literature shows that climatic stressors are harming mental health across multipole domains, including increasing rates of mental disorders (e.g., PTSD, depression, anxiety), sub- clinical psychological distress, harmful substance use, suicide, and worry about the observed and anticipated impacts of climate change. We define mental health impacts within a dual-continuum model of mental disorders and subjective well-being and find that there is considerable overlap in some domains but not in others (e.g., diagnosed mental disorders vs. worry about climate change). We show that a substantial portion of the burden is likely to occur at sub-clinical levels by reducing resilience and lowering

subjective well-being. Vulnerable populations living with pre-existing mental health problems and high socioeconomic adversity – especially those living in low- and middle-income countries – are most at risk. We highlight the need to track the prevalence and evolution of this burden by combining current empirical evidence with projected climate impacts. We argue that a developmental life course perspective coupled with longitudinal research methods are particularly well-suited to this end.

Conclusion: Climate change is driving a suite of acute and chronic stressors that are harming the mental health of global populations across multiple functional domains. Tracking the social and economic costs of this growing burden is essential so that effective preventive and adaptive action can be taken. Global mental health equity remains unachievable without it.

OP11.06   Estimating the prevalence of common mental disorders for Aboriginal and Torres Strait Islander adults

Imogen Page[1]; Alize Ferrari[1]; Tim Slade[2]; M Anderson[1]; Damian Santomauro[1]; Sandra Diminic[1]

[1] The University of Queensland, Australia; [2] The University of Sydney, Australia

Lay Summary: Using available national data, we estimated the prevalence ratio of common mental disorders for Aboriginal and Torres Strait Islander peoples (henceforth respectfully referred to as Indigenous) compared to the general Australian adult population. Applying this prevalence ratio of 1.6 – 3.3 to national general population survey data resulted in an estimated prevalence of mood, anxiety, and total common mental disorders for Indigenous populations nationally to be 9.9-20.5%; 23.0-47.5% and 33.0-68.0% respectively. Having a better estimate of the prevalence of common mental disorders and corresponding mental health service need will result in better informed planning, needs based service provision and improved health outcomes.

Background: Mental illness disproportionately affects Indigenous peoples in comparison to the general Australian population. Despite knowledge of this vast and unacceptable gap, there is currently little nationally representative diagnostic data available to help determine the quantum of mental health services required by this population. This study aimed to quantify how many Indigenous Australian adults may need a mental health service in any given year by estimating the rate ratio of Indigenous to general population common mental disorders using proxy measures.

Methods: National Indigenous and general population surveys are regularly conducted to assess population health in Australia. Although diagnostic mental health assessments are not included, these surveys provide estimates of self-reported clinical diagnoses of mental disorders and significant psychological distress, a proxy measure for common mental disorders. Analysis of the four most recent Australian Indigenous and corresponding general population surveys was undertaken. Kessler-5 summary scores by 10-year age group were computed as weighted percentages with corresponding 95% confidence intervals. A series of meta- analyses were conducted to pool prevalence ratios of Indigenous to non-Indigenous significant psychological distress. The proportion of respondents with self-reported clinician diagnoses of mental disorders was also extracted from the most recent survey iterations.

Results: Indigenous Australians are estimated to have between 1.6 and 3.1 times the national prevalence of anxiety and mood disorders. Applying this to national prevalence data results in estimates that the prevalence of mood, anxiety and total common mental disorders for Indigenous populations nationally might be 9.9-20.5%; 23.0-47.5% and 33.0-68.0% respectively.

Conclusion: Needs based service planning requires an understanding of the mental health service needs of your population of interest. Relying on indirect indicators of service needs, such as current service utilisation, may result in an underestimate of resourcing required to service the population. This study provides national estimates of common mental disorders which can be used to inform service planning for Indigenous peoples in Australia.

OP11.07   Identifying risk factors for ADHD in a school-based population of Sri Lankan children

Nazneen Nazeer[1]; Yasodha Rohanachandra[2]; Shamini Prathapan[2]

[1] Ministry of Health, Sri Lanka; [2] University of Sri Jayewardenepura, Sri Lanka

Lay Summary: 1) The study investigated for the potential causes for the development of ADHD, a behavioral disorder that starts in childhood. 2)We found that boys, children born premature and/or with low birth weight, newborns who were severely ill, children born to mothers who were less educated, had a mental illness and were exposed to second hand tobacco smoke during their pregnancy as well as children who were subjected to teasing/bullying and those with limited leisure time with family were at a greater risk of developing ADHD. 3)Many of these risks can be curtailed with early preventive measures.

Background: Attention Deficit Hyperactivity Disorder (ADHD) is the commonest neurodevelopmental disorder in children

with significant impairment in overall functioning and associated psychiatric comorbidities. Knowledge of determinants is vital for the development of effective preventive strategies and tailor-made interventions. The study aimed to determine risk factors for the development of ADHD among primary school children in state schools in Colombo district of Sri Lanka

Methods: An unmatched case control study was conducted consisting of 73 cases (with ADHD) and 264 controls (without ADHD), at a ratio of 1:4, selected randomly among 6–10-year-old primary school children from Sinhala medium state schools in Colombo district, Sri Lanka. Primary care givers completed the validated Sinhala version of Swanson, Nolan, Pelham –IV (SNAP-IV-S) scale for the assessment of ADHD and an interviewer administered questionnaire on risk factors. Children's diagnostic status was confirmed by a Consultant Child and Adolescent Psychiatrist based on Diagnostic Statistical Manual 5th edition (DSM-5) of mental disorders criteria following a clinical assessment.

Results: Bivariate analysis followed by multivariate logistic regression model identified potential risk factors. Multivariate analysis revealed, male sex (aOR: 3.74; 95% CI: 1.67-8.35), lower educational level of the mother (aOR: 3.31; 95% CI: 1.39-7.98), maternal psycho pathology (aOR: 7.28; 95% CI: 1.55-34.35), prenatal exposure to passive tobacco smoke (aOR: 3.76; 95% CI: 1.09-12.95), Birth weight <2500g and /or gestation period of <37 completed weeks (aOR: 3.6; 95% CI: 1.48-8.74), neonatal complications (a OR=4.03; 95% CI: 1.94-8.32), minimal leisure time with family (aOR: 2.39; 95% CI: 1.19-4.82) and subjected to teasing/ bullying (aOR: 5.03; 95% CI: 2.47-10.25) as significant predictors of ADHD.

Conclusion: Primary prevention should focus on strengthening neonatal, maternal and child health services within the country. Emphasis should be placed on the need for anti-bullying policies within state schools.

RAPID-FIRE EARLY CAREER RESEARCH TALKS

RF1   SMI, substance use, ADHD & dementia
Thurs 8 Sep, 12:30 – 13:30
Lecture Room 4
Chair: Els van der Ven, Vrije Universiteit Amsterdam, Netherlands

RF1.01   Psychiatric disorders and risk of subsequent dementia: systematic review and meta-analysis of longitudinal studies

Jean Stafford[1]; Wing Tung Chung[2]; Andrew Sommerlad[2]; James B. Kirkbride[2]; Robert Howard[2]

[1] MRC Unit for Lifelong Health & Ageing at UCL, UK; [2] Division of Psychiatry, UCL, UK

Lay Summary: We brought together and reviewed evidence from previous studies exploring risk of dementia in people with psychiatric disorders, including depression, anxiety, post-traumatic stress disorder, bipolar disorder, and psychotic disorders. We found that people with psychiatric disorders had increased risk of dementia, although most studies focused on depression rather than other psychiatric disorders. These findings show that people with psychiatric disorders are at higher risk of developing dementia in future and highlight the need for monitoring of cognitive decline symptoms in this group.

Background: Although psychiatric disorders have been found to be associated with cognitive decline and dementia risk, previous findings are mixed, and the nature of these relationships remains poorly understood. We aimed to synthesise longitudinal data on associations between depression, anxiety, post-traumatic stress disorders (PTSD), bipolar disorder (BPD), psychotic disorders and subsequent dementia.

Methods: We searched three databases for longitudinal, population-based studies investigating associations between psychiatric disorders and dementia. We conducted narrative synthesis, and random-effects meta-analyses to obtain pooled estimates. We used meta-regression and stratified analyses to examine variation in associations by sex, age-at-onset and follow-up time.

Results: 57 citations met eligibility criteria. Most studies focussed on depression (n=33), which was associated with subsequent all-cause dementia (pooled relative risk (RR): 1.96; 95% CI: 1.59-2.43; I^2: 96.5%), Alzheimer's Disease (pooled RR: 1.9; 95% CI: 1.52-2.38; I^2: 85.5%), and Vascular Dementia (pooled RR: 2.71; 95% CI: 2.48-2.97; I^2: 0). Associations were stronger in studies with shorter follow-up periods and for severe and late-onset depression. Findings regarding anxiety were mixed, and we did not find evidence of an overall association (pooled RR: 1.18; 95% CI: 0.96-1.45; I^2: 52.2%, n=5). Psychotic disorders (pooled RR: 2.19; 95% CI: 1.44-3.31; I^2: 99%), PTSD and BPD were also associated with subsequent dementia, despite relatively sparse evidence.

Conclusion: People with psychiatric disorders represent high-risk groups for dementia, highlighting the importance of ongoing symptom monitoring in these groups. Findings regarding temporality and age-at-onset suggest that depression symptoms could reflect prodromal dementia for some individuals. Further longitudinal research is needed to determine whether psychiatric disorders represent causal risk factors or early markers of dementia neuropathology.

RF1.02   Cross-sectional and Longitudinal Association between Apathy and Cognitive Function in the Community-dwelling Japanese Elderly

Hoko Nakagawa[1]; Kyi Mar Wai[1]; Hunkyung Kim[2]; Narumi Kojima[2]; Takao Suzuki[3]; Kazushige Ihara[1]

[1] Hirosaki University, Japan; [2] Tokyo Metropolitan Institute of Gerontology, Japan; [3] Oberlin University, Japan

Lay Summary: (1) We conducted a two-year longitudinal epidemiologic study to examine whether apathy in very old women was associated with cognitive impairment using a scale specially developed for apathy. (2) We found that severer apathy was associated with lower cognitive function at baseline, and that apathy was not associated with cognitive decline at follow-up after controlling the effect of depression, which was identified independent of the scale for apathy. (3) This study contributes to the recent controversial discussion of the association between apathy and cognitive function, adopting a longitudinal design and rigorous assessments, and the fact that there was a significant cross-sectional association between apathy and cognitive impairment, but no significant longitudinal association, led us to the idea that apathy may not be a good predictor of cognitive decline in the short term.

Background: Although apathy has gained increased attention as a possible risk factor for cognitive impairment, apathy in previous epidemiologic studies was assessed by scales for depression or neurological disorders in general rather than using

specially developed scales for apathy. Moreover, as far as we know, no study has focused on people over 80 years old, although the prevalence of dementia is dramatically higher among those population. We cross-sectionally and longitudinally examined the association between apathy and cognitive function using a cohort data, in which apathy was assessed using a scale specially developed for apathy (Starkstein's 14-item Apathy Scale).

Methods: We conducted a 2-year longitudinal study in Itabashi Ward, Tokyo, Japan. In 2012, 575 women aged 79 years or older participated in a baseline survey. Apathy was assessed with Starkstein's 14-item Apathy Scale with a higher score indicating severer apathy. Depressive symptoms were assessed with the Self-rating Depression Scale, independent of scores of the total and each item of the Apathy Scale. Cognitive function was measured by the Mini Mental State Examination (MMSE). Both the Apathy Scale and the MMSE were completed by 567 participants. Of them, 360 individuals participated in a follow-up survey in 2014, and were re-measured the cognitive function with the MMSE. Linear regression was used to determine the cross-sectional and longitudinal associations between apathy score and MMSE score. Exposure for the linear regression was apathy score (2012), and the outcome was MMSE score (2012) or MMSE decline, which was defined as the difference in MMSE scores from baseline to follow-up. Covariates were age, education, BMI, stroke history, and depression score.

Results: At baseline, the mean apathy score was 11.1 (Standard deviation=6.31) at baseline. The median MMSE scores were 28 and 26 at baseline and follow-up, respectively. By linear regression, a negative cross-sectional association was found between apathy score and MMSE score at baseline in both unadjusted (β: -0.04, p<0.05) and adjusted models (β: -0.04,p<0.05). However, there was no association between baseline apathy score and 2-year MMSE decline (β: -0.03, p=0.344).

Conclusion: In conclusion, our study identified that apathy score was inversely, cross-sectionally associated with cognitive function while baseline apathy score had no effect on the cognitive decline for 2 years in Japanese community-dwelling people aged 79 and older.

RF1.03   Association between risk of dementia and very late-onset schizophrenia-like psychosis: a Swedish population-based cohort study

Jean Stafford[1]; Jennifer Dykxhoorn[2]; Andrew Sommerlad[2]; Christina Dalman[3]; James B. Kirkbride[2]; Robert Howard[2]

[1] MRC Unit for Lifelong Health & Ageing at UCL, UK; [2] Division of Psychiatry, UCL, UK; [3] Karolinska Institutet, Sweden

Lay Summary: Using data from the Swedish population registers, we explored whether people who were first diagnosed with a psychotic disorder after age 60 years (n=15,409) were at increased risk of developing dementia compared to a comparison group of the same age without psychotic disorders (n=154,090). We found a substantially increased risk of dementia in those with late-life psychosis compared to the matched comparison group. Our findings suggest that people with late-life psychosis are a high-risk group for developing dementia and highlight the importance of monitoring for symptoms of cognitive decline in this group.

Background: Although the incidence of psychotic disorders among older people is substantial, little is known about the association with subsequent dementia. We aimed to examine the rate of dementia diagnosis in individuals with very late-onset schizophrenia-like psychosis (VLOSLP) compared to those without VLOSLP.

Methods: Using Swedish population register data, we established a cohort of 15,409 participants with VLOSLP matched by age and calendar period to 154,090 individuals without VLOSLP. Participants were born between 1920 and 1949 and followed from their date of first International Classification of Diseases [ICD], Revisions 8–10 (ICD-8/9/10) non-affective psychotic disorder diagnosis after age 60 years old (or the same date for matched participants) until the end of follow-up (30th December 2011), emigration, death, or first recorded ICD-8/9/10 dementia diagnosis.

Results: We found a substantially higher rate of dementia in individuals with VLOSLP (hazard ratio [HR]: 4.22; 95% confidence interval [95% CI]: 4.05–4.41). Median time-to-dementia-diagnosis was 75% shorter in those with VLOSLP (time ratio: 0.25; 95% CI: 0.24–0.26). This association was strongest in the first year following VLOSLP diagnosis, and attenuated over time, although dementia rates remained higher in participants with VLOSLP for up to 20 years of follow-up. This association remained in sensitivity analyses designed to account for potential misdiagnosis (2-year washout HR: 2.22; 95% CI: 2.10–2.36), ascertainment bias (HR: 2.89; 95% CI: 2.75–3.04), and differing mortality patterns between groups (subdistribution HR: 2.89; 95% CI: 2.77–3.03).

Conclusion: Our findings demonstrate that individuals with VLOSLP represent a high-risk group for subsequent dementia. This may be due to early prodromal changes for some individuals, highlighting the importance of ongoing symptom monitoring in people with VLOSLP.

RF1.04 Multimorbidity clusters among people with serious mental illness: a representative primary and secondary data linkage cohort study

Ruimin Ma[1]; Eugenia Romano[1]; Mark Ashworth[1]; Mohammad Yadegarfar[1]; Alexandru Dregan[1]; Amy Ronaldson[1]; Claire de Oliveira[2]; Rowena Jacobs[2]; Robert Stewart[1]; Brendon Stubbs[1]

[1] King's College London, UK; [2] University of York, UK

Lay Summary: A latent class analysis was conducted to determine patterns of multimorbidity in people with severe mental illness (SMI) and two or more existing long-term conditions (LTCs). We identified 5 multimorbidity clusters, including 'substance related', ' atopic', 'pure affective', 'cardiovascular' and 'complex multimorbidity'. This research demonstrates a high prevalence of LTCs and complex multimorbidity clusters among people with SMI, therefore call for an integrated and tailored care approach for treating multimorbidity in this population

Background: People with severe mental illness (SMI) experience higher mortality partially attributable to higher long-term condition (LTC) prevalence. However, little is known about multiple LTCs (MLTCs) clustering in this population. This research aims to elucidate the clusters of LTCs in people with SMI, examining those patients with at least two additional LTCs recorded on top of their SMI, and thus focusing on more complex LTCs clusters.

Methods: People from South London with SMI and two or more existing LTCs aged 18+ at diagnosis were included using linked primary and mental healthcare records, 2012-2020. Latent class analysis (LCA) determined MLTC classes and multinominal logistic regression examined associations between demographic/clinical characteristics and latent class membership.

Results: The sample included 1,924 patients (mean (SD) age: 48.2 (17.3) years). Five latent classes were identified: 'substance related' (24.9%), 'atopic' (24.2%), 'pure affective' (30.4%), 'cardiovascular' (14.1%), and 'complex multimorbidity' (6.4%). Patients had on average 7-9 LTCs in each cluster. Males were at increased odds of MLTCs in all four clusters, compared to the 'pure affective'. Compared to the largest cluster ('pure affective'), the 'substance related' and the 'atopic' clusters were younger (odds ratios [OR] per year increase: 0.99; 95% CI: 0.98, 1.00) and 0.96 (95% CI: 0.95, 0.97) respectively), and the 'cardiovascular' and 'complex multimorbidity' clusters were older (ORs 1.09; 95% CI: 1.07, 1.10) and 1.16 (95% CI: 1.14, 1.18) respectively). The 'substance related' cluster was more likely to be White, the 'cardiovascular' cluster more likely to be Black (compared to White; OR: 1.75; 95% CI: 1.10, 2.79), and both more likely to have schizophrenia, compared to other clusters.

Conclusion: The current study identified five latent class MLTC clusters among patients with SMI. An integrated care model for treating MLTCs in this population is recommended to improve multimorbidity care.

RF1.05 Climatic exposures in childhood and the risk of schizophrenia from childhood to early adulthood

Kaisla Komulainen[1]; Marko Elovainio[1]; Soili Törmälehto[2]; Reija Ruuhela[3]; Reijo Sund[2]; Timo Partonen[4]; Marianna Virtanen[2]; Christian Hakulinen[1]

[1] University of Helsinki, Finland; [2] University of Eastern Finland, Finland; [3] The Finnish Meteorological Institute, Finland; [4] Finnish Institute for Health and Welfare, Finland

Lay Summary: Understanding the early-life environmental risk factors of schizophrenia is important to intervene schizophrenia development in the earliest possible stages. We evaluated whether long-term ambient temperature and sunlight exposure in childhood are associated with later risk of schizophrenia. Using data of more than 360,000 people in Finland, we found no evidence suggesting these climatic factors in childhood are related to the risk of schizophrenia.

Background: Several large-scale studies suggest climatic factors may trigger the onset or acute exacerbation of schizophrenia, with both particularly high and low temperatures as well as high and low sunlight exposure associated with more hospitalizations for schizophrenia. Not only may climatic factors have immediate effects on schizophrenia onset, but accumulation of climatic factors can operate on the risk of schizophrenia already at earlier stages of the pathogenesis. We conducted a cohort study among 365,482 persons in Finland to examine associations of 10-year cumulative childhood exposure to ambient temperature and global solar radiation with the onset of schizophrenia from childhood to young adulthood.

Methods: Our study population included all individuals born to two Finnish-born parents in Finland between 1990 and 1995, who were alive and living in Finland until their 10th birthday. We linked individual- level data on schizophrenia diagnoses and sociodemographic factors from the Finnish population register and health care register to daily meteorological data on ambient mean temperature (° C) and global solar radiation (kJ/m2) using residential zip codes, and calculated the average daily exposure to each climatic factor from birth until the 10th birthday for each individual. The study population was followed from age 10 until the first schizophrenia diagnosis, death, emigration or December 31, 2017, whichever came first. Hazard ratios (HR) for the risk of schizophrenia were estimated using Cox proportional hazards model.

Quintiles of the 10-year climatic exposures were selected to the primary analysis to assess potential non-linearity.

Results: Compared to the lowest quintile of ambient temperature or global solar radiation, growing up in the second highest quintile (Q4) was associated with greater risk of schizophrenia after adjusting for sex, birth year, birth month, and time-varying calendar year period. These hazard ratios were attenuated after additional adjustment for parental mental disorder, parental education, parental income, area-level socioeconomic characteristics and urbanicity (HR: 1.24; 95% CI: 1.02-1.52 for temperature; HR: 1.29; 95% CI: 1.06-1.58 for radiation). Continuous linear terms evaluated in secondary models suggested a greater risk of schizophrenia among those exposed to higher ambient temperature or higher global solar radiation in childhood, but these associations did not remain in fully adjusted models.

Conclusion: We found no consistent evidence that 10-year cumulative exposure to ambient temperature and sunlight in childhood is associated with the risk of developing schizophrenia. Nevertheless, our study contributes to the growing literature on early-life environmental exposures and later mental health. Our findings need to be evaluated in studies with longer follow-up and in populations residing in different latitudes.

RF1.06 Service user and supporter views and aspirations for social functioning in schizophrenia in a UK Secondary Care sample: a qualitative interview study

<u>Maria Long</u>[1]; Lisa Grunewald[1]; Joanna Moncrieff[1]; Jacki Stansfeld[2]; Nathan Davies[1]

[1] University College London, UK; [2] North East London NHS Foundation Trust, UK

Lay Summary: We interviewed 20 service users and supporters of people with psychosis who were chosen to represent a range of demographics and social circumstances. Participants expressed that good social functioning was about connection to others and living a 'normal' life, which was enabled by service user resources (agency and overcoming challenges, strategies for preventing relapse, a focus on the future), service support (acceptable dose of antipsychotic medication) and family/peer support; however barriers included a lack of social support in services, and perceptions of discrimination at work. This study helps us understand the unmet needs around social functioning and identify areas where services may be able to do more.

Background: Social functioning outcomes remain poor for people with psychotic disorders, yet little is known about their experiences and future aspirations in a broader social context. Increased understanding would help services to better respond to their needs.

Methods: Semi-structured interviews explored the experiences of a UK secondary care sample of service users with a psychotic disorder (n=12) and a sample of their supporters (n=8) who were recruited through clinical services and community groups. Participants were purposively sampled to maximise diversity, and an index of social outcome was used to ensure a range of social circumstances. Supporters were also sampled for the nature of their relationship with their loved one. Thematic analysis was used explore understanding of social functioning and to produce social-ecological determinants of service user experiences.

Results: Preliminary results suggest that participants perceived good social functioning as connecting with others and living a normal life, which included working. Poor social functioning was perceived as withdrawal and isolation, antisocial behaviour and a lack of employment. A range of factors at the individual, interpersonal, community and structural levels were perceived to shape social functioning in people with a diagnosis of psychosis. At the individual level, an acceptable dose of antipsychotic medication, personal strategies for preventing relapse, difficult past experiences, and agency and the ability to overcome challenges shaped service user social functioning. Negative effects of antipsychotics such as sedation and weight gain resulted in social costs. These were exacerbated by discrepancies in expectations for social functioning between service users/supporters and clinicians. Social support from family and peers was crucial in providing encouragement and inclusion but some supporters were unsure how to enable social functioning and were ambivalent around future expectations. Digital technology was important as it allowed non-demanding connection to others, but service users had doubts about using online dating apps due to preferences for building connections slowly over time. At the community level, psychosocial support and spaces to mix with peers were important, but at the structural level, service cutbacks were perceived to impact service users' ability to access this support and discrimination was perceived to impact integration into the workforce.

Conclusion: Understanding views of good and poor social functioning, as well as contextual factors could help to develop novel interventions and improve the provision of services tailored to the needs of both service users and carers.

RF1.07   Where are pharmacotherapies for alcohol use disorders prescribed? A 10-year cohort study of the total Swedish population

Sara Wallhed Finn[1]; Andreas Lundin[1]; Hugo Sjöqvist[1]; Anna-Karin Danielsson[1]

[1] Karolinska Institutet, Sweden

Lay Summary: (1) We investigated where pharmacological treatment for alcohol use disorders are prescribed. (2) The provision of treatment is unequal across health care settings and domicile, where primary care prescribes most AUD pharmacotherapy. (3) The study has implications for developing a more equal provision of treatment for AUD.

Background: Alcohol use is one of the world's leading causes of disability and mortality. A substantial part of the harm is due to alcohol use disorders (AUD). Four pharmacotherapies are approved for treatment of AUD; Acamprosate, Disulfiram, Nalmefene and Naltrexone. Previous Swedish studies using data from specialist care, show that these pharmacotherapies are underutilized. Little is known about provider factors in relation to prescriptions of AUD pharmacotherapies. and which types of pharmacotherapy is prescribed in which setting. The aim is to: 1. investigate where pharmacological treatment for AUD is prescribed, in relation to health care setting - specialist addiction care, psychiatric care, primary care, specialist somatic care, or occupational health care; and 2. investigate whether there are differences in which types of treatments that are used in the different settings. The first hypothesis is that the most of prescriptions are made in specialist addiction care. The second hypothesis is that Disulfiram is the most common pharmacotherapy in primary care while Naltrexone is most common in specialist addiction care.

Methods: This is a Swedish national cohort study of all filled prescription of AUD pharmacotherapies in the total adult population between year 2008 and 2017. The outcome was filled prescription of Acamprosate, Disulfiram, Naltrexone or Nalmefene. The exposure variable was health care setting. Demographic factors and year the prescription was filled were included as covariates. Logistic regression analyses were used to obtain odds ratios (OR). The analyzes were completed separately for each pharmacotherapy. Primary care was used as reference category.

Results: The study population comprises 107 881 adults with 743 002 filled prescriptions. Preliminary results show that most filled prescriptions, n=299 118 (40.26%), were made in primary care, followed by psychiatric care, n=268 314 (36.11%), specialist addiction care, n=135 931 (18.29%), occupational health care, n=21 933 (2.95%), and somatic care, n=17 706 (2.38%). The odds for filling a prescription of Acamprosate or Naltrexone were highest in specialist addiction care (aOR: 1.111; 95% CI: 1.072; 1.151 respectively aOR: 4.253; 95% CI: 4.093; 4.418). For Disulfiram and Nalmefene, occupational health care showed highest odds (aOR: 2.254; 95% CI: 2.088; 2.432 respectively aOR: 2.330; 95% CI: 1.714; 3.166). The odds for Disulfiram were higher in medium-sized towns (aOR: 3.741; 95% CI: 3.511; 3.985) and smaller towns (aOR: 3.845; 95% CI: 3.560; 4.152) compared to larger cities, while the opposite was found for the other pharmacotherapies.

Conclusion: The provision of treatment is unequal across health care settings and domicile. Primary care prescribes most pharmacotherapies for AUD, and the first hypothesis was not supported. The second hypothesis was supported, as Disulfiram was the most common pharmacotherapy in primary care and Naltrexone in specialist addiction care. The study has implications for developing a more equal treatment provision for AUD.

RF1.08   Is Personality Disorder Madness? A Qualitative Study of the Perceptions of Medical Students in Somaliland

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[1] East London NHS Foundation Trust, UK; [2] Amoud University Medical School, Somaliland; [3] University of Oxford, UK; [4] The Centre for Understanding of Personality Disorder (CUSP), UK

Lay Summary: Medical students often have limited experience and training in managing personality disorder (PD); hence we conducted a qualitative study on medical students in Somaliland to explore this issue. We found that half of the participants believed religious intervention would be helpful in managing PD and when divested their view as Somaliland citizens, they identified PD as associated with madness. We highlighted the importance of culturally sensitive training, including local culture and religious views, to improve the medical student's understanding of PD and its intervention.

Background: As the next generation of doctors, medical students' perception of patients with personality disorder (PD) is critical. Yet a systematic review of the literature shows this has not been studied. The study aims to identify 1) the understanding and perception of medical students about PD and 2) factors that may relate to this knowledge and perception.

Methods: A focus group discussion (FGD) was conducted with 8 medical students in their sixth year at Amoud University, Somaliland. We presented a case vignette of a patient with typical Borderline PD symptoms and used Barts Explanatory Model Inventory (BEMI) to explore the issue. The FGD was recorded, transcribed, translated and thematically analysed.

Results: The Medical students showed reasonably accurate knowledge regarding Borderline PD, recognising features of

unstable mood, impulsiveness, and emptiness. Of note half the participants believed religious intervention would be helpful "I believe in Islam. So, basically so to some degree it could be managed in certain religious centers". Medical students, when asked to divest of their professional identity, and to describe their personal views associated PD with madness.

Conclusion: The views of PD as 'madness' and that religious intervention has a role have important implications for training and service development. The importance of a culturally sensitive training to Medical students regarding PD to match local cultural and religious views, and consideration of development of heatlh services sensitive to religious practice is highlighted. We recommend including social and cultural implications in medical students teaching to help understand PD and its intervention.

RF1.09 Maternal glucose levels throughout pregnancy and neurodevelopmental disorders in offspring: a group-based trajectory analysis

Shuyun Chen[1]; Rui Wang[1]; Christina Dalman[1]; Brian Lee[2]; Håkan Karlsson[1]; Renee Gardner[1]

[1] Karolinska Institutet, Sweden; [2] Drexel University School of Public Health, United States

Lay Summary: We identified five distinct patterns of maternal blood sugar change from early to late pregnancy among women without diabetes before pregnancy. Children exposed to not only persistently high (clinical states), but also moderately high (subclinical states), blood sugar levels during pregnancy were more likely to develop neurodevelopmental conditions. Even with better blood sugar control, children exposed to high blood sugar levels in early pregnancy were still more likely to develop neurodevelopmental conditions. However, this was not the case for children exposed to high blood sugar levels in mid-pregnancy followed by a better blood sugar control. Our findings provide evidence that high maternal glucose levels during pregnancy, even at levels that do not meet the criteria for diabetes, may influence the development of the brain and children's later risk for neurodevelopmental disorder. This indicates that monitoring and planning interventions even for subclinical states of high blood sugar levels may have long term benefits for children.

Background: Maternal hyperglycaemia during pregnancy has been associated with neurodevelopmental disorders (NDDs) in offspring including Autism Spectrum Disorder (ASD), Intellectual Disability (ID) and Attention-Deficit/Hyperactivity Disorders (ADHD). We aimed to first distinguish the trajectory patterns of maternal random capillary glucose (RCG) levels throughout pregnancy, while considering their severity, timing, duration and potential control. We then quantified the influence of the distinct trajectories on offspring NDDs.

Methods: This population-based cohort study included 76,228 children born to 68,768 mothers without pregestational diabetes. RCG levels were measured at each antenatal visit and standardized as z-scores (ZRCG) according to testing hour. Average ZRCG values during ≤20, >20-28, >28-34, and >34 weeks of gestation were calculated if more than one observation was available during each time period. Group-based trajectory modelling was used to identify distinct glucose trajectories. The associations between different trajectory groups and NDDs were assessed using generalized estimating equation (GEE) models with a logit link and clustered on maternal identification numbers. Our primary outcomes included "any NDDs", "any ASD", "any ADHD", and "any ID". We also considered three mutually exclusive outcomes that were sufficiently prevalent for analysis, namely, "ASD only" (no ADHD or ID), "ADHD only" (no ASD or ID) and "ASD with ADHD" (no ID).

Results: Five ZRCG trajectories throughout pregnancy were identified: "persistently low" (referent group) (64.9%), "moderately high" (25.6%), "high in mid-pregnancy" (2.5%), "high in early pregnancy" (5.2%) and "persistently high" (1.7%). Persistently high ZRCG levels were associated with increased odds of ADHD only (without co-occurring ASD or ID) (Odds Ratio [OR]=1.54; 95% Confidence Interval [CI]=1.06-2.24). High ZRCG levels in early pregnancy followed by a better glucose control were associated with increased odds of any ADHD (1.29, 1.03-1.62), any ID (1.50, 1.00-2.25), and ASD with ADHD (1.54, 1.02-2.33). High RCG levels in mid-pregnancy followed by a better glucose control were not associated with any NDD diagnoses. A subclinical hyperglycemic state characterized by moderately high RCG values throughout pregnancy was associated with increased odds of ADHD only (1.16, 1.01-1.32).

Conclusion: The associations between maternal hyperglycaemia and children's risks of NDDs depend on a combination of the severity, duration, timing of occurrence and effective control of maternal hyperglycemia and also vary depending on the specific NDD outcome. Our findings indicate that maternal hyperglycemia, even at levels that do not satisfy the clinical criteria for diabetes, may influence the development of the brain and children's subsequent risk for neurodevelopmental disorders. This emphasizes the importance of monitoring maternal glucose levels over the course of pregnancy and indicates that interventions to manage glucose levels may have long term benefits for children.

RF1.10 ---- WITHDRAWN ----

RF1.11   Longitudinal effects of birth weight on the mental health of children

<u>Niamh Dooley</u>[1]

[1] RCSI, Ireland

Lay Summary: We show, for the first time in a large population cohort that this association between lower birth weight and ADHD-like issues persists, in a stable manner, from ages 9 to 17. Of greater interest to mental health policy and intervention, was that those with the lowest birth weights were approaching clinically- relevant thresholds for emotional problems by age 17. These effects were not limited to those technically "low" birth weight (i.e. 2.5kg), rather the mental health risks grew significantly with each decreasing kilogram of birth weight. Our results suggest birth weight should be taken into account when targeting children at risk of mental health issues.

Background: Low birth weight for one's gestational age is associated with higher rates of child psychopathology however most studies assess psychopathology cross-sectionally. The effect of such foetal growth restriction appears to be strongest for attention problems in childhood, however adult studies have found associations with a range of outcomes, from depression to psychosis. We explore how associations between foetal growth and psychopathology change across age and whether they vary by sex.

Methods: We used a large nationally representative cohort of Irish children (N ~ 8,000). Parents completed the Strengths and Difficulties Questionnaire (SDQ) at 3 time points (age 9, 13 and 17). Outcomes included a total problems scale and subscales measuring attention/hyperactivity, peer, conduct and emotional problems.

Results: Foetal growth had significant associations with all problem scales, even after controlling for sex, socioeconomic factors and parental mental health. The magnitude of these effects was small but relatively stable across ages 9-17. In males, foetal growth had the strongest associations with attention/hyperactivity and peer problems, whereas females showed more widespread associations with all 4 subscales. There was a trend for the association between foetal growth and emotional problems to increase with advancing age, approaching the borderline-abnormal threshold by age 17.

Conclusion: Reduced foetal growth predicted persistently higher scores on all measured aspects of child and adolescent psychopathology. Associations with child attention/hyperactivity may generalize to a wider array of adult psychopathologies via adolescent-onset emotional problems. Future studies should explore potential age-dependent effects of foetal growth into the early 20s.

RF2   Mood & anxiety symptoms and disorders in the time of COVID-19
Thurs 8 Sep, 12:30 – 13:30
Lecture Room 5
Chair: Milagros Ruiz, UCL, UK

RF2.01   The effect of paternal mental illness on child development: an umbrella review

Honor Scarlett[1]; Judith van der Waerden[1] Simi Moirangthem[1]
[1] Pierre Louis Institute for Epidemiology and Public Health (IPLESP), France

Lay Summary: A review of reviews on the impact of fathers' mental illness on child development was conducted, to provide a comprehensive overview of this relationship. Current available evidence suggests fathers' mental illness has a consistent, negative effect on their child's development, independent of child age or gender. These findings highlight the relevance of paternal mental health to child development, supporting the increased inclusion of fathers in paediatric research.
Background: Whilst there is growing evidence highlighting the importance of paternal mental health (PMH) on child development, this relationship remains under-studied, unclear and often over-looked. Considering the increasingly active role of fathers' in the home environment, a comprehensive overview on the impact of PMH on child development is vital.
Methods: Narrative synthesis of all systematic reviews and meta-analyses on the relationship between PMH and child development (mental health and social, emotional, language, cognitive or adaptive behaviour), between 1980 to Dec. 2021, was conducted in line with PRISMA 2020 guidelines. Review quality was assessed based on AMSTAR-2 criteria. All relevant effect sizes were converted to odds ratios and grouped using a random effects model, and respective study confidence interpreted in line with GRADE scoring.
Results: Grouped meta-analyses saw paternal mental illness to have a significant, detrimental effect on child development (OR: 1.54; 95% CI: 1.36-1.74) spanning infancy to late adolescence. Subgroup analyses saw the effects of PMH on either internalising (OR: 1.62; 95% CI: 1.27-2.08) or externalising (OR: 1.63; 95% CI: 1.28-2.08) child behaviours were congruent with each other. No clear distinction in effect size was seen based on child gender. Regarding child age, results were highly heterogenous, indicating that differential effects based on child age may be in fact related more so to the chronicity and severity of fathers' mental illness. However, included reviews were of poor methodological quality, demonstrating either low or critically low confidence.
Conclusion: These results show a consistent and influential effect of PMH on subsequent child development. Moreover, our findings challenge the assumption that PMH has a greater effect on male offspring than female. The relationship between fathers' mental health and child development warrants further investigation, as current research is limited in scope, particularly regarding child gender, age and different PMH diagnoses.

RF2.02   Trajectories of sickness absence among young adults: The role of early-life mental health conditions

Iman Alaie[1]; Pia Svedberg[1]; Annina Ropponen[2]; Jurgita Narusyte[1]
[1] Karolinska Institutet, Sweden; [2] Finnish Institute of Occupational Health, Finland

Lay Summary: We examined group-based trajectories of sickness absence in young adults. Four distinct trajectories were found. Identification of sickness absence trajectories may provide support for public health actions to reduce work incapacity for young people in working-ages.
Background: Work incapacity is increasingly recognized as a major public health concern in Europe today. In Sweden, the rates of sickness absence (SA) are among the highest reported, with costs of work incapacity benefits totaling to about 4% of the gross domestic product in recent years. Mental health conditions account for about half of all work incapacity benefits in several countries, as people with common conditions such as depression, anxiety, and ADHD are less likely to be employed and, if employed, more likely to be on SA. However, there is still limited knowledge about the long-term trajectories of SA in the young working-age population while accounting for prior history of mental health conditions. The aim of this study was to identify trajectories of SA in young adults with and without a history of elevated depression/anxiety or ADHD symptoms.
Methods: This was an observational cohort study of 12725 participants (24.0 ± 3.7 years, 55% women), assessed in Swedish population-based surveys completed in 2005/2006. Through linkage to the national registries, the cohort was prospectively followed from 2006 to 2018. The outcome included consecutive annual net days of SA, which were analyzed using group-based trajectory modeling with zero-inflated Poisson regression. Multinomial logistic regression estimating odds ratios (OR) with 95% confidence intervals (CI) was used to examine the influence of age, sex, educational level, depression/anxiety, and ADHD on each trajectory group.

Results: Four distinct trajectories of SA were identified: 'high-increasing' (3.2%), 'low-increasing' (7.2%), 'medium-fluctuant' (11.7%), and 'constant-low' (77.9%). The constant-low group was used as the reference in the regression modeling. Each one-year increase in age was associated with belonging to the high-increasing (OR: 1.07; 95% CI: 1.03-1.10) and low-increasing (OR: 1.04; 95% CI: 1.01-1.06) groups. Women had higher odds of belonging to the high-increasing (OR: 1.91; 95% CI: 1.47-2.50), low-increasing (OR: 2.34; 95% CI: 1.95-2.82), and medium-fluctuant (OR: 2.21; 95% CI: 1.91-2.56) groups. Higher education was associated with lower odds of belonging to the high-increasing (OR: 0.29; 95% CI: 0.22-0.37), low-increasing (OR: 0.60; 95% CI: 0.51-0.70), and medium-fluctuant (OR: 0.57; 95% CI: 0.49-0.65) groups. Regarding mental health history, those with depression/anxiety had higher odds of belonging to the high-increasing (OR: 4.92; 95% CI: 3.83-6.33), low-increasing (OR: 1.86; 95% CI: 1.52-2.28), and medium-fluctuant (OR: 1.76; 95% CI: 1.49-2.08) groups. ADHD was associated with higher odds of belonging to the high-increasing group (OR: 2.56; 95% CI: 1.19-5.49).

Conclusion: Four distinct group-based trajectories of SA were identified in a young working-age population. Consistent with accumulating research on work incapacity, this study found that age, sex, and educational level were predictive of diverse SA trajectories. Moreover, those manifesting early-life depression/anxiety or ADHD may face a particularly unfavorable prognosis. This calls for targeted and timely public health strategies to help reduce SA in the long run.

RF2.03   Exposure to air pollution and noise and mental health outcomes in the SCAMP cohort

__Rhiannon Thompson__[1]; Rachel B Smith[1]; Frank Kelly[1]; Sean Beevers[1]; Benjamin Barratt[1]; Gregor Stewart[1]; Tuan Vu[1]; Calvin Jephcote[2]; Ian Mudway[1]; John Gulliver[2]; Mireille B Toledano[1];

[1] Imperial College London, UK; [2] University of Leicester, UK

Lay Summary: We studied whether London teenagers' air pollution and noise exposure were related to their mental health. Some mental health effects were observed, particularly for anxiety. More research is required to understand how urban exposures impact the developing mind.

Background: Exposure of the world's population to air pollution and noise is increasing, therefore it is crucial to understand its impact on mental health. Environmental exposures also have the potential to exacerbate existing inequalities in mental health, as different populations are differentially exposed. There is a relatively small literature looking air pollution/noise exposure and mental health in adolescent populations.

Methods: The London-based SCAMP (study of cognition, adolescence, and mobile phone use) cohort (N=7603) provided data on home address and mental health at baseline (age 11-13, 2014-2016), follow-up 1 (age 13-16, 2016-2018), and follow-up 2 (age 15-18, 2020-2021). Specifically, the strengths & difficulties questionnaire (SDQ), the patient health questionnaire-9 (PHQ-9), the Generalised Anxiety Disorder Assessment (GAD-7), and the Community Assessment of Psychic Experiences-Positive scale (CAPE-P15). Air pollution exposure ($PM_{2.5}$, PM_{10}, NO_2, O_3) and traffic noise exposure were modelled at home and school for the whole cohort. Multivariate linear regression was used to measure associations between exposure to air pollution and noise and mental health outcomes, adjusting for ethnicity, sex, age, first language, parental education, smoking/household smoking, parental occupation, and parental education. Multi-pollutant and subgroup analyses were also conducted.

Results: After adjusting for covariates, PM_{10} exposure between baseline and follow-up was associated with follow-up anxiety levels, with 1 IQR (1.01μg/m^3) increase in PM_{10} associated with a 0.19 increase in GAD-7 score (95% CI: 0.002-0.378). This association was significantly mediated by baseline externalising problems (31%, p=0.02). Baseline general difficulties (total SDQ score) and internalising difficulties were associated with outdoor PM_{10} exposure (total score β: 0.26; 95% CI: 0.06-0.46), but not indoor or hybrid (indoor + outdoor) exposure. In stratified analysis, psychotic symptoms at follow-up 2 were associated with ozone and PM_{10} exposure in participants scoring below average in the Culture Fair Intelligence Test at baseline, but not in those scoring average to above average. Although noise was not significantly associated with mental health in single-exposure analyses, in multi-exposure models Lden (24-hour noise, evening and night weighted) was associated with increased baseline internalising problems (controlling for either $PM_{2.5}$ or NO_2), and Lday (7am-7pm noise), was associated with increased follow up externalising problems (controlling for NO_2 or Lden).

Conclusion: Some evidence was found in support of associations between exposure to air pollution and noise and adolescent mental health outcomes. However, associations were modified by exposure setting, previous cognition, and other exposures. Further research is required to understand the nature, severity, and mechanistic underpinnings of these associations.

20th Biennial Congress

RF2.04 Evolution of mental health impact of the COVID-19 pandemic in Spain: a longitudinal survey at 17 months follow-up after the first wave

Helena Garcia-Mieres[2]; Gemma Vilagut[1 2]; Philippe Mortier[2]; Itxaso Alayo[2]; Montserrat Ferrer[2]; Ana Portillo-Van Diest[2]; Franco Amigo[2]; Joan Domènech-Abella[3]; Mireia Félez-Nobrega[4]; Beatriz Olaya[3]; Josep Maria Haro Abad[3]; Jordi Alonso[2]

[1] Centro Investigación Biomédica en Red Epidemiología y Salud Pública (CIBERESP), Spain; [2] IMIM-Institut Hospital del Mar d'Investigacions Mèdiques, Spain; [3] Sant Joan de Déu Research Institute, Spain; [4] Parc Sanitari Sant Joan de Deu, Spain

Lay Summary: We investigated how the mental health of the Spanish general population changed during 17 months of the evolution of the COVID-19 pandemic using 3 time-point assessments. There was a significant amount of persistent (11.8%) and incident (8.9%) cases with any mental disorders throughout the 3 assessments, but also a significant group of people (19.1%) went into remission. It is important to better understand the factors associated with improvement and deterioration of mental health to provide better treatments.

Background: Risk for mental disorders is higher in the context of the COVID-19 pandemic compared to pre-pandemic period, yet little is known about the pandemic's long-term mental health impact. We estimated patterns of incidence, persistence, and remission of probable mental disorders in a Spanish general adult population cohort assessed during Covid-19 waves 1, 3 and before 6.

Methods: Data from three time points (June-2020; February/March-2021, and October/November-2021) of the MINDCOVID study were analyzed, in a representative sample of the general Spanish adult population. Probable mental disorders (MDs) were assessed via telephone interview: major depressive disorder (PHQ-8 ≥ 10), generalised anxiety disorder (GAD-7 ≥ 10), panic attacks, post-traumatic stress disorder (PCL-5 ≥ 7), and alcohol use disorder (CAGE-AID ≥ 2). We estimated prevalence of probable MDs at 17 months follow-up. Four prospective exhaustive and mutually exclusive patterns (groups) regarding MDs were constructed for analysis: a persistent pattern (screening positive for any MD in the 3 assessments), a new-onset pattern (those without MD at baseline or 1st follow-up, but with MD at 17 months), a remitting pattern (those screening positive for MD but not presenting any MD at 17 months), and an absent pattern (no MD in any of the three evaluations).

Results: 953 participants provided answers for the three assessments. The baseline prevalence of any probable MD was 23%. The prevalence of any probable MD was 20.7% at 17-months follow-up, ranging from 11% for panic attacks to 3.3% for alcohol use disorder. At 17 months follow-up, 11.8% of the sample presented a persisting pattern of any MD, 8.9% presented a new-onset pattern of any MD, 19.1% of the sample had a pattern of remission, and 60.2% of the sample did not present any MD during the observation period.

Conclusion: The prevalence of any MD was still elevated 17 months after the first wave of the pandemic in the Spanish general population, indicating a high mental health impact. Among those with any MD in the first wave, about more than 50% have persisted with any MD throughout the assessments. In contrast, a significant group of people recovered of their MDs during the assessments. A better understanding of factors associated with changes in mental health during the pandemic is needed to provide adequate mental health treatment.

RF2.05 Treatment use for mental health problems among Spanish healthcare workers active during the COVID-19 pandemic – findings from the MINDCOVID project

Philippe Mortier[1]; Gemma Vilagut[1]; Itxaso Alayo[1]; Franco Amigo[1]; Helena García- Mieres[1]; Ana Portillo-Van Diest[1]; Eduard Vieta[2]; Víctor Pérez-Solá[3]; Montserrat Ferrer[1]; Jordi Alonso[1]

[1] Institut Hospital del Mar d'Investigacions Mèdiques; CIBERESP, Spain; [2] University of Barcelona, Spain; [3] Parc de Salut Mar PSMAR, Spain

Lay Summary: We investigated to what extent Spanish healthcare workers active during the COVID-19 pandemic received treatment for any mental health problems they experienced. Few HCW with adverse mental health visited their general physician or consulted a psychiatrist of psychologist (13.2-27.6%), but use of benzodiazepine anxiolytics was high (19.3%). It is important to provide more access to adequate mental health treatment in this key segment of the population.

Background: Healthcare workers (HCW) represent a key population segment at risk for adverse mental health outcomes, including suicide. This risk has increased during the COVID-19 pandemic, but little is known about rates of treatment use for mental health problems among HCW.

Methods: Here we present data from the baseline assessment of a representative prospective cohort study of Spanish HCW (n=4,809). HCW were assessed using web-based self-report surveys between May and September 2020, i.e., just after the height of the first wave of the Spain COVID-19 pandemic. The survey included well-validated mental disorder screeners (e.g., PHQ-8, GAD-7, PCL-5, CAGE-AID), and a dedicated section assessing treatment use for emotional or substance-related problems.

Results: Thirty-day healthcare use (i.e., at least one general physician visit or at least one visit with a psychiatrist or

psychologist) for adverse mental health was estimated at 10.3%. Healthcare use was 5.4% among those without suicidal ideation nor any positive mental disorder screen (53.4% of the sample), 13.2% among those with any positive mental disorder screen without thirty-day suicidal ideation (37.8% of the sample), and 27.6% among those with thirty-day suicidal ideation (8.8% of the sample; X^2 [df 2] = 43.22, p<0.001). Thirty- day use of any psychotropic medication was estimated at 28.6%, and consisted mainly of the use of benzodiazepine anxiolytics (19.3%). Use of psychotropic medication was 16.8% among those without suicidal ideation nor any positive mental disorder screen, 40.6% among those with any positive mental disorder screen without thirty-day suicidal ideation, and 48.4% among those with thirty-day suicidal ideation (X^2 [df 2] = 25.24, p<0.001). Rates of treatment and psychotropic medication use were relatively consistent across sociodemographic variables and type of healthcare profession.

Conclusion: Healthcare use for mental health problems among Spanish HCW during the COVID-19 pandemic was low. The relatively high use of benzodiazepine anxiolytics is worrisome, especially given their high potential for substance dependence. More accessible mental health treatment is needed among HCW active during health crises.

RF2.06   The association between exposure to COVID-19 and mental health outcomes among healthcare workers in the Netherlands

Diana Czepiel[2]; Hans W. Hoek[2]; Afra van der Markt[3]; Bart P.F. Rutten[4]; Wim A. Veling[5]; Frederike N. Schirmbeck[1]; Franco Mascayano[6]; Ezra S. Susser[6]; Els M.A. van der Ven[3]

[1] University of Amsterdam, Netherlands; [2] Parnassia Psychiatric Institute, Netherlands; [3] Vrije Universiteit Amsterdam, Netherlands; [4] University Medical Center Maastricht, Netherlands; [5] University of Groningen, Netherlands; [6] Columbia University, United States

Lay Summary: We examined the impact of the COVID-19 pandemic on the mental health of healthcare workers by investigating the relationship between mental health problems and various work-related and subjective factors (i.e., having contact with COVID-19 patients, being redeployed due to the pandemic, availability of sufficient personal protective equipment, worries about getting infected or infecting others, regional COVID-19 infection and death rates). We found that worries about infection were associated with depressive symptoms, psychological distress, and trauma-related stress, as well as that insufficient personal protective equipment was associated with psychological distress and depressive symptoms, whereas we found no association between mental health problems and contact with COVID-19 patients, redeployment or regional COVID-19 infection and death rates. Our findings highlight the importance of adequate personal protective equipment provision and the subjective experience of the COVID-19 pandemic as factors that should be part of interventions aiming at mitigating adverse mental health outcomes among healthcare workers during the COVID-19 pandemic.

Background: Due to the unprecedented impact of the COVID-19 pandemic on health care systems, there has been great interest in the mental wellbeing of healthcare workers. While most studies investigated mental health outcomes among frontline versus non-frontline healthcare workers, little is known about the impact of various work-related variables. The present study aimed to examine the association between work related (i.e., having contact with COVID-19 patients, being redeployed due to the pandemic and availability of sufficient personal protective equipment (PPE)) and subjective (i.e., worries about getting infected or infecting others) exposures and self-reported mental health outcomes (i.e., psychological distress, depressive symptoms, and posttraumatic stress symptoms).

Methods: Between February and May 2021, 994 healthcare workers employed at a variety of healthcare settings in the Netherlands filled out an online survey as part of the COVID-19 HEalth caRe wOrkErS (HEROES) study. Mental health outcomes were measured using the General Health Questionnaire-12, the Patient Health Questionnaire-9, and the Primary Care PTSD Screen for DSM-5. We performed multilevel analyses with linear models consisting of three levels: individual (work-related and subjective exposures), healthcare center (aggregated redeployment and availability of sufficient PPE), and regional (cumulative COVID-19 infection and death rates).

Results: The response rate in the current study ranged from 2% to 13% among healthcare centers, with higher observed response rates among women compared to men. Approximately 13% of HCW's reported depressive symptoms, 37% experienced psychological distress, and 20% reported posttraumatic stress symptoms. Worries about infection were associated with all three mental health outcomes, whereas insufficient PPE was associated with psychological distress and depressive symptoms. There were no differences in outcomes between healthcare centers or provinces with different COVID-19 infection and death rates.

Conclusion: Our findings highlight the importance of adequate PPE provision and the subjective experience of the COVID-19 pandemic. These factors should be part of interventions aimed at mitigating adverse mental health outcomes among healthcare workers during the COVID-19 pandemic.

RF2.07   The gender dimension of mental health during the Covid-19 pandemic: a mediation analysis

Kate Dotsikas[1]; Liam Crosby[1]; Anne McMunn[1]; David Osborn[1]; Jennifer Dykxhoorn[1];

[1] UCL, UK

Lay Summary: Research has shown that women had worse mental health compared to men during the Covid-19 pandemic, so our study sought to test possible explanations for this gender difference during the first wave of the pandemic in 2020. We found that more loneliness among women accounted for most of the gender difference in mental health among adults in the UK. This information can help us target interventions to improve women's mental health in the pandemic context.

Background: The Covid-19 pandemic has had a significant population mental health impact, with evidence indicating that mental health has deteriorated in particular for women. This gender difference could be explained by the distinct experiences of women during the pandemic, specifically the burden of unpaid domestic labour, changes in economic activity, and experiences of loneliness. Furthermore, these proposed mediators may have had a different relative importance to gender and mental health at different points in the pandemic. This study investigates potential mediators in the relationship between gender and mental health during the first wave of the Covid-19 pandemic in the UK.

Methods: We used data from 9,351 participants of Understanding Society, a longitudinal household survey from the UK. We conducted a mediation analysis using structural equation modelling to estimate the role of four mediators, measured during the first lockdown in April 2020, in the relationship between gender and mental health in May and July 2020. Mental health was measured with the 12-item General Health Questionnaire (GHQ-12). Standardised coefficients for each path were obtained, as well as indirect effects for the role of employment disruption, hours spent on housework, hours spent on childcare, and loneliness.

Results: In a model controlling for age, household income and 2019 GHQ, we found that gender was associated with all four mediators, but only loneliness was associated with mental health at both time points. The indirect effects showed strong evidence of partial mediation through loneliness for the relationship between gender and GHQ; loneliness accounted for 83.9% of the total effect in May, and 76.1% in July. No evidence of mediation was found for housework, childcare, or employment disruption.

Conclusion: The results suggest that the worse mental health found among women during the initial period of the Covid-19 pandemic is partly explained by women reporting more experiences of loneliness. Understanding this mechanism is important for prioritising interventions to address gender-based inequities that have been exacerbated by the pandemic.

RF2.08   The effect of social support and loneliness on mental disorders symptoms during the COVID-19 pandemic

Aina Gabarrell-Pascuet[1]

[1] Sant Joan de Déu Research Institute, Spain

Lay Summary: We performed a meta-analysis to estimate the strength of the associations of loneliness and social support with mental disorders symptoms during the COVID-19 pandemic. We found that low social support had a weak association with mental disorders, while the association with loneliness was moderate. Strategies to address loneliness could be highly effective in reducing the impact of a pandemic on mental health.

Background: During the COVID-19 pandemic the prevalence of mental health disorders has increased. A better understanding of the determinants of such increase is needed to prevent further short and long term adverse consequences. The effect of social connectedness on mental health, as well as the importance of the quality and perceptions of social network characteristics, have been previously documented with a focus on both objective (i.e., quantifiable contact with, or support from, other people; e.g., social support) and subjective factors (i.e., positive or negative feelings that could be associated with those objective factors; e.g., loneliness) of social relationships. Public health and social measures designed to stop the spread of COVID-19 on these constructs, and the associated economic recession, could have impacted on the general population's mental health. Thus, we decided to quantify the adverse effects that loneliness and poor social support might have on mental health.

Methods: We carried a meta-analysis of the scientific literature published in 2020-2021 to estimate the strength of the associations of loneliness and social support with depression, anxiety, and posttraumatic stress symptoms during the COVID-19 pandemic. We also carried meta-regressions and subgroup analyses to identify potential moderators of these associations.

Results: Loneliness has a moderate association with the assessed mental disorders symptoms, while social support has a weak association. If we compare the pooled correlations with guidelines for interpreting the magnitude of correlation

coefficients, we observe the effect of the association between loneliness and mental health outcomes to be in the upper third distribution of correlation coefficients. Therefore, those studies minimizing the effect of social support on mental health, should also consider the effect of loneliness, which often acts as a mediating factor. Some associations were stronger in studies with better methodological quality, published in 2021, and with greater sample size, COVID-19 policy stringency, and mean age. Studies conducted in developing countries had stronger associations in their relationships with social support, and weaker associations with loneliness. Although the pooled correlations seem to be similar to those detected in pre- pandemic studies, the increase of loneliness and decrease of social support during the COVID-19 pandemic could explain the current increase in mental health disorders symptoms.

Conclusion: Strategies focused on social support and loneliness could be highly effective in reducing the impact of a pandemic on mental health. The study of the moderating factors in these associations also reveals that it is important to consider the intervention target population and the effects of variables like gender, setting, and age.

RF2.09   Prospective Machine Learning Based Prediction of Major Depressive Disorder Onset in Adults During a Large-scale Cohort Study

Johannes Massell[1]; Martin Preisig[2]; Marcel Miché[1]; Roselind Lieb[1]

[1] University of Basel, Switzerland; [2] Lausanne University Hospital and University of Lausanne, Switzerland

Lay Summary: We aim to use a new methodology, specialized in accurate and reliable predictions, to classify between people who later develop a depression and those who do not. Preliminary results will be presented and discussed. The early identification of people at risk for developing a depression would be very useful as it may allow us to intervene early and help patients before this serious illness fully manifests.

Background: Major Depressive Disorder (MDD) is one of the most prevalent mood disorders. It is considered the single most disabling mental disorder and constitutes a substantial burden to individual patients, their surroundings and society as a whole. MDD is a complex disorder best described by multifactorial models that take into account the interplay between several factors, e.g., genetic and environmental. Most previous research focused on risk factors associated with groups of patients suffering from MDD. However, no reliable and accurate way to predict the onset of MDD in individuals has been developed so far. Early detection of people at risk would make early interventions possible and ultimately may allow us to lower the manifold burden of MDD. Machine Learning (ML) is an umbrella term for several algorithms designed to solve regression and classification problems. The focus of classical statistical methods is on group-level differences and ensuing inference. ML on the other hand puts a clear focus on individual predictions and is the backbone of the currently emerging branches of personalized medicine and psychiatry. Benefits of ML include the possibility to incorporate many predictors into models at the same time, a sophisticated procedure for internal cross- validation and the ability to model both linear and/or non-linear relationships as well as complex interaction patterns. Our aim is to compare several machine learning algorithms and logistic regression for the task of prospectively predicting the onset of MDD.

Methods: CoLaus | PsyCoLaus is a large-scale prospective cohort study that started in 2003 and is still ongoing. More than 5000 adults from Lausanne, Switzerland between the ages 35 and 75 have undergone both physical and psychiatric investigations at least once, with nearly 80% also having returned for one or more of the several follow-up assessments. Assessments covered various domains and include demographic, psychological, somatic & genetic data. We identified promising predictors from each of these domains in the literature a priori, matched them to predictors available in our own dataset and used these variables at baseline to predict MDD onset in individuals between baseline and follow-up assessments. The algorithms we aim to use in this study are logistic regression, LASSO, random forests, support vector machines, naïve bayes and artificial neural networks. Repeated nested 10-fold cross-validation will be used to tune hyperparameters and assess model performances. Outcomes of interest are the area under the curve (AUC), F1 and scaled Brier scores.

Results: Results such as model performance measures and an overview of individual predictor contributions were not available at the time of submission but preliminary results will be presented at the congress.

Conclusion: Based on our preliminary results conclusions will be presented and discussed.

RF2.10   Agreement of survey-based and register-based measures of major depressive disorder

Nanna Weye[2]; John McGrath[2]; Oleguer Plana-Ripoll[1]

[1] Department of Clinical Epidemiology, Aarhus University Hospital, Denmark; [2] National Centre for Register-based Research, Aarhus University, Denmark

Lay Summary: We examined the agreement between survey-based versus register-based measures of major depressive

disorder. Within the survey participants who had a current episode of depression, only 15% had a register-based diagnosis of depression, while 50% had filled a prescription for antidepressants. Register- based measures of depression based on diagnoses and/or prescriptions are likely to underestimate the true prevalence.

Background: We explored the agreement of survey-based and register-based measures of major depressive disorder as well as demographic and socioeconomic factors associated with agreement.

Methods: All 32,407 participants in the 2017 "How are you?"-survey in Central Denmark Region were linked to administrative hospital and prescription records. A symptom checklist for depression (Major Depression Inventory; MDI) was compared to hospital-diagnosed depression and/or prescriptions for antidepressants. We estimated agreement as sensitivity and specificity and performed logistic regression models.

Results: The 11-year prevalence was 2.5% for hospital-diagnosed depression and 16.2% for antidepressant prescription, while the point prevalence was 4.8% for the MDI, after adjusting for selective participation into the survey. In general, the agreement between the survey-based measure and the register-based measures of depression was low. The sensitivity between hospital-diagnosed depression, antidepressant prescription, and either diagnosis or prescription was 15.0%, 50.1%, and 50.7%, respectively. The analogous specificity was 97.8%, 86.6%, and 86.3%, respectively. The sensitivity increased when using a higher threshold of the MDI, indicating more severe depression, e.g. sensitivity was 15.0% for hospital-diagnosed depression in persons with any self-reported depression vs. 23.7% in persons with severe self-reported depression. Increasing the threshold for MDI case identification had little impact on the specificity. High levels of perceived stress and previous history of hospital-treated self-harm were associated with increased odds of agreement between hospital-diagnosed depression and positive MDI, after adjustment for other demographic and socioeconomic factors.

Conclusion: Our findings indicate higher agreement of self-reported depression with antidepressants than with hospital-diagnosed depression, but this agreement was associated with a lower specificity. Register- based measures of depression based on diagnoses and/or prescriptions are likely to underestimate the true prevalence by identifying the most severe cases.

RF2.11   Relative telomere length and mental health outcomes: a five-year longitudinal study

Racha Ghoussaini[1]; Nathalie Zgheib[1]; Hani Tamim[1]; Mona Nasrallah[1]; Maha Makki[1]; Lara Nasreddine[1]; Hussein Ismaeel[1]; Martine Elbejjani[1]

[1] American University of Beirut, Lebanon

Lay Summary: Shortening of telomeres, which are repetitive DNA sequences at the end of chromosomes, has been related to aging and various chronic diseases. Our study aimed to investigate whether telomere length and rate of telomere shortening over 5 years are associated with mental health outcomes, depression and anxiety, in a Lebanese cohort of middle-aged adults. We did not find an association between baseline telomere length (assessed 5 years prior to the mental health outcomes), concomitant telomere length, or the rate of shortening over 5 years with anxiety or depression; however, results suggest that higher anxiety symptoms were related to a faster trend of telomere shortening. Telomere attrition has been primarily studied in the context of 'physical' diseases and comorbidities, yet our results motivate further exploration of the directionality of the relationship between telomeres and mental health disorders, suggesting that mental health may contribute to premature aging.

Background: Telomeres get shortened with each cellular replication cycle, making them a biomarker for aging, and for various chronic diseases. One main mechanism that drives this association is the presence of oxidative stress, through which reactive oxygen species that damage telomeres are generated. Damaged telomeres are then cleaved, leading to telomere shortening and premature aging. Many studies have linked telomere shortening to 'physical' diseases. Some studies, albeit limited, have shown that individuals with depression or anxiety have shorter telomeres, suggesting that telomere length may also be related to mental health disorders. However, much remains to be explored about the presence and the directionality of that association. In this study, we examined whether prior telomere length, concomitant telomere length, and rate of telomere shortening over 5 years relate to mental health symptoms at middle-age.

Methods: This study was based on a longitudinal cohort with a 5-year follow-up, including 501 participants initially surveyed at baseline in 2014 and 198 examined at follow-up in 2019. Anxiety and depression scores were measured at the 5-year follow-up using the General Anxiety Disorder-7 (GAD-7) and Patient Health Questionnaire (PHQ-9) questionnaires. RTL was measured at baseline and 5-year follow-up by amplifying telomeres and single copy gene separately with the use of quantitative real-time PCR. Associations were estimated using linear and logistic regressions.

Results: In our sample, 32.3% had a PHQ-9 score >10 and 26.8% had a GAD-7 score >10. Baseline telomere length, concomitant telomere length, and rate of telomere shortening over 5 years were not associated with higher anxiety or depressive symptoms. Interestingly, higher anxiety scores were associated with a faster trend of telomere shortening (β: 0.69 faster telomere shortening ; 95% CI: -0.020 to 1.408). Adjustment for potential covariates will be assessed.

Conclusion: Anxiety may contribute to telomere shortening over time, which emphasizes the importance of taking into account mental health disorders in the prevention of premature aging and exploring the directionality of the relationship between mental health and telomere length.

RF3   Social determinants, mental health care & mortality
Fri 9 Sep, 12:30 – 13:30
Lecture Room 4
Chair: James Kirkbride, UCL, UK

RF3.01   Measuring social exclusion and its distribution in England

Jen Dykxhoorn[1]; David Osborn[1]; Laura Fischer[1]; David Troy[2]; James B. Kirkbride[1]

[1] UCL, UK; [2] University of Bristol, UK

Lay Summary: Social exclusion is an umbrella term which describes people and groups who are not able to fully participate in society. Social exclusion is an involuntary state, where people are not given the opportunities to work, learn, or participate in the ways they would like due to poverty (material exclusion), lack of social relationships and networks (relational exclusion), not participating in political and collective action (political exclusion), not having access to online resources (digital exclusion), and systematic exclusion in society due to discrimination, stigma, inequalities, and other broad factors (structural exclusion). In this research, we explore the idea of social exclusion in detail and propose a way of measuring social exclusion in a population cohort study from the UK. It provides a clear example of how population-based surveys can be used to estimate complex concepts of public health import and adds to the growing evidence of inequalities across age, ethnic group, and region across domains of social exclusion, which can inform public health efforts to reduce inequalities.

Background: Social exclusion is a multidimensional concept referring to the restricted ability of individuals or groups to participate fully in society. While social exclusion has been used to explore patterns of disadvantage, it has been difficult to measure. By reconceptualising social exclusion as a key public health issue, we aimed to use population-based data to measure social exclusion and its domains.

Methods: Sample: We used data from Understanding Society (USoc) to develop a multidimensional measurement approach using data from 2009/10, replicated in 2018/19. Approach: We defined five domains of social exclusion from the published literature and expert consultation: material, relational, political, digital, and structural. We conducted principal component analysis to identify the components, and generated domain scores and an overall social exclusion score. We described the distribution of overall social exclusion and domain scores by sex, region, age, and ethnicity.

Results: We identified 30 measures across the five domains of social exclusion. We conducted a PCA in each domain, retaining 16 components to calculate domain-specific scores and an overall social exclusion score in 2009/10, which we repeated 2018/19. Across both time points, we found the level of social exclusion was higher in the youngest age group and decreased by age. We found elevated levels of overall social exclusion for minority ethnic groups including African, Arab, and Caribbean groups compared to White British groups.

Conclusion: We developed an overall measure of social exclusion with five domains. We applied this measure to two waves of USoc and found different distributions of social exclusion by age, ethnicity, and region. These patterns suggest that attention should be paid to the separate domains as they had different population distributions. This measurement approach helps us move beyond conceptual discussions of social exclusion and demonstrates the utility of a quantitative measure of social exclusion for use in health and social research.

RF3.02   The role of social relationships in the association between mental disorders and mortality – a population-sampled cohort study

Lisbeth Mølgaard Laustsen[1 2]; Mathias Lasgaard[4]; Linda Ejlskov[4]; Søren Dinesen Østergaard[1 2]; Jaimie Gradus[5]; Danni Chen[1]; Oleguer Plana-Ripoll[1 2]

[1] Aarhus University, Denmark; [2] Aarhus University Hospital, Denmark; [3] DEFACTUM - Public Health and Health Service Research, Central Denmark Region, Denmark; [4] National Centre for Register-based Research, Aarhus University, Denmark; [5] Boston University School of Public Health, United States

Lay Summary: We will explore to what extent loneliness, social isolation and poor social support are predictors of increased mortality among individuals with a mental disorder. Knowledge on the potential contribution of social relationships to the excess mortality among individuals with a mental disorder may improve preventive public health efforts and inspire future research on the underlying causal mechanisms.

Background: Mental disorders represent one of the greatest global public health challenges due to its prevalence, consequent disability and economic costs. Furthermore, substantial excess mortality is observed among individuals with mental disorders. In the last decade, research has also identified social relationships, measured with indicators such as loneliness, social isolation and poor social support, as key determinants of mortality. Notably, loneliness, social isolation and poor social support are all highly prevalent among individuals with mental disorders. However, it remains unclear to what

extent loneliness, social isolation and poor social support are also predictors of increased mortality among individuals with mental disorders.

Methods: Every fourth year, the population-based Danish National Health Survey ("How are you?") is carried out. The study population will be composed of appr. 160,000 individuals aged 16+ years who participated in this public health survey in 2013 or 2017. A cohort design will be applied in which individuals will be followed up from the date of survey participation until death, emigration or end of data availability (currently 31st Dec 2021), whichever came first. Information any mental disorder (excluding organic disorders and intellectual disabilities) in 18 years prior to the survey will be obtained from the Danish Psychiatric Central Research Register. Information on loneliness, social isolation and poor social support was provided at the Danish National Health Survey. All-cause and cause-specific mortality in the follow-up period will be estimated using the date of death from the Danish Civil Registration System and the cause of death from the Danish Register of Causes of Death. The cause of death will be categorized in external causes including suicide, homicide and accidents and natural causes including all other causes. Additionally, we will include information on age, sex and country of origin, education, income and the severity of the mental disorder.

Results: We plan to start data analysis in July 2022. As the main analysis, we will report age-adjusted sex- specific mortality rate differences (MRDs) and mortality rate ratios (MRRs) comparing individuals with low and high scores on loneliness, social isolation and poor social support, respectively, among individuals with and without a prior mental disorder. Additionally, MRDs and MRRs will be estimated for external and natural causes of death for each diagnostic group of mental disorders. Not least, MRRs will also be estimated with added adjustment for i) country of origin, education and income and ii) severity of the prior mental disorder.

Conclusion: Importantly, this study may lead to identification of relevant target groups for preventive interventions. Furthermore, the results will provide knowledge on the potential role of social relationships in the excess mortality among individuals with a mental disorder and thus provide indications on the underlying causal mechanisms.

RF3.03 The role of socioeconomic status on the association between mental disorders and mortality: a systematic review

Danni Chen[1,2]; Linda Ejlskov[3]; John J McGrath[4]; Julie Werenberg Dreier[3]; Lisbeth Mølgaard Laustsen[1,2]; Henrik Toft Sørensen[1,2]; Oleguer Plana-Ripoll[3]

[1] Aarhus University, Denmark; [2] Aarhus University Hospital, Denmark; [3] National Centre for Register-based Research, Aarhus University, Denmark; [4] The University of Queensland, Australia

Lay Summary: We conduct a systematic review of studies examining the association between mental disorders and mortality depending on socioeconomic characteristics. Knowledge on the contributions of socioeconomic status (SES) to excess mortality in individuals with mental disorders may guide decisions on interventions against social disparity.

Background: Socioeconomic deprivations have been frequently proposed as factors modifying or mediating the relation between mental disorders and mortality. However, a clear quantification of the contributions of SES to the mortality risks in people with mental disorders is lacking. This study is the first to identify and synthesize the literature on the effect modification role of SES on the association between mental disorders and mortality.

Methods: In this systematic review, we will search four databases: MEDLINE, EMBASE, PsycINFO and Web of Science for eligible journal articles published from 1980 to early June 2022. The protocol will be registered in PROSPERO soon. The search strategy includes text words in title and abstract and controlled terms specific for each database (e.g., MeSH terms for MEDLINE). Studies will be included if they analyzed the influence of at least one SES indicator on the relation between mental disorders and mortality. Both general terms for mental disorders (e.g., mental disorders) and specific diagnoses (e.g., mood disorders, substance use disorders, schizophrenia, depression) will be used. In addition, snowball search will be performed in reference lists of included articles. All titles/abstracts will be screened for eligibility independently by two reviewers, followed by full-text screening for potentially relevant articles. Study authors (the corresponding authors) may be contacted via email for further information. Two reviewers will independently perform the quality assessment using the modified Newcastle-Ottawa Scale checklist. One reviewer will extract the information on study design, participant characteristics, diagnosed mental disorders, type of SES stratification, mortality estimates, adjusted confounding variables, and another reviewer will verify accuracy. All discrepancies will be resolved by consensus and discussion with a third reviewer. A narrative synthesis will be presented in the form of tables, outlining comparable information. We will determine the feasibility of meta-analysis during the process (depending on the volume of eligible studies and the degree of similarity across population characteristics and SES measures).

Results: We plan to start the formal searches and screening procedure in June 2022. We will report the summary of mortality estimates (both absolute and relative risks) for people with specific types of mental disorders compared with those without mental disorders or the general population. Estimates will be shown for males and females separately and both sexes combined. All estimates will be stratified by SES. If sufficient articles are found, results will be given separately for different

age groups, SES measures and causes of death.

Conclusion: This study helps understand the existence, strength and direction of each SES indicator's impact on the relation between mental disorders and mortality. Knowledge on the association between mental disorders and mortality for different SES may guide decisions on interventions against social disparity.

RF3.04   Mortality in persons with recent primary or secondary care contacts for mental disorders in Finland

__Kimmo Suokas__[1]; Christian Hakulinen[2]; Reijo Sund[3]; Olli Kampman[1]; Sami Pirkola[1]
[1] Tampere University, Finland; [2] University of Helsinki, Finland; [3] University of Eastern Finland, Finland

Lay Summary: This national register-based study aimed to assess the excess mortality related to mental disorders including data on both primary and secondary care. Mental disorders do not appear to increase mortality to the extent previously reported, when both primary and secondary care treated patients are considered. This comprehensive study gives more optimistic view on the burden of mental disorders than previous literature.

Background: Excess mortality among persons with mental disorders has been consistently documented, but the mortality risk over a full spectrum of mental disorders treated both in primary and secondary care remains to be explored at a nationwide level. The global shortage of mortality data concerning mental disorders in primary care may lead to an overestimation of the population-wide burden of the full spectrum of treated mental disorders.

Methods: We used individual-level register data concerning all citizens with Finnish background aged at least 20 years and living in Finland at some point between January 1, 2011 and December 31, 2017. We identified all deaths (using the Finnish Causes of Death Register), the dynamic population at risk of death (through Population Registers), and all mental health contacts (using Care Register for Health Care, in which primary care has been included since 2011) during that period. Mortality rate ratios (MRRs) in individual with primary or secondary care contacts or secondary care contacts only compared to those without, were estimated using a Poisson regression model. Men and women were analyzed separately. The following individual-level cofactors were included: age, urbanicity of residence area, region of residence, living alone status, level of educational attainment, economic activity, equivalized household net income deciles (with three-year lag), and physical comorbidity (Charlson Comorbidity Index (CCI), categorized by previously used cut-points: none, 1-3, and ≥4).

Results: Adjusted MRRs of 1.63 (95% CI: 1.60-1.65) and 1.20 (1.18-1.22) for men and women with a one-year history of primary or secondary care mental health treatments were observed, compared to those without. These MRR estimates were 27% and 42% lower compared to the MRRs of 2.24 (2.19-2.30) and 2.07 (2.01-2.12), respectively, in the analysis with secondary care only. The presence of physical comorbidities and adjustment for individual level indicators of socioeconomic position attenuated, but did not eliminate, the associations.

Conclusion: These findings confirm the previously reported evidence of excess mortality in people with mental disorders, but also suggest that the previously published MRR estimates would have been considerably lower if primary care had been included in those analyses. As mental disorders are commonly treated in primary care, the current results are likely to have generalizability, especially in high-income countries.

RF3.05   Life expectancy and lifespan variation among people with mental disorders: a nationwide, register-based cohort study from Denmark

__Yan Zheng__[1]; Oleguer Plana-Ripoll[1]
[1] Department of Clinical Epidemiology, Aarhus University and Aarhus University Hospital, Denmark

Lay Summary: This study measures life expectancy and lifespan variation for people with mental disorders. Compared with the general population, people with mental disorders not only have shorter life expectancy but also greater lifespan variation. This draws the public's attention towards the health inequality among people with mental disorders.

Background: Globally, mental disorders have been considered a serious public health concern. Mental disorders are associated with higher mortality rates, long-term disability and morbidity, as well as an increased risk of subsequent medical conditions. However, the variation in life expectancy for people with mental disorders has not been quantified before.

Methods: We designed a population-based cohort including all individuals older than 15 years living in Denmark at some point between Jan 1, 1995 and Dec 31, 2018. Information on mental disorders (any mental disorders and major types such as substance use disorders and schizophrenia spectrum disorders) was obtained from the Danish Psychiatric Central Research Register. Life expectancy and lifespan variation metrics were calculated for both people with mental disorders and the general population. Besides, longitudinal trends were also investigated across sexes and types of mental disorders.

Results: Compared with the general population, people with any mental disorder have shorter life expectancy (76 years in females and 70 years in males, compared to 83 years and 79 years in the general population, respectively). Additionally, they

are more likely to experience greater lifespan variation (0.7 years in females and 0.8 years greater than corresponding values in the general population). This pattern can also be found across observed types of mental disorders. Among the examined types, substance use disorders were more closely associated with shorter life expectancy and greater lifespan variation. From 1995 to 2018, the difference in both life expectancy and lifespan variation between those with mental disorders and the general population reduced, especially for mood disorders and neurotic disorders. For those diagnosed with schizophrenia or substance use disorders, the life expectancy gap has increased slightly over the study period for both females and males.

Conclusion: Life expectancy and lifespan variation are important measures that can be used to quantify the health conditions among people with mental disorders. These metrics can provide new insights in future studies of the most important causes of death that contribute to a shorter and more inequal life expectancy for people with mental disorders.

RF3.06   The Association Between Trust in the Workplace and Government and Healthcare Workers' Mental Health During the Initial COVID-19 Outbreak

Djordje Basic[1]; Els M.A. van der Ven[1]

[1] Vrije Universiteit Amsterdam, Netherlands

Lay Summary: This study looked at the relationship between trust in the workplace and the government and mental health outcomes among health care workers (HCWs) in 22 countries. We found that low trust in the workplace and the government was associated with more severe depression and anxiety symptoms. Our findings suggest that HCWs' trust should be fostered, especially in crisis times.

Background: Studies show that the Covid-19 pandemic negatively influences HCWs' mental health. Various demographic, environmental, and biological factors have affected the relationship between Covid-19 rates and people's mental health. Bollyky1 showed that trust in the government had large and significant associations with lower Covid-19 infection rates across 177 countries. However, no studies have explored the relationship between HCWs' trust in the workplace and government and their mental health during the Covid-19 pandemic. Our study aimed to investigate the role of trust in the workplace and government in the relationship between HCWs' exposure to the Covid-19 pandemic and their anxiety and depression symptoms. We were also interested if these findings would differ across countries.

Methods: This study was part of the "HEROES"2, a prospective cohort study including 22 countries. With a cross-sectional design, we explored the relationship between HCWs' trust in the workplace and government and their mental health during the initial outbreak of the pandemic (April to December 2020). Our sample consisted of clinical and non-clinical HCWs at different health facilities. We collected data on age, gender, educational level, place of work and current job, trust in the workplace, and government. We measured anxiety symptoms using the twelve-item General Health Questionnaire3 (GHQ-12). We measured depressive symptoms using the nine-item Patient Health Questionnaire4 (PHQ-9). We conducted linear regression models for each country to assess the association between trust variables and anxiety symptoms (GHQ-12) and quasi- Poisson models to assess the relationship between trust variables and depression symptoms (PHQ-9).

Results: Our sample consisted of 32410 HCWs, most of whom were women (75.1%) with an average age of 40. The highest proportions of HCWs were physicians (27.4%) and nurses (20.3%). Our sample's average anxiety score was (M=12, SD=7), and the average depression score was (m=5, IQR=7). High variation across the countries was observed for trust in the workplace and the government (e.g., 87.6 % of Dutch HCWs trusted their government compared to the 24.9% of Guatemalan HCWs). Trust in the workplace and government was a small and negative significant predictor of psychological distress (β: -.819, $p<.001$; β: -.821, $p<.001$). Similarly, trust in the workplace and government was a small and negative significant predictor of depression symptoms (β: -.093, $p<.001$; β: -.122, $p<.001$).

Conclusion: This study was the first to explore the global relationship patterns between HCWs' trust in the workplace and government and their mental health during the Covid-19 pandemic. Despite different levels of trust in the workplace and government across the countries, we found a consistent relationship between trust and mental health. As an important factor related to HCWs' mental health, HCWs' trust should be fostered, especially in crisis times.

RF3.07   Risk of hospitalised falls and hip fractures in working age adults receiving mental health care

Eugenia Romano[1]; Ruimin Ma[1]; Gayan Perera[1]; Robert Stewart[1]; Konstantinos Tsamakis[1]; Marco Solmi[3]; Davy Vancampfort[4]; Joseph Firth[2]; Brendon Stubbs[1]; Christoph Mueller[1]

[1] King's College London, UK; [2] The University of Manchester, UK; [3] University of Padova, Italy; [4] KU Leuven, Belgium

Lay Summary: In this retrospective cohort study we investigated risks of hospitalised falls and hip fractures in working age adults receiving mental health care. We found that working age adults using mental health services have four times the incidence of hospitalised falls compared to general population. This result calls for the importance of targeted interventions

and prevention policies in this population.

Background: Falls and hip fractures are an important public health issues, and while there is a general knowledge on how people with mental illness have a significant poorer physical health compared to general population, there are few studies investigating risks of falls and hip fractures in working age adults with mental disorders. Hence, the aim of this retrospective cohort study is to examine risks of hospitalised falls or hip fractures in working age adults receiving mental health care in South London.

Methods: We analysed patients aged 18 to 64, who received a first mental illness diagnosis between 2008 and 2016. Primary outcome was hospitalised falls, and secondary outcome was hip fractures. We calculated age- and gender-standardised incidence rates and incidence rate ratios (IRRs) compared to local general population. Multivariate Cox proportionate hazard models were used to examine which mental health diagnoses were most at risk.

Results: In 50,885 patients, incidence rates were 8.3 and 0.8 per 1,000 person-years for falls and hip fractures respectively. When we compared mental health patients to the general population, age-and-gender- adjusted IRR for falls was 3.6 (95% CI: 3.3–4.0) and for hip fractures was 7.5 (95% CI: 5.2–10.4). The falls IRR was highest for borderline personality and bipolar disorder and lowest for schizophreniform and anxiety disorder. After adjusting for various confounders in the sample of mental health service users, borderline personality disorder yielded a higher and anxiety disorder a lower falls risk.

Conclusion: Working age adults using mental health services have almost four times the incidence of hospitalised falls compared to general population. This result calls for targeted interventions and prevention plans.

RF3.08   Predicting Mental Health of University Freshman Using Peer Relationship

Yeonju Lee[1]; Sungwon Choi[1]; Dongwoo Kim[1]

[1] Duksung Women's University, South Korea

Lay Summary: Among the various factors for college adaptation, if students experience difficulty in adapting to social relationships, their satisfaction and involvement with the college will decrease rather, resulting in an attrition or drop-out.

Background: College freshmen experience stress or negative emotions such as depression, social anxiety, worry, or suicidal thoughts in the process of major developmental changes (Dyson & Renk, 2006). The mental health of college freshmen affects later mental disorders in adulthood (Howard, Galambos & Krahn, 2010). The mental health of freshmen is mostly measured by surveys. But it is difficult that the mental health surveys show the predictive factors of psychological problems. Since freshmen spend a short time at the university, university authorities are more likely to collect peer relationship values of freshmen compared to other indicators of college adaptation. Therefore, this study explores that peer relationships predict mental health. Because friendships are interactions, social network analysis variables were used in this study.

Hypothesis 1: The weighted indegree centrality with intimacy at the beginning of the semester will predict the mental health latent value (depression, social anxiety, worry, and suicidal ideation as observed variables) at the end of the semester.

Hypothesis 2: The weighted outdegree centrality with intimacy at the beginning of the semester will predict the mental health latent value (depression, social anxiety, worry, and suicidal ideation as observed variables) at the end of the semester.

Methods: Data were collected in the spring semester of 2018. 37 college students in a women's university in Seoul, South Korea participated in this study. Participants completed a social networking questionnaire (weighted in and out degree-quantitative values with intimacy) using the Burt names generator at the beginning of the semester, and completed mental health questionnaires (the Korean version of the center for epidemiological studies depression scale, CES-D; Liebowitz social anxiety scale, LSAS; Penn State worry questionnaire, PSWQ; Suicide ideation scale) at the end of the semester. To explore that the peer relationship of freshman can predict mental health, SEM(Structural Equation Modeling) analyses were conducted using AMOS 21.

Results: The qualitative social network value, measured by the discussion networks, had a positive effect on college adaptation, measured by academic, emotional, and college environmental adaptations. The quantitative social network value, measured by the indegree and outdegree networks, didn't have a significant effect on college adaptation.

Conclusion: In this study, the qualitative social network value was associated with the adjustment of college students.

RF3.09   Examining informant reports of youth delinquent behaviours in school and home settings using the Trifactor Model

Alex Luther[1]; Scott Leatherdale[1]; Joel Dubin[1]; Mark Ferro[1]

[1] University of Waterloo - School of Public Health, Canada

Lay Summary: Informant discrepancies between parent and teacher reports of youth delinquent behaviours were determined, and associations with informant and youth characteristics were evaluated. Male parent sex, male youth sex, lower youth age, parental depression, and male teacher sex were associated with higher frequency of reporting delinquent

behaviours; while male parent sex, male youth sex, parental depression, lower parental education, lower household income, and lower teacher experience were associated with greater informant discrepancies. Understanding how informant and youth characteristics influence informant discrepancies can improve quality of assessments and tailoring of appropriate interventions to reduce youth delinquency.

Background: It is standard practice for multiple informants to provide assessments of youth health and behaviours, though this may lead to information discrepancies. Informant discrepancies can lead to different conclusions that impact assessment, classification, and interventions to reduce youth delinquency. The aim of this study was to develop a structural equation model to investigate how parent, teacher, and youth characteristics influence agreement in reporting of youth delinquent behaviours.

Methods: The trifactor model was used to develop three types of latent variables: the consensus view factor, the informant specific factors, and the item specific factors. Five delinquency items (theft, vandalism, cruelty, assault, truancy) reported by both parents and teachers were used as indicators for the three factor types in the trifactor model. Kappa was calculated to determine level of agreement between informant reports. The sample consisted of 1,948 youth aged 4-14 years (49% male) in the 2014 Ontario Child Health Study.

Results: Study results showed that male parent sex, male youth sex, and parental depression were associated with higher frequency of delinquent behaviours as reported by parents. Lower youth age and male teacher sex were associated with higher frequency of delinquent behaviours as reported by teachers. Parent and teacher agreement was minimal for violent behaviours ($\kappa=0.26$). Agreement for vandalism ($\kappa=0.15$), truancy ($\kappa=0.15$), cruelty ($\kappa=0.18$), and theft-related behaviours ($\kappa=0.20$) all failed to exceed the threshold of agreement. Agreement between parents and teacher reports on overall delinquency was minimal ($\kappa=0.26$). The consensus view factor, representing parent and teacher agreement, reported a higher frequency for male youth sex, male parent sex, lower parental education, lower household income, parental depression, and lower teacher experience.

Conclusion: This study showed that reports from different informants and settings are needed when assessing youth delinquent behaviours, and that these reports are individually valuable as they provide unique contextual information. This evidence can be used to enhance the quality of reports and their interpretations, and selection of appropriate interventions. Findings can aid in refining survey approaches to data collection across several settings and guide future research that uses multiple reports to investigate youth delinquency.

RF3.10   Comparing Youth With vs Without Outpatient Mental Health Services on Subsequent Acute Mental Health Care Visits

Jordan Edwards[1]; Li Wang[2]; Anne E. Fuller[3]; Kelly K. Anderson[4]; Katholiki Georgiades[1]

[1] McMaster University, Canada; [2] Statistics Canada, Canada; [3] University of Toronto, Canada; [4] Western University, Canada

Lay Summary: What we did: Our team posed the question, are youth with prior non-emergency mental health care visits, compared to youth without, less likely to visit emergency care for a mental health related concern in the future? What we found: We found no evidence that youth with versus without prior non- emergency mental health care visits were less likely to visit emergency care for a mental health related concern in the future. Why it's important: Our findings highlight the need to better understand the types of care youth are receiving in non-emergency mental health settings to determine if, and for whom, mental health services reduce the likelihood of future emergency mental health care visits.

Background: Use of acute care settings for mental health concerns has been increasing among youth in recent years. Improving access to outpatient mental health services may prevent downstream acute care visits. There is a need to examine the extent to which outpatient mental health services reduce the likelihood of future acute care visits. Our objective was to examine differences in rates of acute mental health care visits among youth with- versus without prior outpatient mental health services.

Methods: A total of 2,442 youth ages 14-17 years participated in a provincially representative cross- sectional epidemiological survey, the 2014 Ontario Child Health Study. This sample was individually linked to health administrative databases, which contain nearly universal coverage of all medically necessary physician and acute care visits, both retrospectively and prospectively. Our exposure was parent and youth reported outpatient mental health service contact in the six-month period prior to completing the survey. Exposed youth (n=691) were matched with unexposed youth using a propensity score informed by a range of clinical and socio-demographic factors. Our outcome was acute mental health care visits in the 18-month period following completion of the survey, ascertained though the linked health administrative data.

Results: In our propensity score matched sample, we found no difference in rates of subsequent acute mental health care visits (HR: 1.14; 95% CI: 0.44, 2.98) between youth with- versus without prior outpatient mental health services.

Conclusion: There is a need to further understand the types of services youth are receiving in outpatient settings to determine if, and for whom, outpatient mental health services reduce the likelihood of future acute mental health care visits.

RF3.11   Patterns of delinquent behaviours and experiences of victimization: a latent class analysis among youth in Ontario, Canada

Alex Luther[1]; Scott Leatherdale[1]; Joel Dubin[1]; Mark Ferro[1]

[1] University of Waterloo - School of Public Health, Canada

Lay Summary: Patterns of clustered delinquent behaviours and victimization experiences among children at home and school were determined. Approximately a quarter of youth were found to both perpetrate and be victimized by delinquent behaviours to varying degrees. Understanding different clusters of these behaviours and experiences will inform tailored and comprehensive reduction strategies.

Background: Perpetration and victimization by delinquent behaviours among youth harms individual health and generates public health impacts. Youth who perpetrate or are victimized by delinquent behaviours are more likely to have worse mental health, poor health behaviours, and risk compounding inequities that impact their health, social, and economic trajectories into adulthood. This study identifies patterns of delinquency and victimization in youth and examines whether youth, parent, and school factors are associated with patterns of delinquency and victimization.

Methods: The sample consisted of 1,948 youth aged 4-14 from the 2014 Ontario Child Health Study. Latent class analysis was performed to identify patterns of delinquent behaviours and experiences of victimization. 10 delinquency items and 2 victimization items reported by parents and teachers were used as predictors of delinquency and victimization patterns among youth in Ontario. Multinomial regression was conducted to examine associations between child, informant, and classroom characteristics on class membership.

Results: The latent class analysis identified 4 classes of youth delinquency and victimization patterns: 1) no delinquency and low victimization (75.4%), 2) moderate school delinquency and moderate victimization (7.8%), 3) moderate home delinquency and high victimization (11.8%), and 4) high delinquency and victimization (5%). Class differences were found on youth sex, household income, ethnicity, parental education, and parental depression. Youth age, urbanity, immigrant status, and class size were found to have no effect on class membership.

Conclusion: Approximately one quarter of youth have engaged with delinquent behaviours, with patterns of co-occurrence showing these youth are most often both perpetrators and victims. Our findings suggest that interventions need to approach youth delinquency and victimization as a spectrum of clustered behaviours and experiences, not as solely perpetrators or victims. Interventions need to consider both home and school contexts and be tailored to the specific patterns of delinquency and victimization among youth across these contexts. Similarly, screening and risk assessment efforts should target individuals exhibiting any behaviours or experiences with the understanding that other clustered items could be present currently or in the future. Due to known associations with mental health and substance use, reducing the prevalence of delinquency and victimization among youth may serve as primary prevention for youth mental health and addiction.

RF4   Children & young people's mental health: new approaches & evidence
Fri 9 Sep, 12:30 – 13:30
Lecture Room 5
Chair: Renee Gardner, Karolinska Institutet, Sweden

RF4.01   Exploring the longitudinal impact of social media use on adolescent mental health: Findings from the UK Longitudinal Household Study

Ruth Plackett[1]; Jessica Sheringham[1]; Jennifer Dykxhoorn[1]

[1] UCL, UK

Lay Summary: We looked at UK survey data that followed 10–15-year-olds from 2009-2019 and tested whether social media use reported at age 12 or 13 was related to self-reported mental health at age 14 or 15. We found little evidence that more social media use causes poorer mental health two years later and the relationship between social media use and mental health could mostly be explained by reported self-esteem. This is important for policy-makers and clinicians to understand, as it suggests that trying to reduce young people's social media use alone is unlikely to prevent or reduce poor adolescent mental health and factors like self- esteem may be more important to consider.

Background: Most young people use social media and there is growing concern that it is having a negative impact on mental health, with cross-sectional studies suggesting there is a relationship between social media use and depression and anxiety in young people. However, there is little evidence available to understand if this is a causal relationship. We examined the longitudinal relationship between social media use and young people's mental health and the role of self-esteem and social connectedness as potential mediators.

Methods: The sample comprised 3,228 young people from the UK Longitudinal Household Study (Understanding Society, waves 1-10). Mental health at age 14 or 15 was measured by the SDQ Total Difficulties score. The number of hours spent on social media was measured at age 12 or 13. Self-esteem at age 13 or 14 was measured via eight questions and social connectedness was measured by two questions. Multilevel linear regression models explored whether social media use at age 12 or 13 predicted mental health at age 14 or 15. Path analysis with structural equation modelling investigated the mediation pathways.

Results: In unadjusted analysis, for those who spent 7 or more hours on social media vs none, their mental health problems trended upwards by 3.87 (95% CI: 0.71-7.03) but this relationship was attenuated after including covariates. In unadjusted path analysis, more social media use was associated with lower self-esteem (β: -0.10, $p<0.05$), which in turn was associated with more mental health problems (β: -6.80, $p<0.001$). The indirect effect (β: 0.70, $p<0.05$) showed that 68% of the effect of social media use on mental health two years later was mediated by self-esteem. This relationship was attenuated after adjusting for covariates and in imputed data, and social connectedness was not associated.

Conclusion: This study shows the importance of longitudinal evidence, as we found there was little evidence to suggest a causal relationship between social media use and mental health issues two years later. Interventions or prevention strategies to improve young people's mental health that address social media use alone may not improve young people's mental health but those that consider factors like self-esteem may be more effective.

RF4.02   Puberty as an effect-modifier for the association between mobile phone usage and later internalizing symptoms in adolescents in the SCAMP cohort

Alexander Spiers[1]; Chen Shen[1]; Rachel Smith[1]; Martina Di Simplicio[1]; Supitcha Patjamontri[2]; Jo Adaway[3]; Brian Keevil[3]; Syed Faisal Ahmed[2]; Mireille Toledano[1]

[1] Imperial College London, UK; [2] University of Glasgow, UK; [3] The University of Manchester, UK

Lay Summary: We assessed whether mobile phone usage predicted symptoms of depression or anxiety in adolescents from Greater London two years later, and whether their physical (pubertal) development changed the effect of mobile phone use. We found that greater time using a mobile phone for social media increased risk for depression and anxiety, and also that girls who were less physically developed were more at risk than their more mature peers. This work shows that puberty, which is a critical period in a young person's development, and involves social, cultural and biological changes, may be important when assessing risks relating to social media and mental health.

Background: Longitudinal evidence linking specific mobile phone activities (e.g., internet browsing, instant messaging, social media usage) to depression and anxiety during adolescence is limited and conflicting. We investigated whether duration of these mobile phone activities predicted depression and anxiety in adolescents in London at two-year follow-up, and whether puberty modified these associations.

Methods: Participants (N = 2,680) were from Study of Cognition, Adolescents & Mobile Phones (SCAMP), a London-based

prospective school cohort study. Participants (median age 12.1 and IQR: 11.8, 12.3 at baseline), completed questionnaires about their weekend and weekday mobile phone use, emotional symptoms (SDQ) and possible confounding factors at baseline and two-year follow-up. Depression (PHQ-9) and anxiety (GAD-7) symptoms were measured by questionnaire at follow-up only. Pubertal development was determined in 1,113 of these adolescents by Pubertal Development Scale (PDS) and in ~750 participants by salivary steroid concentration in boys or urinary gonadotrophin concentration in girls. Clustering of participants in schools was accounted for through mixed-effects modelling. Symptom severity was modelled by linear regression; clinical depression/anxiety category was modelled by ordinal logistic regression. Age-adjusted pubertal development z-score was added to models as an interaction term with exposure within each gender to assess whether puberty modifies these associations. Analyses incorporating biomarker indicators of pubertal development are ongoing.

Results: Greater time using a mobile phone for social media at baseline was associated with depression (OR: 1.15; 95% CI:1.03, 1.28) and anxiety (1.16; 95% CI:1.03, 1.30) clinical categories at follow-up. More time instant- messaging and actively using internet on a mobile phone was associated with depression only (1.05; 95% CI:1.00, 1.10 and 1.08; 95% CI:1.00, 1.17, respectively). Call duration and text messaging were not associated with anxiety or depression symptom scores. Adjusting for sleep duration at baseline attenuated these effects for all modes of usage. Girls with lower pubertal development as measured by PDS z-scores had a greater effect of social media usage on PHQ-9 scores than more mature peers when adjusting for confounders, but not when conditioning on baseline SDQ emotional subscale.

Conclusion: Mobile phone usage involving internet use and particularly social media appears to increase risk of depression and anxiety symptoms reaching clinical thresholds longitudinally, even after adjusting for confounders and emotional symptoms at baseline. Pubertal factors in girls may explain observed heterogeneity in social media's relation with depression. Further research on mobile phone and social media should explore whether pubertal factors can increase risk for internalizing disorders.

RF4.03 Police contact, stop and search, and mental distress among young people in inner-city London: findings from the REACH cohort study

Samantha Davis[1]; Gemma Knowles[1]; Charlotte Gayer-Anderson[1]; Daniel Stanyon[2]; Alice Turner[1]; Aisha Ofori[3]; Lynsey Dorn[4]; Rachel Blakey[5]; Katie Lowis[1]; Esther Putzgruber[1]; Young Persons Community Champions[1]; Schools Working Group[1]; Natalie Creary[6]; Jacqui Dyer[6]; Nathaniel Martin[6]; Stephani L. Hatch[1]; Kamaldeep Bhui[7]; Craig Morgan[1]

[1] ESRC Centre for Society and Mental Health, UK; [2] Tokyo Metropolitan Institute of Medical Science, Japan; [3] The Centre for Justice Innovation, UK; [4] Oxford Health NHS Foundation Trust, UK; [5] University of Bristol, UK; [6] Black Thrive Global, UK; [7] University of Oxford, UK

Lay Summary: Using data from around 3000 secondary school pupils in London, we wanted to understand (a) which groups of young people are most likely to come into contact with the police, with a focus on stop and search, and (b) whether mental distress is more common among those stopped and searched compared with those never searched. We found that racially minoritised boys were most likely to be searched and that mental distress was greater among those searched (vs. not). This work adds to the body of knowledge on the racial inequalities in stop and search and emphasises the need to consider the mental health impacts of stop and search on young people.

Background: Police powers to stop and search have been scrutinised and challenged for decades, in part due to evidence of its unequal use. Young people, Black people, and boys/men remain most at risk of being stopped and searched by the Metropolitan Police. Police interactions, like stop and search, can be distressing, stigmatising, and threatening for young people to experience, especially if the encounter is hostile. Adolescence is a critical developmental period in which many mental health problems emerge and in which traumatic events can be particularly damaging over the life-course. We sought to investigate the extent of police contact overall and by social group and to examine associations with mental distress.

Methods: We analysed data from the third wave of REACH (Resilience, Ethnicity, and AdolesCent mental Health), a cohort study of adolescent mental health in inner-London. Analyses are on 2831 young people (13-16y) from 10 secondary schools (85% minoritised ethnic groups). Eleven items (yes/no) were used to assess police contact. Five mental health outcomes were assessed (mental distress, conduct problems, self-harm, anxiety, and depression) using validated measures (Strengths and Difficulties Questionnaire, the Development and Adolescent Wellbeing Assessment, Generalised Anxiety Disorder Scale, Short Mood and Feelings Questionnaire). We estimated prevalence of police contact overall and by social group (i.e., sex, ethnic group, household income) and used multilevel logistic regression to examine associations between police contact and mental health.

Results: Over two thirds of the cohort (68.9%; 95% CI: 67.0%, 70.6%) reported police contact and 12.3% (11.0%, 13.7%) reported being stopped and searched. Stop and search was more common among boys (21.0% [18.6%, 23.6%]) than girls (3.7% [2.9%, 4.9%]) and among all racially minoritised groups (e.g., Black Caribbean: 17.3% [13.0%, 22.5%]) compared with White British (6.0% [4.3%, 8.4%]). Racial inequalities in stop and search were more pronounced among boys than among

girls. For instance, just under one in three Black Caribbean boys reported being searched (30.6% [22.9%, 39.5%]) compared with less than one in ten White British boys (9.0% [6.2%, 13.1%]). Young people stopped and searched were around 2-3 times more likely to report high levels of mental distress (e.g., adjusted RR 1.8 [1.4, 1.9] for overall mental distress) compared with those not stopped and searched.

Conclusion: We found strong evidence that (a) stop and search is used disproportionately among racially minoritised boys compared with their White peers, and (b) mental distress is more common among those stopped and searched by police compared with those not stopped.

RF4.04   Depictions of Mental Health in "Top Boy"

Wesley Quadros[1]; Akeem Sule[2]

[1] University of Oxford, UK; [2] University and Essex Partnership University NHS Foundation Trust, UK

Lay Summary: AS & WQ analysed Top Boy's depictions of mental health, which were found to be insightful and multifaceted. This analysis provides valuable insights with which to understand social determinants of mental illness and guide social psychiatry's attempts to create equity through public mental health.

Background: Social psychiatry faces a challenging relationship with pop culture. Understanding pop culture portrayals of mental health culture could be valuable to public mental health. ' Top Boy ' is a fictional show touching upon the experience of individuals living in the grip of a mental health syndemic in inner-city London. Top Boy covers in depth a number of heterogeneous mental health issues from the perspective of sufferers, in a way that appreciates how the sociocultural and economic factors at play in an individual's life will exacerbate their psychopathology. If we are to progress in our conceptualisation of social psychiatry and how to implement effective policy interventions such understanding is invaluable.

Methods: AS & WQ had structured discussions to analysing themes, social determinants and psychiatric correlations in Top Boy.

Results: Top Boy touches on aspects of mental health including immigration, the impact of violence, the impacts of urbanicity and deprivation syndemics, domestic abuse and PTSD. Violence as a trigger for PTSD is illustrated in the story of Jason, a young child who is exposed to domestic violence, resulting in avoidance of this environment and association with gangster Sully. Jason becomes desensitised to violence. Greater PTSD is linked with violence in a dose-dependent fashion (Abram et al., 2004). Sully watches Jason die after a racially motivated attack, illustrating the nested nature of such trauma as Sully develops PTSD; he is seen re- experiencing the fire. Sully can later be seen to be hyperaroused to perceived threat. Exposure to violence, particularly in the context of gang membership, is strongly associated with anxiety disorders. (Coid et al 2011) Impacts on relationships and childhood neglect are explored through Ra'Nell and Lisa. Lisa is a single mother who's survived an abusive relationship. She becomes severely depressed resulting in her being sectioned and an extended psychiatric admission. Ra'nell, her son, falls into the narcotic trade, leading to truancy and violence. His friend Gem is seen to try drugs when forced to act as a mule. Involvement in the drug economy leads to drug dependence among gang members (Coid et al 20111). These come together in the estate syndemic; psychiatric morbidity is exacerbated synergistically with health inequalities caused by poverty, stress, structural violence and racial discrimination. This leads to educational disadvantage through truancy in the cases of Ra'nell and Ats, who's mother suffers from the mental health effects of unemployment and deportation threat. Individuals are then more likely to interact with gangs in this syndemic environment and so the cycle of illegal activity, violence and ill health perpetuate.

Conclusion: Gang members currently will make a large contribution to mental health disability and service burden in syndemic areas. Top Boy is realistic and relatable portrayal of such syndemic environments. Analysis provide ideas for how individuals can be better reached by psychiatric services, and what interventions can help improve the socioeconomic factors that lead to the behaviours/paths that individuals end up in. This could be crucial to understanding challenge and opportunity for public mental health in the context of such syndemics.

RF4.05   Social inequality in 15-year-olds' depressive symptoms in Denmark: A longitudinal cohort study.

Christine Leonhard Sørensen[1]; Oleguer Plana-Ripoll[2]; Ute Bültmann[3]; Trine Nøhr Winding[1]; Karin Biering[1];

[1] Goedstrup Hospital, Denmark; [2] Aarhus University and Aarhus University Hospital, Denmark; [3] University of Groningen, Netherlands

Lay Summary: We studied social inequality in depressive symptoms in 15-year-olds in Denmark the past decades. The proportion of 15-year-olds with depressive symptoms has increased over time and the social inequality in adolescents with depressive symptoms looks different depending on how you measure social status, with the strongest associations related to subjective social status. The findings highlight the extent of the problem with depression in adolescence and help

policymakers to make informed decisions about when and to whom preventive initiatives should be initiated.

Background: Poor mental health is a global challenge that continues to grow. Denmark has witnessed an increase in the prevalence of medication use, psychiatric diagnosis, and self-reported poor mental health over the past decades with the incidence rate (IR) of recurrent depression in 15-20-year-olds rising from 0.12 in 1970-1984 to 5.95 in 2005-2016. This has been paralleled by a worsening over the past five years in reported mental health among 16-24-year-olds. . Social inequality in mental health is a well-known reality, but little is known about whether socioeconomic status (SES) is associated with this negative development in adolescents' mental health. This study links survey data and register data to explore the association between SES (subjective and objective) and symptoms of depression in 15-year-old adolescents in 2004 and 2017.

Methods: Survey data on 15-year-olds stem from the VestLiv cohort in 2004 (n=3,004) and the FOCA cohort in 2017 (n=11,206). In the cohorts, the prevalence of self-reported depressive symptoms was measured with the 4-item version of the Center for Epidemiological Studies-Depression scale for Children (CES-DC4). Subjective social status (SSS) was measured with The MacArthur Scale of Subjective Social Status – youth version. The prevalence of depressive symptoms was stratified on objective SES (mother's educational level and equalized household) and SSS (in society and school) in the two surveys to examine the association with depression.

Results: We observed an increase from 2004 to 2017 in the proportion of 15-year-olds' depressive symptoms both in females (from 39.0% to 62.0%) and males (30.4% to 43.6%). No clear pattern was seen in the distribution of depressive symptoms in the objective SES measures in 2004, except for females with low educated mothers (OR: 1.36) compared to females with medium educated mothers and females from families with high household incomes (OR: 0.59) compared with females from families with average household incomes. However, the proportion of depressive symptoms was highest among adolescents with low SSS, especially among females with low SSS in society (60.9% in 2004 and 82.8% in 2017 vs. 34.7% and 54.5% among females with high SSS) and in school (68.9% in 2004 and 88.7% in 2017 vs. 30.9% and 53.5% among females with high SSS). Moreover, the association between low SSS and depressive symptoms increased from 2004 to 2017.

Conclusion: The proportion of depressive symptoms has increased in 15-year-olds from 2004 to 2017, especially among females. We found an association between SSS and depressive symptoms and the association was stronger in 2017 than in 2004. No association between objective SES and depressive symptoms was found, except in females with low educated mothers and females from families with high household income.

RF4.06   Parent-child nativity, race and ethnicity, and number of adverse childhood experiences among U.S. children

Kasra Zarei[1]; Lisa Kahle[2]; Dennis Buckman[2]; Kelvin Choi[1]; Faustine Williams[1]

[1] National Institute on Minority Health and Health Disparities, United States; [2] Information Management Services, Inc., United States

Lay Summary: We compared the number of adverse childhood experiences (ACEs) across race/ethnicity and parent-child nativity. We found significant disparities in exposure to numbers of ACEs, highlighting the need for trauma-informed health equity efforts.

Background: ACEs are associated with short- and long-term physical and mental health outcomes. We examined the relationship between parent-child nativity, race/ethnicity, and ACEs among U.S. children.

Methods: Data were from the 2016-2019 U.S. National Survey of Children's Health (n=131774). Parents of sampled children reported whether parents and/or children were born in the U.S. Responses were used to define immigrant generation: 1st generation=both parents and children born outside the U.S.; 2nd generation=one parent born outside the U.S. and the child born in the U.S.; 3rd+ generation=both parents and child born in the U.S. Parents also responded to nine ACE questions about household challenges (e.g., parental separation, family violence). Responses were recorded as the number of ACE exposures (0, 1, 2, 3+). We used weighted multinomial logit models to examine the associations of number of ACEs with race/ethnicity stratified by immigrant generation, and with immigrant generation stratified by race/ethnicity (Asian, Black, Hispanic, White, Other), adjusting for demographics and accounting for the survey design.

Results: The prevalence estimates of 0, 1, 2, and 3+ ACEs among U.S. children were 56.84%, 22.88%, 9.17%, and 11.12% respectively. Racial/ethnic differences exist in each household generation. For example, in 1st generation households, Black children had higher odds of exposure to 1, 2, and 3+ ACEs than White children (aOR: 3.69, 3.37, 7.54, respectively; p<0.05). Similar patterns persisted into 2nd and 3rd+ generation households, although the magnitudes reduced (e.g., aOR: for 3rd+ generation=1.48, 1.74, and 1.53, respectively; p<0.05). In 1st and 2nd generation households, Hispanic children had higher odds of exposure to 1 ACE compared to White children (aOR: 2.63 and 1.32, respectively; p<0.05). However, in 3rd+ generation households, Hispanic children had higher odds than White children for exposure to 1, 2, and 3+ ACEs (aOR: 1.27, 1.41, and 1.74, respectively; p<0.05). Generational differences also exist in some racial/ethnic groups. For example, among White children, compared to 1st generation households, 2nd generation households had higher odds of exposure to 1 ACE (aOR: 2.22; p<0.05), and 3rd+ generation households had even higher odds of exposure to 1, 2, and 3+ ACEs (aOR: 3.14, 3.71,

and 10.71, respectively; p<0.05). Moreover, Asian children in 3rd+ generation households had higher odds than those in 1st generation households of exposure to 2 and 3+ ACEs (aOR: 4.42 and 4.27, respectively; p<0.05).

Conclusion: Compared to White children, Black and Hispanic children were more likely to be exposed to ACEs across immigrant generations, while exposure to ACEs was more likely among Asian and White children in 2nd and 3rd+ immigrant generations compared with 1st generation households. Given the known health consequences of ACEs, targeted delivery of trauma-informed care to racial/ethnic minorities and immigrant children may be needed to reduce health disparities.

RF4.07 Peer-friendship networks and self-injurious thoughts and behaviours in adolescence: a systematic review of sociometric school-based studies

Holly Crudgington[1]; Emma Wilson[1]; Molly Copeland[2]; Craig Morgan[1]; Gemma Knowles[1]

[1] King's College London, UK; [2] Michigan State University, United States

Lay Summary: 1. We reviewed fifteen studies that looked at the link between friendship networks and self-injurious thoughts and behaviours in secondary schools 2. We found some evidence that peer-friendship networks are linked with suicidal ideation, suicide attempts, and self-harm among adolescents. 3. Self-injurious thoughts and behaviours (SITBs) are a major public health challenge among young people, and this review highlights the need for more research to better understand how and why peer-friendship networks are related to SITBs.

Background: Self-injurious thoughts and behaviours (SITBs) are a prominent health challenge among adolescents. Adolescents' social relationships, including peer-friendship networks, are increasingly recognised as key determinants of health and behaviour. Yet little is known about the peer-friendship networks of adolescents with SITBs. This is the first systematic review of sociometric school-based studies that measure the peer-friendship network in adolescence and associations with SITBs.

Methods: We searched five databases: EMBASE(Ovid), PsychINFO (Ovid), MEDLINE(Ovid), CINAHL, and Web of Science in June 2021 (re-run in May 2022). Eligibility criteria included school-based sociometric studies of peer-friendship networks in adolescence (aged 11-18 years old) that measured some aspect of the peer network and associations with SITBs including self-harm (SH), suicidal ideation (SI), and suicide attempt (SA). Two independent reviewers screened titles and abstracts and reviewed the full texts of eligible articles. We extracted data from included studies, assessed study quality, and collated the results into a narrative synthesis.

Results: Fifteen studies were eligible for inclusion. Most studies were longitudinal (n=13), from the USA (n=12) and China (n=3), and assessed numerous peer-network metrics that can be grouped in to two conceptual ways: 1) structure (individual-level, network wide, and proximal peer metrics) and 2) exposure, selection, and socialisation of SITBs. There was large heterogeneity in the methods, analyses, and sociometric procedures used. Peer-friendship network metrics were associated with SI, SA, and SH in different ways and gender moderated many of the effects. For SH, only one study assessed individual-level metrics and found evidence that high betweenness centrality (bridging others) was positively associated with SH among adolescents and high sociality was negatively associated with SH among boys. Some evidence suggests that SH is both a socialised and selected behaviour among reciprocal best friends, reciprocal friendship groups, and direct friends. For SI and SA, there was some evidence that high popularity, sociality, and coreness (being central within your proximal peer-group) were negatively associated with SI and SA among adolescents and that being part of less dense networks, being isolated, and having intransitive friendships was positively associated with SI, particularly among girls. There is some evidence that exposure to SI and SA among friends is associated with an adolescent's own SI and SA.

Conclusion: This review emphasises that it is key to understand which specific aspects of the peer-friendship network are associated with SI, SA, and SH in adolescence and future research should focus on how and how and why these network processes might depend on gender and other contextual factors.

RF4.08 Student disclosure and non-disclosure of mental health within the university environment: a quantitative exploration

Amy Zile[1]; Bryony Porter[1]; Kenda Crozier[1]; Kristy Sanderson[1]

[1] University of East Anglia, UK

Lay Summary: This survey explored student mental health knowledge, help-seeking behaviours and experiences of stigma. University students had differing levels of understanding about mental health, and this explained some of their decisions to talk about their mental health with their university. It is important to understand the reasons a student may (or may not) talk about their mental health to staff or formally disclose their mental health to their university, such as stigma, inequities and lack of knowledge about available support.

Background: Mental health challenges are a significant contributory factor to attrition and drop out from university. Despite

the impact that adjustments and support could have on academic success, there appear to be gaps in communication and understanding of these processes. The aim of this study was to understand if student mental health literacy and perceptions of help seeking affect willingness to disclose and discuss mental health.

Methods: An online cross-sectional survey was designed. The Mental Health Literacy Scale (O'Connor & Casey, 2015), Perception of Stigmatisation by Others for Seeking Help Scale (Vogel et al., 2009), Self-Stigma of Seeking Psychology Help scale (Vogel et al., 2006), General Help Seeking Questionnaire (Wilson et al., 2005) and Disclosure Distress Index (Kahn et al., 2001) were used. Demographic information and disclosure status were also collected. Data were analysed using a series of correlations and multivariable regressions.

Results: 228 participants completed the survey, 50.2% identified as experiencing mental health challenges. 38% of students who disclosed had a negative experience and only 31% felt they had a positive experience. Over half reported non-disclosure despite experiencing difficulties, for fear of stigma, lack of a formal diagnosis, or inadequate support. Help seeking behaviours were associated with demographic and study characteristics; $F= 37.231$, $p=.000$, $R^2= .772$, R^2 adjusted $= .751$. Demographic and study characteristics were associated with Mental Health Literacy; $F=16.579$, $p=.001$., $R^2= .847$ R^2 adjusted$= .796$. Demographic and study characteristics explained a moderate amount of variance in disclosure; $F= 9.372$, $p=.059$., $R^2=.753$ R^2 adjusted$= .567$.

Conclusion: Student mental health literacy and general help seeking behaviours varied by demographic and study characteristics, (such as gender, ethnicity and level of study) and these were able to predict their relationship with disclosure of mental health challenges.

RF4.09   Autistic symptoms, irritability, and executive dysfunctions are segregated: A network modelling approach

Kenneth Ka Shu Lee[1]; Susan Shur-Fen Gau[2]; Wan-Ling Tseng[3]

[1] University of Oxford, UK; [2] National Taiwan University Hospital & College of Medicine, Taiwan; [3] Yale Child Study Center, United States

Lay Summary: We applied network modelling techniques to estimate the dynamics between individual autistic symptoms, irritability (angry mood and temper outbursts), and executive task performance in an in-depth cohort of 345 youths with autism diagnosis, their unaffected siblings, and neurotypical peers in Taiwan. Autistic symptoms, irritability, and executive dysfunctions were segregated from one another, with individual symptoms tightly interconnected within each of but not between the three clusters of symptoms. Alongside socio-cognitive symptoms, irritability and executive dysfunctions represent co-occurring difficulties in autism, and that more thorough screening and assessments are pivotal to better identify the diverse needs among youths with autism.

Background: Autism Spectrum Disorders (ASD) are known for their heterogeneous socio-cognitive difficulties; yet large-scale research attending to these individual differences at a symptom level is rare. Recent clinical evidence suggests that co-occurring irritability symptoms, including angry mood and temper outbursts, may exacerbate social difficulties in youths with ASD, and the neurocognitive underpinnings are largely unknown.

Methods: Data were drawn from an in-depth cohort of youths (N = 345, aged 6–18 years, 78.6% male) with ASD diagnosis (n=167), their unaffected siblings (n=58), and neurotypical peers (n=120) in Taiwan. Autistic symptoms were assessed by the parent-reported Social Responsiveness Scale. Irritability was indexed by the parent- and youth-reported Affective Reactivity Index. Executive dysfunctions (e.g., sustained attention, associative learning, working memory) were measured using the Cambridge Neuropsychological Test Automated Battery. Three types of network analyses were performed: (1) Graphical LASSO network estimated the weighted importance of individual autistic and irritability symptoms and executive task performance; (2) Relative importance network quantified the relative influences between symptoms; (3) Bayesian directed acyclic graphs estimated the most plausible directionality between symptoms.

Results: Numerous nonzero partial correlations were present within the clusters of autistic symptoms (rs: .07 to .56), irritability (rs: .01 to .45), and executive dysfunctions (rs: -.83 to .67), but subtle to almost non- existent between clusters (autistic symptoms – irritability: .01 to .08; irritability - executive dysfunctions: -.01 to .05), $\chi^2(5)$: 21.81, p <.001. Follow-up equivalence tests confirmed nonexistence of 14 out of 27 between- clusters edges lying within r: +/-.10. Such a pattern of segregation was also reflected in the relative importance network (autistic symptoms: lmgs: .14 to .38; irritability: lmgs: .09 to .27; executive dysfunctions: lmgs: .05 to .53). The directed acyclic graphs revealed the strongest edges from social communication difficulties to autism mannerisms (strength: -376.29) for autistic symptoms, and from "angry frequently" to "lose temper easily" (strength: -169.74) for irritability. Networks were reliably estimated (bootstrapped correlation: .75, cut-off: .50).

Conclusion: Autistic symptoms, irritability, and executive dysfunctions appear to be segregated clusters of symptoms. Findings highlight the need for more thorough screening and assessments of these co-occurring conditions in large-scale ASD research and clinical trials.

RF4.10   Student welfare during COVID-19: Perspectives from Australian secondary school staff

Mirjana Subotic-Kerry[1]; Dervla Gallen[1]; Bridianne O'Dea[1];

[1] Black Dog Institute, University of New South Wales, Australia

Lay Summary: We examined school staff perceptions of student mental health and the impact the COVID-19 pandemic had on the provision of mental health care in secondary schools in Australia during and following a period of school closures. Our results provide evidence that many school staff responsible for student wellbeing adapted their approach to addressing student mental health because of the pandemic. These findings develop our understanding of the impact the COVID-19 pandemic has had on school staff in relation to student wellbeing and are vital for future-proofing school staff and students against the significant disruptions to educational institutions caused by global crises.

Background: In Australia and worldwide, restrictions to reduce the spread of COVID-19 have included significant disruptions to educational institutions including school closures, the shift to online home-based learning, and major changes to the daily routines of students and school staff. To support students who were at home during this period, school staff had to rapidly shift to teaching and proving mental health support to students via new methods. This required adapting the method of communicating with students and learning new ways to engage with and support students virtually during this time. This study assessed school staff perceptions of student mental health during the COVID-19 pandemic and the impact the pandemic had on how school staff provided mental health care and supported students during and following a period of school closures.

Methods: This study utilized data from 24 secondary schools in South Australia and New South Wales, Australia participating in an implementation trial of a digital mental health service (Smooth Sailing). Sixty-eight secondary school staff including school principals, school counsellors and teaching staff (76.5% female; Mean age: 43.6 years) were invited to complete an online survey after a period of school closures resulting from the COVID-19 pandemic.

Results: The majority (86.8%) of staff surveyed reported an increase in student mental health issues and 80.9% reported having to change their communication methods to support students. The main methods of communicating with students about their mental health during school closures were via telephone (26.8), Zoom (25.4%), email (20.3%) and via Teams (7.3%). Half of respondents (50%) reported sending emails to students about their mental health 'a little' or 'a lot more' than prior to the pandemic. Similarly, over half (55.9%) had implemented additional supports such as a mental health service, program, or educational information session about mental health because of the pandemic. Three quarters of the sample (75.4%) believed the pandemic highlighted the need for more mental health initiatives. Almost two thirds (61.8%) of respondents felt that telehealth was a feasible alternative for following up with students for their mental health. However, staff reported concerns such as privacy, consent, and access to technology as barriers to delivering mental healthcare online.

Conclusion: The findings from this study provide insight into how the pandemic has impacted the way school staff deliver and support the mental health and wellbeing of adolescent students. These insights are integral for safe-guarding schools, staff and students against the disruption caused by major events.

RF4.11   Monitoring the development in research activities by means of bibliometrics

Anton Tambour Gregersen[1]; Armaghan Agharazi[1]; Povl Munk-Jørgensen[1]

[1] Psychiatric Research Academy, Denmark

Lay Summary: We monitored 2-year Journal Impact Factors (IF) yearly for all peer-reviewed publications from the adult psychiatry and the child and adolescent psychiatry departments in the Region of Southern Denmark (RSD). Then we performed graphic presentations of the development year by year of e.g. number of publications mean and median journal impact factor. Systematic routine monitoring of research activities is useful in research managing on all levels from overall organization to research groups and individuals.

Background: The increasing research activities in health care and the non-negligible resource allocations to research calls for quick and simple monitoring systems of the outcome of these activities.

Methods: Identification of all peer-reviewed publications during the year 2021. Adding the journals´ 2-year IF to each reference. From these we performed statistics and graphs illustrating the development in research activities over time for the total regional organization, different research units and groups.

Results: Development in number of publications, mean IF, median IF, initiatives taken by RSD, collaborations with non-RSD research projects. Examples will be presented at the congress.

Conclusion: This simple monitoring system offers a contribution to assessment of the outcome of overall resource allocation to research activities, as well as a possibility for research groups and individuals to follow their own activities in comparison to others. It is stressed that using journal IF is only one and a very crude measure among the multiple ways to determine the value of a research publication not forgetting assessment of relevance.

POSTERS

P1   Well-being, distress, mood & anxiety disorders, self-harm & suicidality
Thurs 8 Sep, 12:00 – 13:30
Recital Room

P1.01   Testing lifecourse theories characterising associations between maternal depression and offspring depression in late adolescence

Rebecca Lacey[1]; Dawid Gondek[1]; Brooke Smith[3]; Andrew Smith[2]; Erin Dunn[3]; Amanda Sacker[1]

[1] UCL, UK; [2] University of the West of England, UK; [3] Massachusetts General Hospital, USA

Lay Summary: The mental health of parents may affect the development of mental health problems in their children. We found that mothers' chronic depression increased the risk of depression at age 21 in their sons but for girls we found that mothers' chronic depression, particularly when it happened when their daughters were aged 6-8, increased the risk of depression in their daughters. Our study suggests that identifying and treating maternal depression early on is important to prevent mental health problems in children

Background: Maternal depression influences offspring mental health. Yet little is understood about how the duration and timing of maternal depression shapes youth risk for depression, which if understood could inform when best to intervene. This study aimed to determine how the timing and duration of maternal depression was related to offspring depression in late adolescence, and variations by sex

Methods: We used data from the Avon Longitudinal Study of Parents and Children (a prenatal cohort in the Avon area of England, 1991-2003), n=3,301. We applied a structured lifecourse modelling approach to maternal depression (assessed at thirteen points from prenatal period to adolescence) and late adolescent depressive symptoms (age 21, Short Moods and Feelings Questionnaire, SMFQ). Lifecourse models were accumulation (sum of timepoints when maternal depression was reported), sensitive periods (each period assessed as one during which maternal depression has a stronger effect) and instability (frequent fluctuations in maternal depression)

Results: Maternal depression was most common in the prenatal period (21.1% males; 22.2% females). For males, accumulation was the most appropriate model; for each additional period of maternal depression, depressive symptoms in late adolescence increased by 0.11 (95% CI: 0.07-0.15, 1-sided p value≤0.001). For females, exposure to maternal depression was associated with increasing depressive symptoms in late adolescence, with the largest effect in mid-childhood (increase of 0.27 units; 95% CI: 0.03-0.50, p=0.015 for difference between mid-childhood and other time-periods) and a smaller, equal effect at all other time-periods (increase of 0.07 units per time-period; 95% CI: 0.03-0.12, p=0.002)

Conclusion: This study highlights the importance of ongoing maternal depression for the development of depression in offspring through to late adolescence. Because long-term exposure to maternal depression was particularly important, early interventions are warranted.

P1.02   Factor and network structure of the Italian version of the International Trauma Questionnaire in late adolescents exposed to a natural disaster

Rodolfo Rossi[1]; Giulia D'Aurizio[2]; Valentina Socci[2]; Ramona Di Stefano[2]; Tommaso Jannini[1]; Isabella Federico[1]; Flaminia Reda[2]; Francesca Pacitti[2]; Alessandro Rossi[2]; Giorgio Di Lorenzo[1]; Philip Hyland[3]

[1] University of Rome Tor Vergata, Italy; [2] Università degli Studi dell'Aquila, Italy; [3] Maynooth University, Ireland

Lay Summary: 1. We evaluated the symptom and network structure of PTSD and cPTSD using the International Trauma Questionnaire- Italian version (ITQ) and the prevalence of PTSD and cPTSD in a sample of 1010 late adolescents enriched with exposure to a destructive earthquake (2009 L'Aquila earthquake). 2. We found higher rates of PTSD compared to cPTSD; further, the network structure highlights the importance of negative self-concept in cPTSD and avoidance in PTSD. 3. This is the first study to report on ICD-11 PTSD and cPTSD rates on an Italian late adolescence community sample enriched with exposure to a natural disaster.

Background: The 11th revision of the International Classification of Diseases has endorsed substantial changes in Post-Traumatic Stress Disorder (PTSD) and has introduced Complex PTSD (cPTSD). The objective of this study was to assess the symptom and network structure of PTSD and cPTSD using the International Trauma Questionnaire- Italian version (ITQ) and the prevalence of PTSD and cPTSD in a sample of late adolescents enriched with exposure to a destructive earthquake (2009 L'Aquila earthquake).

Methods: 1010 high school students participated to the study. Participants completed the International Trauma Exposure Measure (ITEM), a 21-items checklist capturing traumatic life events and associated features, and the Italian version of the International Trauma Questionnaire (ITQ) a self-report questionnaire measuring all aspects of the ICD-11 diagnostic criteria for PTSD and CPTSD.

Results: Confirmatory Factor Analysis supports that a six first-order correlated factors was the best fitting model of ICD-11 PTSD/cPTSD. The network analysis supports a clear separation between core PTSD symptoms and disturbance in self organization (DSO) symptoms, avoidance, and negative self-concept were the most central items. The prevalence of PTSD and cPTSD was 9.11% and 4.06%, respectively. Female participants reported higher rates of both PTSD and cPTSD.

Conclusion: This is the first study to report on ICD-11 PTSD and cPTSD rates on an Italian adolescence community sample. Consistent with other community samples, we found higher rates of PTSD compared to cPTSD. The results confirmed the factorial validity of the ITQ. The network structure highlights the importance of negative self-concept in cPTSD and avoidance in PTSD.

P1.03   Psychological distress and associated factors among nigerian healthcare workers during covid-19 pandemic

Adesanmi Akinsulore[1]; Olanrewaju Ibugbami[1]; Ibidun Oloniniyi[1]; Olakunle Oginni[1]; Tolulope Opakunle[2]; Victor Okorie[1]; Olushola Olibamoyo[3]; Champion Seun-Fadipe[4]; Olutayo Aloba[1]; Boladale Mapayi[1]; Abiodun Adewuya[3]

[1] Obafemi Awolowo University, Nigeria; [2] Osun state Univerity, Nigeria; [3] Lagos State University College of Medicine, Nigeria; [4] Leicestershire Partnership National Health Service Trust, UK

Lay Summary: Healthcare workers experience high level of stress during the COVID-19 pandemic, and we measured the level of this stress using some questionnaires. The result showed that 93.6% had experienced this stress during COVID-19 pandemic with 37.8% of them reporting mild form, 49.1% reported moderate form and 5.8% reported severe form. Also, 3.2% and 6.7% reported symptoms of anxiety and depression symptoms respectively. Female healthcare workers experienced higher levels of anxiety and depressive symptoms. Nurses and healthcare workers with anxiety reported more psychological distress when compare with other healthcare workers

Background: The COVID-19 pandemic has made healthcare workers (HCWs) more prone to psychosocial distress and other mental disorders. Thus, the aim of this study is to measure self-reported psychological distress and associated factors among a sample of Nigerian HCWs

Methods: This is a cross-sectional descriptive study; the first phase of a project for the development of a mobile-health intervention for reducing the psychological distress among Nigerian healthcare workers (doctors and nurses) during COVID-19 pandemic. A questionnaire package that consisted of a sociodemographic and self-reported COVID-19 related experiences questionnaire, Kessler Psychological distress Scale, Patient Health Questionnaire, and Generalized Anxiety Disorder Questionnaire.

Results: A total of 434 health workers participated in this study. Majority were female (291=67.1%), and nurses (225=51.8). The mean (SD) age was 37.4(3.1) years. A total of 402 (93.6%) had experienced psychological distress with 37.8% of the participants reporting mild form, 49.1% reported moderate form and 5.8% reported severe form. The prevalence of "moderate to severe" anxiety and depression symptoms were 3.2% and 6.7% respectively. Female health workers had significantly higher levels of anxiety and depressive symptoms, while the nurses had significantly higher levels of psychological distress and depressive symptoms. Factors associated with significantly higher odds of experiencing psychological distress were being a nurse (β: 1.89: 95% CI; 1.07-1.3.34, p=0.029) and higher levels of anxiety (β: 1.21: 95% CI; 1.01-1.24, p=0.031).

Conclusion: There is a high level of psychological distress experienced by Nigerian HCWs during the ongoing pandemic. This justifies the need for the development of an innovative, culturally sensitive, cost- effective, and evidence-based psychosocial intervention for psychological distress among HCWs.

P1.04   Mental health during the COVID-19 pandemic and lockdown in Lebanon: Risk and protective correlates in a multiple-crises setting

Martine Elbejjani[1]; Rawan Hammoud[1]; Catrina Ziyade[1]; Batoul Assi[1]; Ahmad Assi[1]; Samya El Sayed[1]; Hala Kerbage[2]

[1] American University of Beirut, Lebanon; [2] Saint-Eloi University Medical Center, France

Lay Summary: We assessed the extent of mental health challenges and how factors related to the COVID-19 outbreak and lockdown were associated with mental health during the first COVID-19 lockdown in Lebanon, which occurred amid an ongoing severe economic crisis and sociopolitical turmoil. We found a high prevalence of depression and anxiety symptoms – despite the low infection rates at the time – and that all assessed factors related to the COVID-19 outbreak and lockdown

(e.g., more worries about the outbreak and having more emotional, financial, food, and medical difficulties) were related to elevated depression and anxiety symptoms. Lower trust and satisfaction with the government and health agencies' response were consistently related to higher depression and anxiety symptoms, highlighting the importance of responses to health emergencies, particularly in times of significant crises.

Background: Several investigations report important impact of the COVID-19 pandemic and related lockdowns on mental health, with notable population- and group-specific particularities. We investigated the extent and correlates of mental health challenges during the first country-wide lockdown in Lebanon, which happened amid an ongoing severe economic crisis and sociopolitical turmoil.

Methods: Using a cross-sectional internet-based survey, we assessed depression (Patient Health Questionnaire (PHQ-9)) and anxiety (Generalized Anxiety Disorder (GAD-7)) symptoms, and their associations with several outbreak- and lockdown-related psychosocial factors among adults (age≥18) residing in Lebanon in April-May 2020.

Results: Among the 510 participants with complete data on the measures of interest (mean age 36.1 (SD=11.3; 69.4% women), 32.3% had elevated depression and 27.3% had elevated anxiety symptoms, although infection rates were still low at the time (0.6% had contracted the virus in the sample and average national case count was ~0.1/100,000). Younger age, lower educational attainment, unemployment and recent loss of job due to the pandemic and the crisis were related to more mental health symptoms. Elevated depression and anxiety symptoms were associated with more worries regarding the outbreak (including worries about spreading the virus and contracting it, financial and health consequences of infection, and stigma). Elevated mental health symptoms were also related to higher reported levels of difficulties in all emotional and functional aspects related to the lockdown and pandemic (including fear from circumstances, financial and food insecurity, and medical worries). Social media outlets (p=0.04) and having an outdoor space (p=0.024) provided positive support for participants with elevated depression and anxiety symptoms during the lockdown. Participants with higher depressive symptoms reported having more conflicting information regarding the pandemic; both higher anxiety and depression symptoms were associated with significantly lower rates of trust in and satisfaction with the pandemic management by the Lebanese government and health institutions.

Conclusion: Results show a considerable impact on Lebanese residents' mental health during the first lockdown, even when the magnitude of the outbreak was still small. Results also highlight additional financial and emotional burdens and the importance of trust in the institutions handling the pandemic for the well-being of the population facing multiple challenges.

P1.05   ---- WITHDRAWN ----

P1.06   ---- WITHDRAWN ----

P1.07   Identifying major depressive disorder using the Center for Epidemiological Studies Depression Scale Revised among South African patients in HIV care

Ashraf Kagee[2]; Jason BantjesWylene Saal[1]; Adele Sterley[3]

[1] University of Cape Town, South Africa; [2] Stellenbosch University, South Africa; [3] Helderberg Hospital, South Africa

Lay Summary: What we did: We tested the Center for Epidemiological Studies Depression Scale Revised (CESD-R) against the Structured Clinical Interview for the DSM5 to determine if it could accurately identify for major depressive disorder. What we found: We found that the CESD-R can often identify cases of MDD in HIV care. Those who screen positive may then undergo a formal diagnostic interview to determine whether they are true cases for MDD, and referred for treatment. Why it is important: People receiving HIV care who have major depression are vulnerable to poor adherence to antiretroviral therapy (ART), making them vulnerable to opportunistic infections. Identifying cases of depression with a view to treatment can increase (ART) adherence and quality of life.

Background: The various challenges facing persons living with HIV include common mental disorders (CMDs) such as depression, trauma, and substance use. These conditions impair functioning and quality of life and are associated with poor adherence to antiretroviral therapy (ART).

Methods: Patients receiving HIV care at two public health facilities in South Africa were assessed using the Center for Epidemiological Studies Depression Scale Revised (CESD-R) and the Structured Clinical Interview for the DSM5 to assess for major depressive disorder (MDD).

Results: The internal consistency of the CESD-R as measured by Cronbach's alpha was 0.95. The mean score on the CESD-R was 20.45 (SD: 19.36). Of the 688 study participants, 229 (33.3%; 95% CI: 29.8–36.9) scored in the elevated range on the CESD-R and 170 (24.7%; 95% CI: 21.5–28.1) met the diagnostic criteria for MDD. These findings indicate that up to one third of the sample reported experiencing elevated symptoms of depression. ROC curve analysis indicated that a CESD-R cut-point of

26.5 (rounded to 27) yielded optimal sensitivity (0.81) and specificity (0.82) in determining caseness for MDD. Positive and negative predictive values of the CESD-R were 60.26% and 92.98%, respectively. The AUC was 0.89 (89%) (95% CI: 0.86–0.92) indicating moderate to high accuracy.

Conclusion: The CESD-R appears to hold promise in identifying cases of MDD in HIV care. Those who screen positive may then undergo a formal diagnostic interview to determine whether they are true cases for MDD, and referred for treatment. However, case identification needs to occur in the context of a public health system where effective mental health services are provided by professionals or suitably trained paraprofessionals.

P1.08   ---- WITHDRAWN ----

P1.09   Changes in mental health outcomes in the general population 14 months into the COVID-19 pandemic in Italy

Rodolfo Rossi[1]; Valentina Socci[2]; Tommaso Jannini[1]; Giulia D'Aurizio[2]; Ramona Di Stefano[2]; Isabella Federico[1]; Flaminia Reda[2]; Sonia Mensi[3]; Francesca Pacitti[2]; Alessandro Rossi[2]; Giorgio Di Lorenzo[1]

[1] University of Rome Tor Vergata, Italy; [2] Università degli Studi dell'Aquila, Italy; [3] Fondazione Policlinico Universitario A. Gemelli IRCCS, Roma, Italy

Lay Summary: 1. A web-based follow-up assessment of anxiety, depression and post-traumatic stress symptoms in a sample of 5501 Italian participants 14 months into the COVID-19 pandemic. 2. We showed overall decrease of depression, anxiety, and stress-related symptoms in the general population; however, a significant proportion of the sample continues to experience general persistent distress over time, associated with female gender, lower age, a history of mental disorder, low resilience, social isolation and COVID-19 infection. 3. Factors associated with change in mental health outcomes could serve to inform interventions to mitigate the psychological and socio-economic long-term impact of the pandemic.

Background: The COVID-19 pandemic exerted an immediate detrimental impact on the population's psychological wellbeing worldwide. The current longitudinal cohort study investigated the trajectories of depression, anxiety, and stress-related symptoms 14 months into the COVID-19 pandemic in Italy, along with the impact of specific sociodemographic, contextual and psychological predictor variables.

Methods: A web-based survey spread throughout the internet between March and April 2020 (baseline) and between April and May 2021 (follow-up). Selected outcomes were post-traumatic stress symptoms, depression and anxiety. A general distress condition was considered as meeting the threshold score in any of the three outcomes.

Results: A total of 5501 (25.09%) subjects responded to the follow-up assessment. Based on the presence or absence of symptoms at the two timepoints, 2691 subjects (52.03%) were resilient to any outcome, 350 (6.77%) subjects had an incident general distress; 1061 (20.49%) subjects displayed remittent general distress, while 1071 (20.71%) subjects showed persistent general distress. Persistent distress was associated with female gender, lower age, a history of mental disorder, low resilience, social isolation and COVID-19 infection.

Conclusion: We showed overall decrease of depressive, anxiety, and stress-related symptoms in the general population 14 months after the first pandemic peak in Italy. However, a significant proportion of the sample continues to experience clinically relevant symptoms over time. Factors associated with change in mental health outcomes could help in the design of strategies to mitigate the psychological and socio-economic long-term impact of the pandemic.

P1.10   Acceptability and feasibility of the smartphone application "Doing What Matters in times of stress" in people in unstable housing: RESPOND – France

Julian Vadell Martinez[1]; Maria Melchior[1]; Andrea Tortelli[2]; Natasha Figueiredo[1]; Pamela Surkan[3]

[1] INSERM and Sorbonne University, France; [2] GHU Paris Psychiatry & Neurosciences, France; [3] Johns Hopkins Bloomberg School of Public Health, United States

Lay Summary: A qualitative research aimed to explore the feasibility of a WHO smartphone application for mental health for people in situation of unstable housing. This study suggests that, if adapted to their context and culture, the application, as a complement of the current available services, could help them to deal with stressful situations.

Background: Mobile health, as a form of e-Health, focuses on the development of smartphone applications to improve medical or mental health care. Some researchers have underlined the benefits of applications for mental health in Post Traumatic Syndrome Disease, anxiety, depression or stress. The importance of these applications has risen in the context of the COVID-19 pandemic. In France, the incidence of anxiety, depression, and psychological distress symptoms has increased since the beginning of the pandemic, with important social inequalities. Given the elevated levels of mental disorders

commonly observed among refugees and asylum seekers, the provision and use of Mental Health and Psychosocial Support services is recommended. To better support people in psychological distress faced with barriers to accessing mental health care, the World Health Organisation has developed Doing What Matters in Times of stress (DWM). This intervention was designed to be broadly applicable to non-severe mental health issues and to be easily adaptable to different populations, cultures and languages. The main objective of this research is to explore the views of individuals in situation of unstable housing and the professionals who are in charge of them about the acceptability and feasibility of the intervention DWM in France.

Methods: A qualitative study was conducted with 48 participants. 22 of them were people in situation of unstable housing, 26 were professionals working closely with them at accommodation centres. 32 of them were interviewed individually using free lists to collect data about the use of technology for mental health purposes. 4 focus groups of 4 people each were conducted to explore the acceptability and feasibility of "Doing What Matters in times of stress".

Results: DWM is perceived as an improvement by both professionals and people in unstable housing to access mental health care. However, concerns are raised on the cultural adaptations, vocabulary comprehension, translations, confidence relation, and interactions with trained helpers.

Conclusion: Evidence-based smartphone apps for mental health could approach these services to populations which are outside the radar of the healthcare system. However, even though mobile phones are used by people in unstable housing, there exists a digital divide. Further research has to be conducted with applications such as DWM (e.g, on a randomized trial) to test their acceptability and functionality.

P1.11 Integration of Sociomedical Thoughts Focused on Well-Being among Ethnoracially Minoritized Populations

<u>Yasukiyo Sugimoto</u>[1]

[1] University of Miami, United States

Lay Summary: This study examines diverse social thoughts of medical doctors focused on well-being among ethnoracially minoritized populations and offers the future possibilities of this discipline. Despite the prevalence of public health research, the integration of sociomedical thoughts has been left behind, thus this study presents key ideas for this theorization.

Background: Social thoughts of medical doctors have not been investigated because of the marginal position between medicine and sociology. Empirical studies are becoming prevalent in public health: this presenter conducted a structural equation model and thematic narrative analysis and found a longitudinal relationship between being discriminated against and the likelihood of frequent marijuana use among ethnoracially minoritized youth. Nonetheless, a foundational theory for health research is still absent. In Social Epidemiology, Nancy Krieger appeals for a comprehensive theory concerning discrimination and health. This study draws a linkage of diverse thoughts and shows a path to an integrative theory.

Methods: In this theoretical study, the social thoughts in the writings of key medical doctors are interpreted in relation to sociocultural situations.

Results: The theoretical examination illustrates an unbiased and relational perspective shared by medical doctors about humans. The draft for a culturally responsive societal therapy is also proposed. First, Shoeki Ando and José Rizal's thoughts are examined. In the eighteenth-century feudal Japan, Ando developed an ecological thought including gender equality. In the late nineteenth century during Spanish colonialism, a Filipino doctor, Rizal, diagnosed the social psychiatry of the colonized by discussing "the demon of comparisons" and appealed for cultural emancipation. Rizal's thoughts may have influenced Frantz Fanon. Next, the socioecological thoughts of four psychiatrists are synthesized into a culturally responsive societal therapy for patients from ethnoracially minoritized groups. First, the relational human development theory of Henri Wallon constitutes the foundation for this alternative therapy. Second, the divided self thesis of Ronald Laing helps the patients grasp their culturally oppressed and traumatized self-concept. Third, the confirmation- based ecological therapy of Masatake Morita promotes the process of recovering their mental fortitude frayed by social suffering. Fourth, Fanon's culturally liberating philosophy suggests a way to achieve self-liberation and a constructive social life. Writing Black Skin, White Masks was an implosive therapy for Fanon himself. In brief, culturally responsive societal therapy has three steps: recovery of frayed emotions, confirmation of the patients' existence, and achievement of co-productive agency.

Conclusion: Historically, medical doctors have produced humanistic social thoughts. This innovativeness is explained by three conditions: up-to-date scientific knowledge, experiences of communicating with patients from diverse sociocultural backgrounds, and the morality of saving a life. The medical doctors discussed in this study shared the idea that there are social factors behind each individual's sickness. The culturally responsive societal therapy draft will help implement culturally inclusive therapy. In conclusion, this study will aid in establishing an integrative theory of culturally responsive social medicine.

P1.12   The role of genetics and the environment on the relationship between weight related indicators and common mental health: results from two twin studies

Ellen Thompson[1]

[1] King's College London, UK

Lay Summary: We used genetically informed methods to investigate i) the directionality between weight and depressive symptoms, and ii) the phenotypic and aetiological relationships between different indictors of weight and depression. A bidirectional relationship between BMI and depression exists between ages 12 and 16 years, with a stronger directional effect between earlier BMI and later depression. Obesity and depression are highly prevalent among children and adults. Understanding the timing and directionality of these associations highlight opportunities for early intervention.

Background: Emotional symptoms such as anxiety and depression are associated with different indicators of weight and adiposity. However, it remains unclear whether this association reflects causal relationships. This study aims to implemented genetically informed methods to (i) investigate the directionality and etiology between BMI and depression and (ii) explore the magnitude of genetic and environmental influences on different types of adiposity indicators, anxiety, depression, and their associations.

Methods: Data from 4833 twin pairs from the Twins Early Development Study (TEDS), and 707 twin pairs from TwinsUK were used. Measures included self-report depressive symptoms and height and weight at ages 12, 16 and 21 years from TEDS, and self-report emotional symptoms and measured height, weight and adiposity indicators were used from TwinsUK. A genetically informative cross-lagged model was applied to TEDS data to estimate the phenotypic longitudinal effect and etiology between measures, whilst adjusting for the concurrent genetic and environmental associations between them. A multivariate ACE model was used to estimate the genetic and environmental influences on the covariance between anxiety, depression, and weight and adiposity indicators in TwinsUK.

Results: Results from TEDS indicate a bidirectional phenotypic association between BMI and depression between ages 12 to 16, but not between ages 16 to 21 years. Results from TwinsUK show a small but significant genetic correlation between adiposity indicators and depression. These findings will be discussed considering the growing literature on the weight, adiposity, and mental health.

Conclusion: A bidirectional relationship between BMI and depression exists between ages 12 and 16 years, with a stronger directional effect between earlier BMI and later depression. The size of this association was too modest to decompose, resulting in non-significant genetic and environmental correlations. These findings will be discussed considering the growing literature on the weight, adiposity, and mental health.

P1.13   Exposure to consistently high maternal depressive symptoms during childhood predicts young adult health risks: Preliminary analyses of a 17-year study

Laura Bechtiger[1]; Annekatrin Steinhoff[1]; Jessica Dollar[2]; Susan Keane[2]; Susan Calkins[2]; Lenka Shriver[2]; Laurie Wideman[2]; Lilly Shanahan[1]

[1] University of Zurich, Switzerland; [2] University of North Carolina at Greensboro, United States

Lay Summary: We examined whether children of mothers with consistently high depressive symptoms were characterized by more health risks as young adults compared to those whose mothers reported low depressive symptoms. Children whose mothers had consistently high depressive symptoms between child ages 2 and 10 had higher levels of systemic chronic inflammation at age 19 years old, higher BMI, and also reported more somatic symptoms. This is important because it suggests that supporting mothers' well-being is not only beneficial for mothers, but can have long-lasting impacts on their children's health risk.

Background: Psychiatric diseases, cardiovascular disease, and cancer are among the leading causes of morbidity and mortality worldwide. Precursors and pre-disease states related to these conditions, including systemic elevated chronic inflammation (e.g., C-reactive protein; CRP), high BMI, somatic symptoms, and unhealthy behaviors (e.g., poor sleep, poor diet, physical inactivity, sedentary behavior, and smoking), are common in young adults. But what predicts these young adult health risks? Research has pointed to adverse childhood exposures, including poverty and maltreatment. One currently neglected factor is exposure to maternal depression during childhood – which is known to correlate with children's socioemotional and behavioral difficulties. Emerging work also points to associations of maternal depression with their children's physical health. However, long-term longitudinal studies of these associations into young adulthood are scarce. The aim of this study is to examine chronically high levels of maternal depressive symptoms in childhood as a risk factor for young adult behavioral and physical health risks.

Methods: Mothers and children (N=416 families) from a community-cohort study from the US were first assessed at child age 2 and followed for 17 years. Maternal depressive symptoms in childhood were mother- reported at child ages 2, 4, 5, 7,

and 10. Latent basis growth mixture models identified two trajectory groups that best captured heterogeneity in maternal depressive symptoms trajectories: stable low (88%) and stable high (12%). At age 19, 292 young adult offspring self-reported somatic symptoms and unhealthy behaviors. Height and weight were measured in the laboratory to calculate BMI. Blood samples were collected in young adulthood, from which CRP was assayed.

Results: Preliminary analyses suggest that young adults whose mothers experienced stable high depressive symptoms had higher levels of CRP, higher BMI, and more somatic symptoms compared to the rest of the sample. No group differences were found for cumulative unhealthy behaviors. Additional analyses will consider demographic covariates, specific unhealthy behaviors, and young adult depression.

Conclusion: Exposure to maternal depressive symptoms in childhood predict young adult physical health risks, and, in turn, later morbidity and mortality. Supporting mothers' mental health could also promote the next generation's health and well-being.

P1.14   Psychosocial factors as moderators in the relationship between victimization and adverse adolescent mental health

Danielle Lemaire[1]; Ian Colman[1]

[1] University of Ottawa, Canada

Lay Summary: This study aims to determine whether psychosocial factors may reduce the impact of individual victimization, poly-victimization, and repeated victimization on subsequent development of adverse mental health outcomes in adolescence using a prospective UK birth cohort. Results are forthcoming. This research has implications for public health policy decisions on youth mental health promotion programs.

Background: Victimization, defined as being individually singled out and subjected to cruel and unjust treatment, is a pressing public health concern, due to the associated risk of developing an array of adverse mental health outcomes. Victimization is most commonly experienced in adolescence, and those who are victimized typically experience multiple forms of victimization, also known as poly-victimization. These individuals are most at risk of poor psychological adjustment. Still, there are adolescents who experience victimization and do not suffer from psychiatric illness, and this resilience is thought to in part, be explained by psychosocial factors. Longitudinal research is needed to assess this relationship. The present study will use a prospective design to examine the effect of victimization on depression, anxiety, substance misuse, self-harm and attempted suicide in adolescence, and whether positive psychosocial processes (close family and peer relationships, social support, and high self-esteem) protect against development of these adverse mental health outcomes. We will also examine whether these relationships differ by gender.

Methods: This study uses data from the Millennium Cohort Study, a nationally representative prospective longitudinal survey in the UK that began in 2001, and has followed participants since they were 9 months of age. Multivariable regression will be used for analysis. The primary analysis will evaluate the association between self-reported individual and poly-victimization experiences and adverse mental health outcomes at age 17, and whether positive psychosocial factors measured at age 14 moderate those relationships. Secondary analyses will evaluate self-reported and parental-reported psychosocial factors at age 11, self-reported individual/poly-victimization and frequency of victimization experiences at age 14, and adverse mental health outcomes at age 17. An exploratory analysis will be conducted to determine self-reported cause of victimization (racism, sexism, sexual orientation, ageism, disability discrimination, appearance). Covariates in regression models will include sex, gender, race, family income, family composition, and parental mental health.

Results: Results will be forthcoming.

Conclusion: With the majority of adolescents experiencing at least one form of victimization in their youth with consequential negative mental health effects, it is crucial to understand potential protective factors that could facilitate youth resiliency to victimization and further, inform public health policy makers and best practice guidelines for children and youth mental health promotion programs.

P1.15   Surveillance of Child and Youth Mental Health and Associated Service Use in Canada: A Population Health Surveillance Framework

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Lay Summary: What we propose: We propose to use multiple Canadian data sources and linkages to establish the requisite information required to monitor mental health and associated service use among Canadian children and youth with the

goal of supporting mental health policy. What we did: Our team developed a framework containing the essential components required to understand, organize, and evaluate surveillance of population mental health and mental health care among children and youth in Canada. Why it's important: The goals of this work are to: 1) produce evidence that best serves mental health policy makers; 2) establish best practices for the use of Canadian data to inform policy makers; 3) create a platform for advancing research.

Background: Over the past decade, there has been increasing mental health needs, associated impairment, and gaps in service use among children and youth. Despite these concerning trends, many countries have yet to establish a coordinated and systematic approach for mental health surveillance among children and youth at a national level. We propose to leverage the strengths of multiple Canadian data sources and linkages to establish the requisite theoretical and analytical infrastructure to monitor mental health and associated service use among Canadian children and youth to support policy makers, health system planning and iterative evaluations.

Methods: Guided by population health surveillance theory, we have developed a framework containing the essential components required to understand, organize, and evaluate a population health surveillance process: 1) identifying an information need; 2) formulating a health problem; 3) planning for surveillance; 4) implementing surveillance; 5) communicating information and auditing and iterating.

Conclusion: By leveraging existing Canadian data and establishing the necessary pre-requisites for a public health surveillance system our goals are to: 1) develop a prototype tool that best serves mental health policy makers; 2) establish best practices for the evaluation, appraisal, and use of data to inform current surveillance efforts and future mental health data collection; 3) create a platform for advancing research-public health policy and practice.

P1.16 Association between loneliness and mental health hospitalisation outcomes among patients receiving mental healthcare in South London

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Lay Summary: We investigated associations between loneliness and mental health hospitalisation outcomes among patients receiving mental healthcare in South London and Maudsley NHS Foundation Trust (SLaM). We found that people with recorded loneliness had significantly high crisis episodes, emergency presentations and face to face contacts with SLaM. Patients receiving mental healthcare who are recorded as lonely have a higher risk of several adverse outcomes which may require a need for higher service input.

Background: Loneliness has been associated with worse outcomes for people with dementia, anxiety and psychosis. Loneliness disproportionately affects people with mental disorders, but associations with mental health outcomes in these groups remain less well understood.

Methods: Two cohorts were assembled from a large mental health records database covering a south London catchment area: Cohort 1 included patients receiving mental healthcare on 30th June 2012, and cohort 2 included patients receiving mental healthcare and a first recorded ICD-10 diagnosis from 1st January 2007 until 30th December 2019. Recorded loneliness was extracted using natural language processing and was evaluated against the following mental healthcare outcomes: i) crisis episodes; ii) emergency presentations; iii) all-cause mortality; iv) days of active referral per year, and v) face-to-face contacts per year.

Results: Loneliness was recorded within the last 2 years in 4,483 (16.7%) patients in the cohort 1 and fully adjusted models showed associations with crisis episodes (OR: 1.17; 95% CI: 1.07-1.29), emergency presentation (OR: 1.30, 1.21-1.40), days active per year (IRR: 1.04, 1.03-1.05), and face-to-face contacts per year (IRR: 1.28, 1.27-1.30). In cohort 2, 13,023 (6.4%) patients had recorded loneliness within three months of their first diagnosis and fully adjusted models showed associations with crisis episode (OR: 1.46, 1.38-1.53), emergency presentation (OR: 1.23, 1.18-1.28), and face-to-face contacts per year (IRR: 1.07, 1.06-1.08).

Conclusion: Patients receiving mental healthcare who are recorded as lonely have a higher risk of several adverse outcomes which may require a need for higher service input. Improved clinical awareness of loneliness could increase the efficiency of signposting to services that specialise in loneliness in the voluntary sector or by social prescribing, though further research needs to be carried out to investigate the effectiveness of these interventions.

P1.17   Multiple Pain Trajectories and their associations with Anxiety, Depression, and Optimism

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Lay Summary: Different measures of pain produce different patterns of pain progression, and these are differentially related to mental health. Knee pain trajectories determine treatment choices for knee pain itself and related mental illnesses.

Background: Chronic pain associated with knee osteoarthritis is the major source of mental distress with pain progression linked to higher rates of anxiety and depression leading to early disability retirement. Optimism, as a personality trait, has been found to mitigate the impact of chronic pain on mental health. Different behavioural and symptomatic pain mechanisms could have different mental outcomes and be affected by the level of optimism. Previous studies defining pain trajectories have all used a single measure of pain that failed to examine the impact of different pain mechanisms to predict different mental disorders.

Methods: Data for this study were taken from Knee Pain In the Community (KPIC) cohort in Nottinghamshire. A total of 2141 older age (baseline mean 62.41 years) participants met the inclusion criteria. Behavioural and neuropathic-like pain were measured using Intermittent and Constant Osteoarthritis Pain (ICOAP) and the painDETECT, respectively, across 3 waves (the baseline, 1- and 3-year follow-ups). The Hospital Anxiety and Depression Scale (HADS) was used to measure pain-induced anxiety and depression. Life-Orientation Test was used to measure optimism. To ascertain the clinical utility of pain progression, the pain trajectory models were adjusted for the medication used as time-varying covariates.

Results: Latent class growth analysis identified 6 trajectories using ICOAP subscales (High, Low, Moderate Worsening, Moderate Recovering, Worsening, and Recovering), and 4 trajectories using painDETECT (High, Low, Worsening, and Recovering). Random effect panel regression analyses showed that anxiety and depression were differently associated with pain trajectories. Anxiety had a pattern of decrease and depression was stable over time as people experience chronic pain. Older people had a lower level of anxiety but higher depression scores. Neuropathic-like pain had a greater impact on depression than anxiety. People with high optimism had lower pain experience throughout all pain trajectories. High optimism was also associated with lower anxiety and depression.

Conclusion: Different measures of pain produce different patterns of pain progression, and these are differentially related to mental distress. Anxiety is linked to trajectories of pain based on the impact of pain on behaviour and not pain symptoms. Thus, managing pain's behavioural impact is more central to understanding the link between anxiety and behaviour than managing pain symptoms. These findings support more in-depth questioning about the type of pain, its link to mental health, and its progression in clinical practice.

P1.18   Preventing the onset of depression in adolescents "at risk" - Comparison of Online versus In Real life - intervention

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Lay Summary: 1) We test the effects of a 12 week course "Thoughts and Health" aimed to prevent the onset of a first depression, on for 14y old kids in Swedish schools. Does the effect differ if the course is administrated "Online" versus "InRealLife" 2) There is a need to develop digital solutions on the spectrum of mental disorder treatments, to adept to targeted populations and to the future. 3) There is an urgent need to prevent and if possible stop the increase of mental disorder among adolescents.

Background: Despite increased knowledge regarding the aetiology of mood disorders and improvements in psycho-social and pharmacological treatment interventions, depression remains one of the most prevalent problems of adolescents and adults. Adolescents are sensitive and at increased risk of developing a first depression. There are knowledge gaps about the long-term effects of prevention programs against depression for adolescents. Objectives A randomized controlled study among Swedish adolescents in eighth grade, who are at risk of developing depression. The study examines the long-term effects of the "Thoughts and Health" prevention program and whether it is as effective Online as In Real Life (IRL).

Methods: In a first step, about 10 junior high schools in the Västra Götaland region in Sweden will be recruited and randomised into one of two groups. Group 1 - Adolescents at risk of developing depression receive "Thoughts and Health" Online or IRL Group 2 - Adolescents at risk of developing depression receive Treatment as usual ALL students will fill out the self-assessment scale, Childrens Depression Inventory (CDI). Eligible students and their guardians are offered a consulting assessment by primary care psychologist. The assessment includes MINI-KID interview, Psychologists decide inclusion after

a diagnostic interview. OUTCOME VARIABLES Quantitative - development of depression is measured via self-assessment instruments and follow-up assessment, by a psychologist. - school attendance and full grades at the end of compulsory school. Qualitative Adolescent's experiences Depending on variable type, T-tests or Chi2 tests will be used for group comparisons.

Results: We will help create evidence for prevention programs against depression and could be used to develop future primary prevention for adolescents both Online and IRL, which will be of great importance to public health.

Conclusion: "Thoughts and Health" can be a useful tool to prevent depression among adolescents

P1.20   **---- WITHDRAWN ----**

P1.21   **---- WITHDRAWN ----**

P1.22   **---- WITHDRAWN ----**

P1.23   **---- WITHDRAWN ----**

P1.24   **Stories against Stigma: Walking Tour of NIMHANS- Initial pilot evaluation of public attitude towards Mental Health Institute, Mental Health Profession**

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[1] National Institute of Mental Health and Neuro Sciences, India

Lay Summary: 1. The aim of this study was to explore the knowledge and attitudes of the general public toward mental health, specifically regarding mental health institutions, professionals, and Persons with mental illness due to a variety of factors such as cultural beliefs, media presentations etc. 2. The main findings of the study suggest the presence of negative attitude, poor knowledge and stigma towards Persons suffering from mental health problems and the treatments they were subjected to. There was a shift in participants perceptions of viewing mental illness and those affected by it.3. The concept of mental health and general attitude of the community towards Persons suffering from mental health problems, mental health institutions and mental health professionals remain vague, discriminating and suppressed in stigma.

Background: The aim of the pilot study was to increase the public literacy and remove the stigma related to mental health, mental institutes and persons with mental illness with the help of a walking tour in NIMHANS. The study also concentrated on clearing the doubts and queries of the people about mental health; eradicate the myths and misconceptions associated with mental health and educate and make people more aware and informed about mental health and the issues associated with it.

Methods: The sample comprised of 40 adult respondents having no professional or educational background of mental health. Participants were required to fill up a semi-structured interview schedule of initial opinion before the walk on a Likert scale consisting of 10 questions. They were briefed about the history of how NIMHANS was started, and were taken around the wards and various departments like the Yoga centre, Electro-convulsive therapy and so on. The data collected was collected in a feedback form and it was evaluated to find out if the walking tour changed the attitudes and perceptions of the respondents towards mental health. The feedback form was a closed ended semi structured interview schedule with 5 questions. Statistical analysis was conducted with respect to the objectives of the tour and descriptive statistics were calculated with respect to the initial perception of public towards public toward mental health issues

Results: 1. Statistical analysis reveals that the tour proved to bring about a positive impact towards the perception of mental health. 2. A need to conduct more such tour in mental institutions was stressed3. Presence of negative attitude and stigma towards Persons suffering from mental health problems and the treatments they were subjected to.4. Presence of poor knowledge with respect to mental illness and hospitals 5. Fear, myths and misconceptions regarding certain treatments such as ECT.

Conclusion: Initial evaluation from the study suggests that stigma exists even in the contemporary times and partnering as well as collaboration with the various key stakeholders of the community can be an effective first step in enhancing the mental health literacy among public. Empowering the public with adequate knowledge can bring about a positive change in attitude towards Persons affected with mental health problems who are not only battling their symptoms, but also have to face discrimination by the community. The current study can be up scaled to educate the public about various aspects of mental health and referral for treatment lowering the stigma.

P1.25   **Perception of employees on mental health at a leading botanical garden, India: A qualitative Study**

Meena Kolar Sridara Murthy[1]

[1] National Institute of Mental Health and Neuro Sciences, India

Lay Summary: (1) The study was undertaken to understand the different views and perspectives of the people at the Botanical Gardens, India prior to developing a mental health awareness cum training program for the same population. (2) The study explicitly exhibited the limited awareness such as it being caused by supernatural forces and poor recognition of mental health problems leading to delayed treatment turn up. (3) The study urges the key stakeholders and the public to end the stigma and discrimination that surrounds mental illness. This could be due to various reasons such as cultural beliefs, influence of media and stigma associated with mental health conditions.

Background: The prevalence of mental health issues in India is increasing. The lack of knowledge about mental illnesses and negative beliefs about treatment usually lead to delayed treatment and has a huge impact on care seeking behaviour. Therefore, the study aimed at raising mental health literacy, awareness knowledge and reducing knowledge gap for early recognition and intervention of mental disorders which is a major barrier and challenge to mental health services in India. The study aimed at exploring the awareness of mental health among the employees of the botanical gardens to address this massive issue.

Methods: The study was a cross-sectional qualitative research design. The total sample size comprised of 15 employees (age range: 35-45) and purposive sampling was used. Two focus group discussion (FGD) was conducted at a renowned botanical garden in the languages: Kannada and English. Each of the FGDs had a moderator and took approximately an hour to be completed. The FGDs were audiotaped and was focused on examining the following: understanding of mental illness, its symptoms, causes, impact, and treatment. The data were analysed manually by the method of Directed Content Analysis.

Results: There were four key findings of the study:1. Signs and symptoms of mental illness: Mental illness was described in terms of psychosis i.e. delusions, hallucinations and talking incoherently.2. Causes of mental illness: The participants explained the causes of mental illness could be due to traumatic situations, physical health ailments and sexual abuse etc.3. Impact of mental health issues: The participants did not have a clear idea about what it was to be diagnosed with disorders other than physical ailments such as fever and body pain4. Capacity building with regard to mental health problems: The participants identified the need for getting more awareness program and guidance to work with persons with mental illness in the community and providing first aid in cases of mental health crisis.

Conclusion: The study is instrumental as it shows that the knowledge of mental health is limited among the employees. This thereby leads to an immediate need for developing a well-structured training program to increase the mental health literacy thereby bringing down the level of stigma. This will be of immense benefit to the public and society at large by deconstructing various myths and stigmas as well as in heightening help seeking behaviour. Increased mental health literacy will also help in acceleration of early identification and prompt referrals. There is a need for a structure training program to reduce the sense of disability and instill a sense of functionality.

P1.26   Can Working Conditions and Employees' Mental Health Be Improved via Workplace Interventions Designed and Implemented by Operational-level Managers?

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Lay Summary: The effectiveness of an organisational-level workplace intervention, on working conditions and employees' mental health, were evaluated. Overall, only two of 13 evaluated working conditions were improved and no effect on employees' perceived health or sickness absence were found. This knowledge can be used to improve the design and implementation of future organisational-level workplace interventions to increase their efficiency with regard to improving employees' mental health.

Background: Sickness absence is a major concern within the public sector, both in Sweden and in other countries. Organisational-level interventions are recommended for decreasing sickness absence, but knowledge of the optimal design and implementation of such interventions is scarce. The aim of this study was to evaluate the effectiveness of an organisational-level workplace intervention by investigating the intervention effects on working conditions, job motivation, health, employee turnover, and sickness absence.

Methods: We collected data on working conditions (job demands and job resources), job motivation, health, employee turnover, and sickness absence among participants in a large-scale organisational-level intervention comprising measures designed and implemented by line managers and their human resources partners (i.e., operational-level management). Information regarding the process, including the implementation of measures, was retrieved from a separate process evaluation, and the intervention effects were investigated using mixed-effects models. Data from reference groups were used to separate the intervention effect from the effects of other concurrent changes at the workplace.

Results: Overall, working conditions and job motivation improved during the study for both the intervention and reference groups, but an intervention effect was only seen for two of 13 evaluated survey items: clearness of objectives (p=0.02) and job motivation (p=0.06). No changes were seen in employees' perceived health, and there were no overall intervention effects on employee turnover or sickness absence.

Conclusion: When using operational-level workplace interventions to improve working conditions and employees' health, efforts must be made to achieve a high measure-to-challenge correspondence; that is, the implemented measures must be a good match to the problems that they are intended to address.

P1.27   Experiencing mental health problems but not being sickness absent: what factors play a role for employees in the private sector?

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Lay Summary: We aimed to identify factors specific to individuals with a history of depression/anxiety and no sickness absence during follow-up. Individuals with previous experiences of depression/anxiety, but no sickness absence during follow-up, were more likely to be male, have higher education, better self-rated health, and fewer life adversities along with lower use of antidepressant and outpatient healthcare, as compared to individuals with sickness absence during follow-up. Identification of key characteristics among those with a history of mental health problems may potentially be used to improve sickness absence prevention strategies.

Background: The continuity of mental health problems from early life years into adulthood is well acknowledged as well as the impact on the long-term outcomes including work incapacity. However, knowledge is scarce on individuals who are experiencing mental health problems but who have low or no sickness absence (SA). Identification of factors specific to these individuals may potentially help to improve SA prevention strategies. The aim of this study was to identify individual-level characteristics, including sociodemographic factors, morbidity, and lifestyle, among privately employed individuals with a history depression and anxiety but no SA during follow-up.

Methods: This prospective cohort study included 750 twin individuals born in Sweden in 1959-1986, who had a history of depression/anxiety and were employed in the private sector. Depending on the birth year, the twins were invited to participate in two different health-screening surveys in 2005, when study participants were aged 19-20 or 20-30, respectively. Survey data were used to evaluate depression and anxiety, self-rated health, stressful life events, emotional neglect, level of physical activity, and alcohol use. Study participants were prospectively followed regarding SA occurrence between 2006 and 2018. Data on SA, sociodemographic factors, outpatient healthcare use, and use of prescribed antidepressants were obtained from the Swedish national registries. Descriptive statistics and regression analyses were applied.

Results: Preliminary results showed that despite previous depression or anxiety, 35% of women and 52% of men were not on SA during the follow-up period. Those who had no SA during follow-up were more likely to have completed higher education of at least 12 years (49%), experienced fewer stressful life events (43%) and emotional neglect (56%), had better self-rated health (95%), along with a lower use of antidepressants (11%) and outpatient healthcare (88%), as compared with those on SA (33%, 65%, 66%, 90%, 17%, and 98%, respectively). No significant differences between those with and without SA were observed regarding level of physical activity or alcohol use.

Conclusion: Higher education, being male, fewer life adversities, good self-rated health and low use of antidepressant and outpatient healthcare were individual-level factors of importance for those with previous depression or anxiety and no incident SA during follow-up.

P1.28   Nudging clinicians and patients with CMD to discuss work, barriers for return to work, and motivation. The NSAC Nudge RCT

Nils Abel Aars[1]; Ingvild Bardal[1]; Beate Brinchmann[1]; **Arnstein Mykletun**[1]

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Lay Summary: We did an RCT to test the efficacy of a nudge to improve occupational recovery in patients referred to the Norwegian Sickness Absence Clinic for mental disorder and/or muscle skeletal pain. Still recruiting, results will be presented at the conference. There is limited evidence as to the efficacy of clinical interventions to promote occupational recovery.

Background: Sickness absence is often related to common mental disorders and muscle-skeletal pain. Countries with public welfare systems have policies to reduce sickness absence rates. Norway has since 2008 had policies for reducing sickness absence by providing fast access to publicly funded health services reserved for employees at risk of sickness absence or on sickness absence. After a reform in 2018, this health service is organized as part of specialist health services

tailored for common mental disorder and muscle-skeletal pain conditions. Services are provided in 23 outpatient units in Norway where they are diagnosed and treated by physiotherapists, clinical psychologists, and medical doctors. Representatives from the Social security and welfare administration (NAV) are also available in these clinics. Access to this health service requires referral from a GP, and eligibility criteria are less strict than in specialist services generally if the criteria for impaired work capacity due to health problems are met. Patents are eligible regardless of whether health problems are assumed to be work related or not. The Norwegian Sickness Absence Clinics (NSACs) provide health services with the purpose of recovery and symptom relief, as do health services in general. The funding for the NSACs is provided with the purpose of reducing sickness absence in Norway and reduce rates of temporary and permanent disability benefits. There is no trial evidence for the efficacy of the NSACs services in reducing sickness absence or preventing disability pension claims. International studies suggest that work-oriented therapies have better efficacy than health services alone in preventing sickness absence and disability, and in promoting return to work. In this study, we test the efficacy of two-step nudge aimed to increase the efficacy of services provided by the NSACs in promoting return to work and preventing sickness absence and disability.

Methods: Six of 23 NSACs participate in this multi-centre randomized controlled trial. N=800 patients are to be recruited between September 2021 and June 2022. Patients are randomized in equal proportions to two arms. The control group receives a health survey covering symptoms of mental disorder and muscle-skeletal pain. The intervention group also receive a survey covering work environment factors, motivational aspects of employment, and for patients on sickness absence, psychological barriers for return-to-work. This is assumed to be a nudge for the patient to present and discuss challenges beyond health problems with the clinician. Patients are blinded to the randomization. Clinicians had full autonomy to discuss work related issues with patients, regardless of randomization. Outcome data for this trial will be collected at five timepoints: 1. Work related topics discussed in the first consultation, according to the clinician. 2. Occupational prognosis, according to the clinician, at the last consultation. 3. Patients' self-report of symptom relief and occupational status at 6 months follow-up, compared to symptoms at baseline. 4. Registry data for occupational status at 12 and 60 months follow-up.

Results: RCT will complete recruitment in June 2022. Preliminary self-report results for outcomes 1 and 2 above will be presented at the conference.

Conclusion: To be discussed at the conference.

P1.29   ---- WITHDRAWN ----

P1.30   Same-sex Attraction as a Predictor of Suicide and Self-harm Behaviours—The role of Bullying and Social Support

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Lay Summary: We examined the combined effects of bullying and social support on the relation between same-sex attraction, self-harm, and suicide attempt using a using a large sample of 6850 adolescents across the UK. We found greater risk for self-harm and suicide attempt in adolescents with same-sex attraction, with this risk increasing when bullying was experienced; Conversely, social support was only associated with lower risk for suicide attempts, whilst social support was not associated with lower risks for self-harm or suicide when same-sex attracted individuals experienced bullying. This is important as it shows that additional measures to social support are needed to protect adolescents with same-sex attraction, especially those bullied.

Background: Sexual minority youth are at higher risk of attempting suicide and self-harming than heterosexual adolescents. Past research has shown that this risk is increased through bullying and reduced through social support. The joint effect of these factors has not yet been determined, however.

Methods: We used the Millennium Cohort Study (MCS) – a nationally representative longitudinal exploration of 6850 UK children born in the 2000s – to investigate how same-sex attraction at age 14 is associated with suicide attempts and self-harm at age 17. Additionally, we examined the effects of bullying, social support, and social support following bullying in adolescents using mediation and moderation analyses.

Results: Sexual minority youth status at age 14 is associated with a 2.44 times likelihood of attempting suicide and a 2.59 times likelihood of self-harming at age 17. There was no evidence for an association between greater social support and lower levels of self-harm. However, greater social support in sexual minority youth is associated with reduced risk of suicide attempt. Bullying in sexual minority youth was associated with a 1.58 times risk of attempting suicide in sexual minority youth compared to non-bullied sexual minority youth. Bullied sexual minority youth were also 1.12 times more likely to self-harm than non-bullied sexual minority youth. However, greater social support in bullied sexual minority youth was not

associated with reduced risk of self-harm or suicide attempt compared to bullied sexual minority youth receiving lower levels of social support.

Conclusion: It seems that social support is associated with reduced suicide attempts in sexual minority youth, albeit the effects might not sufficiently protect against bullying with regards to suicide attempt and self- harm or sexual minority status with regards to self-harming. Thus, health and educational practitioners should address this heightened risk for poor mental health outcomes, particularly by preventing bullying as a risk factor. Additionally, further interventions are needed to assist sexual minority youth aside from social support provision through friends and family.

P1.31   ---- WITHDRAWN ----

P1.32   TRans And Non-binary Suicidality (TRANS): Microaggressions & Mental Health

Talen Wright[1]

[1] UCL, UK

Lay Summary: In this first of its kind study in the United Kingdom, we examined the impact of microaggressions (brief, commonplace insults directed at marginalised groups) on suicidal thoughts, attempts, and self-harm in the trans and non-binary community. We found that when trans people experience more microaggressions, the more suicidal they feel, after taking into consideration education, ethnicity, age, and perceived gender identity. This matters as the current mental health burden amongst trans and non-binary people has been stable and high over the past 10 years. The social climate for trans people in the UK is rife with microaggressions. Therefore, building resilience against microaggressions, and educating the public regarding microaggressions, may help to reduce the current mental health burden of trans and non-binary people.

Background: Trans and non-binary people are at an increased risk of suicidality, with the most recent largest study of trans mental health in the UK suggesting that 53% of trans people self-harm at some point in their lives, 84% experience suicidal ideations, and 48% report a prior suicide attempt. Previous research examines discrimination and gender minority stress as putative factors underlying the suicide burden, however little is known about the epidemiology of microaggressions and their impact on trans mental health, especially suicidality.

Methods: The TRANS: Microaggressions & Mental Health survey is a cross-sectional study of trans and non-binary people in the United Kingdom. The survey comprises of 55 questions capturing depression, anxiety, suicidality, microaggressions, gender minority stress, rumination, and loneliness. This paper focuses on microaggressions and suicidality. The principal outcome of this study is suicidality which was measured using a categorical response format of "Yes, no, prefer not to say" and focused on suicidal ideation, attempts to end one's life, and self-harm. The exposure, microaggressions, was examined using the Gender Identity Microaggressions scale, and it's five subscales. The GIMS score ranges from 14 to 70 and the subscales relate to

denial of gender identity, 2) denial of societal transphobia, 3) behavioural discomfort, 4) misuse of pronouns, and 5) invasion of bodily privacy. Logistic regression models were employed adjusting for age, perceived gender, and education to produce effect estimates for the relationship between microaggressions (and each subtype) and suicidality. All analyses were conducted using Stata 17.0

Results: We asked the following research question: What is the association between microaggressions and suicidality in trans people? with the following hypothesis: Trans people who report higher overall microaggression scores will report higher odds of self-harm, suicidal ideation, and attempts. Results support the hypothesis that those who report higher microaggressions have a higher odds of suicidal ideation (aOR: 1.07; 95% CI: 1.04 to 1.10), self-harm (aOR: 1.05; 95% CI: 1.03 to 1.06), and suicide attempt (aOR: 1.04 (1.03 to 1.06). Regarding each subscale, there is strong evidence associated with increased odds of suicidal ideation, attempts, and self-harm. For example, denial of societal transphobia (aOR: 1.25; 95% CI: 1.12 to 1.41), misusing someone's pronouns (aOR: 1.35; 95% CI: 1.21 to 1.50), invasion of bodily privacy (aOR: 1.18; 95% CI: 1.08 to 1.29), denial of gender identity (aOR: 1.13; 95% CI: 1.06 to 1.21), and expressing behavioural discomfort (aOR: 1.26; 95% CI: 1.11 to 1.41) were all associated with increased suicidal ideation.

Conclusion: This project shows promising implications in how we understand microaggressions as a mechanism behind the suicidality burden of trans and non-binary people. This has implications for prevention (through public education and anti-harassment policies) and intervention (coping with microaggressions, building resilience). As data collection ends on the cross-sectional study, the project will be starting its second study an ecological momentary assessment to establish temporality and dose-response, thus intending to strengthen causal inferences.

P1.33   The effect of sex on suicide risk during and after psychiatric inpatient care in 12 countries — An ecological study

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Lay Summary: Current and recent psychiatric inpatient stay significantly increases suicide risk. National suicide mortality rates and inpatient-related suicide rates from 12 countries were analysed specifically for sex differences in hospital-related suicide rates. We found that suicide risk was significantly higher in female patients for all investigated time intervals, implicating that sex-specific suicide preventions are needed.

Background: Suicide risk in patients is significantly heightened during psychiatric inpatient care, as well as after recent discharge. It is unclear whether, and to what extent, suicide risk varies between the sexes. Thus, the aim of this study was to investigate potential sex differences for suicide during and after psychiatric hospitalization in various countries.

Methods: National suicide mortality rates and inpatient-related suicide rates (three intervals: during psychiatric inpatient treatment, 1 month, and 1 year after discharge) from 12 countries for 2000–2016 were analysed, and a logistic model was used to quantify the effect of sex.

Results: Patients admitted to or discharged from psychiatric inpatient care were more susceptible to commit suicide compared to the general population. Likelihood for completed suicide during inpatient psychiatric care was significantly higher in females (OR: 1.85; 95% CI: 1.46, 2.34) compared to males. Female patients also showed significantly higher suicide risk within the first month after discharge (OR: 1.94; 95% CI: 1.66, 2.27) and within the first year after discharge (OR: 2.04; 95% CI: 1.87, 2.23) compared to the male population.

Conclusion: Our analysis confirmed significant associations between the time during and after psychiatric inpatient care and increased suicide risk. Further, a significant sex effect was observed, with females in this population being at a proportionally higher risk for suicide during psychiatric inpatient treatment as well as the year following discharge. Our study implicates that more effective suicide-preventive measures during inpatient stay are needed, especially focusing on female patients.

P1.34   Cognitive decline and alcohol consumption in older adults – A longitudinal analysis of the Survey of Health, Age and Retirement in Europe (SHARE)

Judit Déri[1]; Stephan Listabarth[1]; Christine Harrer[1]; Magdalena Grömer[1]; Thomas Waldhoer[1]; Benjamin Vyssoki[1]; Sabine Weber[1]; Ines Marie Messner-Schmutzer[1]; Nathalie Pruckner[1]; Sandra Vyssoki[2]; Alexander Glahn[3]; Deirdre Maria König-Castillo[1]; König Daniel[1]

[1] Medical University of Vienna, Austria; [2] St. Pölten University of Applied Sciences, Austria; [3] Medical University of Hannover, Germany

Lay Summary: The purpose of this multi-national prospective study was to examine the effect of alcohol consumption on cognitive decline in older adults. The results indicate a significant non-linear correlation between alcohol consumption and cognitive decline. In this population, alcohol was shown to be a relevant risk factor of cognitive decline hence, focus on preventive measures is fundamental.

Background: Concurrent to the increase of the proportion of older adults among the population, the prevalence of cognitive decline and dementia, are rising globally. As no causal treatment of cognitive decline and dementia are available, identifying risk factors and preventing the onset or progression of cognitive decline is of utmost importance. Importantly, a heightened vulnerability for the possible detrimental health consequences of alcohol consumption is reported among older adults. Our aim was to estimate this potentially negative effect of consuming alcohol on cognitive functioning.

Methods: Longitudinal data of the Survey of Health, Age and Retirement in Europe (SHARE) database from 2004 until 2019 were included. The 6,967 participants were monitored for changes in their cognitive abilities (immediate and delayed recall) and verbal fluency. Additionally, the effect of non-modifiable risk factors, including sex and age, on these cognitive functions were analysed. For this, a generalised estimating equation (GEE) linear model was estimated for each of the three assessed cognitive domains.

Results: Consistent results were revealed in all three regression models (i.e. for all three cognitive domains): Moderate alcohol intake was significantly (p<0.0001) associated with overall better global cognitive function than both, elevated alcohol consumption, and low consumption or complete abstinence – similar to a u-shaped association. Furthermore, female sex and higher educational obtainment were significantly associated with better cognitive functioning (p<0.0001), whereas higher age and depression were associated with a decline in cognitive functioning (p<0.0001). Notably, no

significant association was found for smoking.

Conclusion: This longitudinal analysis revealed a significant non-linear association between alcohol consumption and cognitive functioning – moderate alcohol consumption was associated with better cognitive functioning than elevated levels of consumption or complete abstinence. Considering the effect of the so-called "abstainer bias", however, any notions claiming the protective effect of alcohol consumption in older adults should be assessed critically. Certainly, evidence-based therapeutic concepts to reduce alcohol consumption should be offered to the increasing proportion of the older adults.

P1.35 The association of diet quality with the mental health of university students: a systematic review

Solomis Solomou[1]; Jennifer Logue[1]; Siobhan Reilly[1,2]; Guillermo Perez-Algorta[1]

[1] Lancaster University, UK; [2] University of Bradford, UK

Lay Summary: Students often experience mental health problems when moving from home to university, whilst their diet deteriorates at the same time; hence, we reviewed studies to examine any associations between diet quality and mental health of university students. Most studies found that a good diet quality was associated with better mental health, whereas students experiencing stress and anxiety were more likely to have a poorer diet quality. Further research may establish whether public health interventions targeting diet quality of university students might have a positive effect on their mental health, and whether providing support to students under stress may lead to healthier dietary habits when living on campuses.

Background: University students are at risk of experiencing mental health problems during the transition from home to university. This transition can also adversely affect their diet quality. This review examines evidence from observational studies for the association of diet quality with mental health of university students, as well as the association of mood-related mental health issues with the diet quality of university students.

Methods: The databases PubMed, CINAHL, EMBASE, PsycINFO, The Cochrane Library and Web of Science were searched using relevant search terms.

Results: 29 out of 37 studies found that good diet quality of students was associated with better mental health in terms of depression, anxiety, stress, and overall general mental wellbeing. 18 out of 21 studies found that stress and anxiety of students were associated with poorer diet quality. The effect sizes observed were generally small-moderate.

Conclusion: A healthy diet of students has been associated with better mental health in terms of depression, anxiety, stress or other mental health issues. Stress experienced by university students has been associated with a lack of healthy diet. There are public mental health implications and scope for further research. Randomised control trials could determine whether interventions to improve diet quality at the university level could reduce mental health issues, and whether providing support to students under stress may lead to healthier diets.

P1.36 The intersection of mental illness stigma, social norms and perceived recognition

Robert Moosbrugger[1]; Monika Nowotny[2]; Alfred Grausgruber[1]

[1] Johannes Kepler University, Austria; [2] Gesundheit Österreich, Austria

Lay Summary: We analysed perceived obstacles in accessing social roles for those labelled as "mentally ill". In addition to stigma, social norms and trends exacerbate exclusion processes, affecting potentials for recognition, recovery and inclusion. These findings are important for public health and the development of anti-stigma strategies.

Background: The so called "second illness" refers to mental illness stigma and its devastating consequences for recovery. Prejudices concerning mental illness are deeply embedded in social and cultural norms marking those affected as tainted and of less value, leading to discrimination, social rejection, and reduced access to social roles. Those associated with the label of mental illness are prone to be defined as "the others" and therefore in danger of having reduced opportunities for participation and recognition. Perceived social norms and associated role expectations determine what is considered to be "a good life". Perceptions that accomplishments and contributions are recognized by others (positional recognition), as bearers of equal rights (moral recognition) and emotional attention (emotional recognition) expresses the subjective perception of reality and are crucial for self-images. Therefore, we ask: - Which obstacles can be identified in accessing social roles? - What are the perceived social and cultural norms associated with obstacles?

Methods: We use data from three out of five parts of the project Monitoring Public Stigma Austria 1998-2018. In detail results of - focus-groups with experts by experience to identify relevant fields (n=3); - guided interviews for an in-depth understanding of experiences and the rationale behind them (n=20); - a quantitative survey to determine the extent of perceived stigma and discrimination among people with lived experience (n=344).

Results: Stigma as well as societal trends, such as achievement orientation and increasing performance pressure,

devaluation of emotions, empathy and compassion, represent obstacles in accessing and carrying out social roles, therefore further compromising social resources crucial for recovery. People fall short in fulfilling their own expectations as well as those implicit in normative rules. In particular, being unemployed, poor or being dependent on welfare goes along with perceptions of being a "non-productive" member of society (positional recognition). This applies to social relationships as well. Certain expectations go along with being a friend, a parent, or a spouse. Not meeting such expectations creates risks that undermine sources of emotional recognition. An additional burden is the constant pressure to justify why expectations may not be fulfilled (moral recognition).

Conclusion: Stigma in relation to perceived norms and social developments further exacerbate the exclusion of people with mental illness. This not only points to the intersectional nature of stigma, but also brings light to societal developments that compromise mental health. These effects ultimately have an impact on all members of society and therefore identify as a public health issue. Anti-stigma strategies should address such common goal issues that bridge group differentiations.

P1.37   Head Circumference Trajectories in Autism and Psychotic Experiences

Sarah Ashley[1]; Kate Merritt[1]; Pedro Laguna[2]; Avi Reichenberg[3]; Anthony David[1]

[1] UCL, UK; [2] Cardiff University, UK; [3] Icahn School of Medicine at Mount Sinai New York, United States

Lay Summary: We explored differences in head circumference in those with autism, subclinical autism, and psychotic experience groups to a control group over 13 timepoints. Autism was associated with increased head circumference at birth compared to controls, whereas psychotic experiences were associated with reduced volume at age 7 years. Head circumference measures offer a proxy of typical vs atypical brain development and such trajectories have not previously been studied in psychotic experience groups.

Background: Early brain overgrowth is a replicated neurophenotype associated with autism while psychotic disorders are more commonly associated with attenuated volumes. Head circumference, which can be used as a proxy measure for brain development, may offer insights into distinct neurobiological trajectories in these two disorders which have previously shown overlap in genetics and negative symptomology. We hypothesize that autism will be associated with increased head circumference, particularly during early childhood, while the presence of psychotic experiences will be associated with reduced head circumference compared to controls.

Methods: Head circumference measurements were collected in the ALSPAC birth cohort at birth and ages 7 and 15 years in over 3000 participants, as well as smaller focus groups of ~ 700 participants at an additional 10 timepoints. Autism diagnosis was assessed using maternal questionnaires at age 9 years and NHS linkage data. Psychotic experiences were assessed using the Psychosis Like Experiences Semi-Structured Interview at age 18 years. Analyses of covariances assessed group differences in head circumference.

Results: Autism was associated with significantly larger head circumference compared to controls at birth ($F(1:5929) = 4.8$, $p=0.03$) and a similar trend at age 7 years ($p=0.07$), with no difference at age 15 ($p=0.29$). In contrast, psychotic experiences were associated with a trend towards reduced head circumference at birth ($p=0.06$) and a significant reduction at age 7 compared to controls in a dose-dependent manner of severity ($F(3:4027) = 3.58$, $p=0.01$). Post-hoc tests revealed significantly smaller head circumference in females with psychotic experiences compared to female controls ($p<0.001$), with no significant group differences in males. Additional longitudinal analyses are currently underway.

Conclusion: Differences in childhood head circumference in both autism and schizophrenia compared to healthy volunteers indicates the presence of atypical neurodevelopment. The finding of divergent trajectories across the two disorders suggest that head circumference may act as an early biomarker to distinguish autism from psychotic experiences.

P2   SMI, substance use, comorbidity, childhood-onset disorders & health services
Fri 9 Sep, 12:00 – 13:30
Recital Room

P2.01   Long-term exposure to air pollution and prescriptions of psychotropic drugs in a large administrative cohort of adults

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Lay Summary: We studied the association between exposure to air pollutants and prescriptions of psychotropic drugs at the individual level in the general population. We found a clear association between exposure to $PM_{2.5}$ and antipsychotics, antidepressants and mood stabilizers, especially in the age range 30-64 years. The results reinforce the evidence that air pollution is related to mental disorders.

Background: The literature on the adverse effects of long-term exposure to air pollution on mental disorders is still limited. This study aims to investigate the associations between air pollutants and prescriptions of psychotropic drugs at the individual level in a large cohort.

Methods: We enrolled 1,739,277 individuals with 30+ years living in Rome in the 2011 census and followed them up until 31st December 2019. We excluded subjects that at baseline had a prevalent mental disorder, use of specific drugs in the previous 5-year period (antipsychotics, antidepressants and mood stabilizers), and evidence of epilepsy. Furthermore, we assigned annual average concentrations of fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2), and Black Carbon (BC) to baseline residential addresses. We applied Cox regression models with adjustment for individual and area-level covariates.

Results: This study identified incident cases of antipsychotics (79,362 subjects), antidepressants (200,549 subjects) and mood stabilizers (198,507 subjects) prescriptions. The hazard ratios (for each interquartile range of the pollutants, IQR) were positive and statistically significant for the three main pollutants and the three-drug categories, with stronger effects for $PM_{2.5}$ (IQR, 1.13 μg/m^3) on antipsychotics (HR: 1.038; 95% CI: 1.028-1.049), antidepressants (HR: 1.013; 95% CI: 1.007-1.019), and mood stabilizers (HR: 1.013; 95% CI: 1.007-1.019). The effects were generally higher in the age group 30-64 than in the 65+.

Conclusion: Long-term exposure to air pollutants was associated with an increased risk of psychotropic drug prescriptions. The findings increase the credibility of the relationship between air pollution and mental health.

P2.02   Associations between cannabis use, deprivation and other setting- level risk factors in explaining variation in psychosis incidence – An EU-GEI study

Vera Brink[1]; Humma Andleeb[2]; Charlotte Gayer-Anderson[3]; Celso Arango[4]; Lieuwe de Haan[5]; Peter B. Jones[6]; Antonio Lasalvia[7]; Christina M. Del-Ben[8]; Paolo Rossi Menezes[8]; Craig Morgan[3]; Robin M. Murray[3]; Jim van Os[9]; Jean-Paul Selten[9]; Andre Szöke[10]; Ilaria Tarricone[11]; Eva Velthorst[12]; Marta Di Forti[3]; Hannah E. Jongsma[1]; James B. Kirkbride[2]

[1] University Medical Centre Groningen, Netherlands; [2] University College London, UK; [3] King's College London, UK; [4] Universidad Complutense, Spain; [5] Amsterdam UMC, Netherlands; [6] University of Cambridge, UK; [7] Azienda Ospedaliera Universitaria Integra di Verona, Italy; [8] University of São Paulo, Brazil; [9] Maastricht University Medical Centre, Netherlands; [10] Institut National de la Santé et de la Recherche Médicale, France; [11] Bologna University, Italy; [12] Icahn School of Medicine at Mount Sinai New York, United States

Lay Summary: This study in 15 settings from 6 countries found that, at the setting level, fewer owner-occupied homes (a marker of setting-level deprivation), and lower daily cannabis use in control participants (a marker of setting-level cannabis use in the population) were associated with more new cases of psychotic disorder. These findings increase our understanding of the factors which are most relevant to psychosis incidence.

Background: The incidence of psychotic disorders varies by area, social group, environmental risk factors and cannabis use. A previous EU-GEI study investigated psychosis incidence across 17 settings, finding an 8-fold variation between settings, with higher rates in settings with lower levels of owner-occupancy, a putative marker of setting-level deprivation. Another EU-GEI study found a correlation between higher proportion of daily cannabis use amongst controls in each setting and higher incidence of first episode psychosis (FEP), especially for high-potency cannabis types. Since setting-level deprivation and cannabis use may be confounded, the aim of the present study was to re-analyse updated EU-GEI data to investigate the relative contribution of setting-level cannabis use and deprivation in explaining variation in treated FEP incidence. We hypothesized that after controlling for individual-level age, sex and ethnicity/minority status, deprivation-related variables (owner-occupancy, unemployment) would account for previously observed associations between setting-level cannabis use and FEP incidence.

Methods: The EU-GEI study is an international multisite incidence study. Data of 2774 individuals aged 18-64 years with FEP was collected between 2010-2015 in England, France, Italy, the Netherlands, Spain and Brazil across 17 settings. For the current study, individual-level data on country, setting, age group, sex, ethnicity/minority status and psychotic disorder type was retrieved and used as numerator for the incidence calculation. The denominator was estimated using routine demographic data and stratified by age, sex, setting/country and ethnicity. Univariable and multivariable random-effects (intercepts) negative binomial regression was used to investigate associations between individual- and setting-level risk factors and incidence of FEP across settings. Setting-level exposures were the % of control participants with daily cannabis use; % of population who owned their own house; and % unemployed.

Results: 2699 participants with FEP (1436 male and 1128 female) from 15 settings were included in the multilevel negative binomial regression model. FEP incidence was lower in settings where the proportion of controls who reported daily cannabis use was higher (IRR 0.94, 95% CI: 0.91-0.97) and lower in settings with more owner-occupied homes (IRR for a 10% increase, 0.74, 95% CI: 0.68-0.80). Unemployment did not contribute significantly to the multivariable model.

Conclusion: This study shows the relative contribution of how different social determinants of psychosis risk combine to influence incidence rates and extends our knowledge on environment-environment interactions in psychotic disorders across different contexts. Our results suggest that markers of greater setting-level deprivation are associated with higher rates of psychosis; this did not appear to be confounded by population-level cannabis use, with lower daily cannabis use in controls at the setting-level unexpectedly associated with higher FEP incidence.

P2.03 Optimising wellbeing in self-isolation: the effects of the Covid-19 pandemic on people with severe mental ill health

Emily Peckham[1]; Suzanne Crosland[1]; Paul Heron[1]; Gordon Johnston[2]; Ben Lorimer[1] Elizabeth Newbronner[1]; Panagiotis Spanakis[1]; Olivia Taylor[1]; Ruth Wadman[1]; Lauren Walker[1]; Simon Gilbody[1]

[1] University of York, UK; [2] Independent peer researcher, UK

Lay Summary: During the COVID-19 pandemic, we contacted 367 people with severe mental ill health to ask them about their physical and mental health, health risk behaviours (smoking, drinking, exercise and diet), access to the internet and NHS health services. We found that when people's mental health didn't get any worse, their physical health generally didn't get worse either. For people whose physical health got worse, they were also likely to be doing less exercise, eating less fruit and vegetables, smoking more and drinking more alcohol. When asked about health services we found people had a better experiences of face to face appointments than with phone or online appointments. Crucially we also found that almost half of people with severe mental ill health did not have basic digital skills. This is important because we have learnt that supporting people with severe mental ill health to maintain physical activity and maintain a daily routine, as well as increasing digital skills, can help prevent further health inequalities.

Background: The COVID-19 pandemic has had major implications for mental health and those with existing mental health problems are most at risk. Furthermore, COVID-19 has exacerbated existing inequalities. People with severe mental ill health (SMI) are a group who already experience significant health inequalities and are less likely to take part in online surveys due to lack of access to digital technology. It is therefore important to understand the experiences of people with SMI to mitigate against a further increase in health inequalities.

Methods: A sample of people with SMI, who were members of an existing cohort and had consented to being contacted about future research, were telephoned and invited to take part in a survey. Sampling was by age, gender and ethnicity. People who wished to take part were offered the option of completing the survey over the phone, online or having a hard copy sent in the post. Participants answered questions about physical and mental health, health risk behaviours, digital connectivity and access to health services.

Results: 367 people were recruited to the study between July 2020 and December 2020. Whilst there was a mixture of experiences, people who did not experience a deterioration in their mental health were less likely to experience a deterioration in their physical health. In addition, people reported a deterioration in their physical health were more likely to report an increase in health risk behaviours. Being able to maintain a daily routine was a protective factor with regards to both physical and mental health. People who were seen face to face for health care appointments were more likely to state that their needs had been met compared to those who had their appointment on the phone or online. 61.6% of our sample reported being limited users or no users of the Internet; the main reasons for that being lack of interest in the Internet or finding it too difficult.

Conclusion: COVID-19 is likely to lead to an increase in health inequalities for people with SMI. Maintaining physical health and a daily routine are protective factors, therefore supporting people with their physical health and daily routine is important to mitigate against an increase in health inequalities. Furthermore, as many people with SMI lack digital skills, ways to increase digital skills in this group need to be explored.

P2.04 Transdiagnostic symptom dimensions in individuals with ultra-high-risk psychosis

Julia Schulte-Strathaus[1]; Christian Rauschenberg[1]; Isabell Paetzold[1]; Jessica Hartmann[2]; Paul Amminger[2]; Hok Pan Yuen[2]; Patrick McGorry[2]; Barnaby Nelson[2]; Ulrich Reininghaus[1]

[1] Central Institute of Mental Health (CIMH) Mannheim, Germany; [2] Centre for Youth Mental Health, The University of Melbourne, Australia

Lay Summary: We used statistics to explain differences in responses on a clinical questionnaire in 342 young people (12-15 years old) with a range of mental health disorders who were also at ultra-high risk of developing psychosis. We found a shared underlying factor of poor mental health in individuals' responses and high overlap among seemingly different mental health domains. Our findings suggest that youth at ultra-high risk for psychosis share a general symptom domain and this may improve our understanding of mental health disorders.

Background: Research has increasingly shifted its focus from categorical to dimensional conceptualizations of mental disorders. This is supported by the high amount of overlap among disorders, particularly psychosis spectrum disorders, which cut across traditional diagnostic boundaries. The growing body of evidence on transdiagnostic symptom dimensions has stimulated debates about aetiology and symptom trajectories. While there is evidence for a general factor of psychopathology in service users with schizophrenia, schizoaffective disorder, and psychotic bipolar I disorder, transdiagnostic dimensions of psychopathology have not been replicated in young individuals at ultra-high risk (UHR) for psychosis. The aims of the proposed analyses are to investigate: 1) whether transdiagnostic dimensions of psychopathology can be replicated in UHR individuals; 2) the diagnostic utility for classifying UHR individuals correctly into criteria of a) UHR (trait vulnerability, attenuated psychotic symptoms, BLIPS) and b) comorbid DSM diagnoses; and 3) associations between demographic, clinical, and social variables and transdiagnostic dimensions at baseline.

Methods: Multidimensional item-response modeling was conducted on symptom ratings of the brief psychiatric rating scale (BPRS) at baseline in the staged treatment in early psychosis (STEP) trial, which aims to determine the most effective type, timing, and sequence of interventions in the UHR population.

Results: In total, 342 help-seeking young people enrolled in the study. A bifactor model with one general symptom dimension and four specific dimensions of positive symptoms, negative symptoms, affect, and activation provided the best model fit. This lends support to the notion of a shared general factor across the risk syndrome, pointing at a pluripotent risk state, while simultaneously recognizing the contribution of single, domain-specific factors.

Conclusion: These findings shed light on the dimensionality of symptoms in youth at UHR for psychosis and highlight the importance of further investigating transdiagnostic phenotypes at developmentally early stages of psychopathology.

P2.05 Psychotherapeutic Interventions for Persons at Clinical High Risk for Psychosis (CHR): A Systematic Review

Branka Milic[1]; Vera Gergov[2]; Henriette Loeffler-Stastka[1]; Randi Ulberg[4]; Eleni Vousoura[5]; Stig Poulsen[3]

[1] Medical University of Vienna, Austria; [2] University of Helsinki, Finland, Finland; [3] University of Copenhagen, Denmark; [4] University of Oslo, Norway; [5] University of Athens, Greece

Lay Summary: We investigated the effectiveness of psychotherapeutic interventions for persons at clinical high risk for psychosis (CHR). Most trials focused on the transition to psychosis and the improvement of attenuated positive psychotic symptoms (e.g., simple auditory hallucinations, unusual thought content). Given the complex clinical picture of CHR persons that keeps them at risk for adverse outcomes even in the absence of psychotic disorder, additional domains (e.g., negative symptoms (emotional withdrawal, isolation, avolition-apathy), depression) should also be targeted by psychotherapeutic interventions for this population.

Background: Individuals at clinical high risk for psychosis (CHR) are a heterogenous population characterized by a complex clinical picture mainly related to attenuated positive psychotic symptoms or brief, limited, intermittent psychotic symptoms, negative symptoms (e.g., emotional withdrawal, isolation, avolition), but also depression, anxiety, impaired social and role functioning, and deficits in cognition. Even when they do not develop a psychotic disorder, these individuals remain at risk for adverse outcomes of other aspects of the condition. The present study aimed to systematically review clinical trials on psychotherapeutic interventions for this population and to highlight the effectiveness, type, and specific components of treatments found to contribute to the improvement of all mentioned domains associated with CHR.

Methods: This review is a part of the larger ongoing study aimed at conducting a series of systematic reviews on psychotherapeutic interventions for young persons with mental disorders. The present review focused on a population at CHR who has undergone psychotherapeutic treatments and reported results on the outcomes of these interventions. Electronic databases searched were PubMed and PsychINFO; the risk of bias was assessed by the Mixed Method Appraisal

Tool (MMAT).

Results: A total of 25 trials (39 publications) are included in the review. Treatment conditions involved cognitive-behavioral therapy (CBT), cognitive remediation therapy (CRT), and family-based interventions, delivered either as single or multi-component treatments; control conditions involved mainly supportive therapy (ST) or enhanced care (case management, crisis intervention, monitoring). Psychoeducation was often a component of interventions that presented advantageous outcomes. The majority of included trials focused on the conversion to psychosis and attenuated positive psychotic symptoms and reported a significant impact on these domains with no differences between the conditions. Although depression and anxiety were reportedly improved, the results were either nonsignificant or involved variable outcomes regarding comparisons among conditions. Improvements were also found in global functioning and negative symptoms were the most resistant to change.

Conclusion: Trials included in this review report that psychotherapeutic interventions can be effective for the treatment of persons at CHR, particularly concerning conversion to psychosis and improvement of attenuated positive psychotic symptoms. At the same time, negative symptoms and depression were persistent, keeping this population at risk for mental disorders. Future interventions should also consider tailoring the approach according to the other affected domains of persons at CHR.

P2.06   Characteristics and outcome of inpatients and outpatients with a psychosis - register-based data

Marianne Haapea[1]; Hanna Rousu[2]; Tanja Nordström[2]; Erika Jääskeläinen[2]; Jouko Miettunen[2]

[1] Oulu University Hospital, Finland; [2] University of Oulu, Finland

Lay Summary: We compared the inpatient and outpatient registers in identifying persons with psychotic disorders as well as characteristics and outcome between the individuals treated in inpatient and outpatient care. Compared to the outpatients, the inpatients had more often broad schizophrenia and less often affective psychosis, had younger onset age and worked less in the end of the follow-up. Due to increasing proportion of patients treated in outpatient care inclusion of both inpatients and outpatients in research is important.

Background: Representativeness of research may vary depending on sources of data. Inpatients with psychoses likely have different severity of illness compared to outpatients without hospitalization. However, nowadays increasing proportion of patients are treated in outpatient care, which emphasizes the importance of including outpatients in research data.

Methods: This study is based on the Northern Finland Birth Cohort 1966. Information on the diagnoses of psychotic disorders were collected from the inpatient and outpatient treatments of the Care Register for Health Care and various outpatient registers until year 2013. Outcome was based on register information on education, employment, pensions, and mortality until year 2018. The most severe register diagnosis was used as a primary diagnosis of the individual. We evaluated how well the diagnoses were detected in inpatient and outpatient registers and compared onset age and outcome between persons treated in inpatient care and persons treated solely in outpatient care.

Results: We identified 266 inpatients and 94 outpatients. Of all persons diagnosed with broad schizophrenia, 74% could be identified using the inpatient register and 88% using the outpatient registers (p=0.003). The corresponding figures were 59% and 74% for affective psychoses (p=0.048) and 73% and 70% for other psychoses (p=0.603). Broad schizophrenia was more often detected in both inpatient and outpatient registers than affective psychoses or other psychoses (62% vs. 33% and 42%). Compared to the outpatients, the inpatients had more often broad schizophrenia and less often affective psychosis or other psychosis (corresponding proportions 59%, 20%, and 43% for the inpatients and 30%, 43% and 28% for the outpatients; p<0.001), and younger mean age of illness onset (31.7 vs. 39.6 years; p<0.001). During 2018, 17% of the inpatients and 29% of the outpatients worked at least 70% of time (p=0.028). Education or socioeconomic status did not differ. Six inpatients and three outpatients had died during the 5-year follow-up.

Conclusion: Inclusion of both inpatients and outpatients enables representative samples in research on psychosis. Inclusion of outpatients has become more important since psychiatric care has shifted towards outpatient care.

P2.07   Utilization of psychosocial interventions and its predictors of the utilization in people with severe mental illness

Johanna Breilmann[1]; Sarah Fritz[1]; Markus Koesters[1]

[1] Ulm University, Germany

Lay Summary: In this study, the utilization of psychosocial interventions by people with severe mental disorders in Germany was recorded. The results show, that current utilization of psychosocial interventions is not based on the strength of recommendation in Germany. In addition, no other generalizable predictor for receiving or not receiving the interventions

could be identified.

Background: Patients with a severe mental illness should receive guideline-based treatment, but translation of recommendations into routine care is often suboptimal. We assessed the extent to which patients with severe mental illness received recommended interventions of the evidence- and consensus-based German guideline on psychosocial interventions for people with severe mental disorders. We also analysed if strength of recommendation, availability of interventions or other regional or individual factors predict the utilization of psychosocial interventions.

Methods: We present preliminary results of an observational, cross-sectional study in persons with severe mental disorders (inpatients and day hospital patients of both sexes, aged 18 to 65 years, diagnosis of affective and schizophrenic disorders). Data were collected in 10 clinical recruiting centres in Germany. Assessments were carried out using a self-developed checklist listing all psychosocial interventions of the guideline 'psychosocial interventions'. Results were analysed descriptively.

Results: Data of 397 patients were analysed (age: 43 ± 13 years, 57% women). The results indicate that service utilization is associated with strength of recommendation, but interventions with weak recommendations were used more frequently than interventions with strong recommendation. Other regional and individual factors also show an association, but in a complex and inconsistent picture.

Conclusion: In sum, current utilization of psychosocial interventions is not based on the strength of recommendation. However, no other generalizable predictors for receiving or not receiving an intervention could be identified, indicating that reasons for service utilization are complex.

P2.08 An ecological monitoring of mood variability of patients with schizophrenia spectrum disorders (SSD)

Giovanni De Girolamo[1]; Cristina Zarbo[1]; Manuel Zamparini[1];

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Lay Summary: We evaluated inter- and intra-individual differences in mood variability and instability between patients with SSD and healthy controls during the daily hours and the weekdays. We found that residential patients reported the highest negative mood levels, and displayed the highest variability in positive mood across daily hours and weekdays. Evaluating emotional experiences in the complex daily life of patients with SSD is fundamental to develop personalized treatment plans.

Background: Evaluating emotional experiences in the complex daily life of patients with Schizophrenia Spectrum Disorders (SSD) is fundamental to develop personalized treatment plans. However, little is known about mood variability and instability among patients with SSD and the general population. We evaluated inter- and intra-individual differences in mood variability between patients with SSD living in different treatment settings and healthy controls during the day and during the week

Methods: From October 2020 to October 2021, 102 patients diagnosed with SSD (56 residential patients, 46 outpatient) and 111 healthy controls were recruited at ten different centers in Northern Italy, as part of the DiAPAson project. Healthy controls were recruited by public advertisements and snowball sampling procedures, and were matched by gender and age group with the clinical sample. Mood was assessed with a brief questionnaire on a smartphone-based application for Experience Sampling Method (ESM), developed ad hoc for this project.

Results: We found that overall mean ratings of positive mood were not significantly different between patients and healthy controls, whereas patients with SSD reported higher levels of negative mood. There was a marked variability of mood ratings over different daily hours and weekdays. Both across daily hours and week days, residential patients showed the highest levels of negative mood compared to both outpatients and healthy controls. Negative mood slightly increased from morning hours to evening hours in all three groups. Additional analyses will investigate mood variability and instability in these three groups.

Conclusion: These findings contribute to a better understanding of the emotional experiences of patients with SSD in the complex world of the daily life. This knowledge is fundamental to develop personalized treatment plans

P2.09 The link between balanced time perspective and daily time use of individuals with schizophrenia spectrum disorders

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Lay Summary: We explored the association between time perspective, daily time use and levels of functioning among individuals with Schizophrenia Spectrum Disorders (SSD). We found that higher time spent "doing nothing" in individuals

with SSD was predicted by higher maladaptive time orientation (i.e., Present Fatalistic) and lower levels of functional time orientations (i.e., Past-Positive and Future), Present- Hedonistic and Balanced Time Perspective. Studying time perspectives and daily time use in individuals with SSDs is crucial because severe mental disorders may impair the continuity of normal life and are often associated to a radical change in subjective temporality, leading to a fragmentation of the experience of the self in time.

Background: Time Perspective (TP) and Balanced Time Perspective (BTP) are known to affect human emotions, cognitions, judgements and behaviours. However, few is known about TP of individuals with Schizophrenia Spectrum Disorders (SSD) and its link with daily time use. As part of the DiAPAson project, we aimed at exploring this link and the association between TP and levels of functioning as mediated by daily time use, controlling for psychiatric severity, gender and age.

Methods: 620 patients with a diagnosis of SSD (313 patients living in Residential Facilities, RFs, 307 outpatients) were recruited at 37 mental health services in Italy. The Brief Psychiatric Rating Scale (BPRS) and the Specific Levels of Functioning (SLOF) were used to investigate psychiatric severity and levels of functioning. Daily time use was assessed by means of an ad hoc developed paper-and-pencil Time Use Survey (TUS) questionnaire. The Zimbardo Time Perspective Inventory (ZTPI) was used for the assessment of TP. Deviation from BTP (DBTP-r) was calculated.

Results: Among outpatients, the amount of time spent in Non-Productive Activities (NPA) was negatively predicted by Past-Positive (Exp(β): 0.92; p .005), Present-Hedonistic (Exp(β): 0.92; p .002), Future (Exp(β): 0.92; p .001) subscales and positively predicted by Present-Fatalistic subscale (Exp(β): 1.07; p .029). DBTP-r positively predicted time spent in NPA among these groups: outpatients (Exp(β): 1.10; p .001), 31-40 years old (Exp(β): 1.16; p .003), 41-55 years old (Exp(β): 1.16; p <.001), females (Exp(β): 1.13; p .012) and males (Exp(β): 1.13; p <.001). DBTP-r significantly negatively predicted SLOF ratings (p=.006), and daily time use, in particular the amount of time spent in NPA, mediated this association.

Conclusion: Fostering BTP (e.g. restructuring past memories, encouraging higher focalization on future perspectives, reducing both fatalistic and hedonistic life perspectives) may reduce inactivity levels among patients with SSD, may increase PA levels, and may promote higher engagement in rehabilitation programmes. All these changes are likely to improve patients' levels of functioning and rehabilitation outcomes.

P2.10   ---- WITHDRAWN ----

P2.11   ---- WITHDRAWN ----

P2.12   How hair keeps track: Associations between hair concentrations of psychoactive substances and steroid hormones in a large cohort sample of young adults

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Lay Summary: We investigated whether higher levels of drugs in hair (cocaine, Ecstasy, cannabis, opioids) would be associated with higher levels of stress hormones in hair. We found that participants who had high levels of cannabis and cocaine in hair had higher stress hormone levels in hair. However, we did not find this for every drug we tested. These findings are important because higher stress is linked to worse mental and physical health.

Background: Cortisol and cortisone are frequently used as physiological stress markers in neuropsychiatric research, with growing interest also in the role of testosterone. These steroid hormones are increasingly measured via hair sampling to provide a window into cumulative exposure. However, studies investigating steroid hormones in hair largely ignore the potential effects of psychoactive substances, although animal models suggest a knock-on effect of psychoactive substances on the hypothalamic–pituitary–adrenal axis stress response. This project aims to assess the association between steroid hormones and a number of substances such as cannabinoids, stimulants, 3,4-methylenedioxymethamphetamine (MDMA), and opioids in hair. We expected higher concentrations of cocaine, cannabis, and MDMA to be associated with higher levels of cortisol in hair.

Methods: Data was drawn from a large representative sample of 20-year olds (n=1002). Multiple regression models were used to assess associations between steroid hormones, potential covariates, and psychoactive substances in hair. Median splits were used to divide participants into: no, low, and high concentrations of each substance.

Results: Preliminary results show an association between both low (β: 0.29; 95% CI: 0.02-0.34, p=0.026) and high concentrations of cannabinoids (β: 0.40; 95% CI: 0.10-0.40, p=0.001) with higher levels of hair cortisol. High cocaine concentrations were associated with higher levels of cortisol (β: 0.31; 95% CI: 0.01–0.60, p=0.040). Testosterone levels were not associated with substance concentrations in hair.

Conclusion: These results suggest that substance use should be considered when interpreting hair levels of corticosteroids in large samples.

P2.13   ---- WITHDRAWN ----

P2.14   ---- WITHDRAWN ----

P2.15   National Addiction Survey in Egypt 2021

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Lay Summary: Continuing the cycle of the National Survey in order to assess the change in the prevalence of addiction over time. Aim of Study: to provide an accurate data on the current status of Addiction problems for fulfilling its primary aim of establishing "accessible" services covering the whole population with addiction problems in balanced way with proper geographical distribution.

Background: Since 1996, the research unit of the General secretariat of Mental Health and Addiction Treatment (GSMHAT) -The Ministry of Health (MOH) is responsible for conducting "The National Addiction Survey" which is responsible for epidemiological assessment of the substance abuse problem in Egypt. 2018, GSMHAT conducted the "Addiction mapping" which covered all the governorates at the same time and used unified tool to fulfill the house hold sample. It was aimed that the results of the national survey provide the proper size and distribution of the problem, which considered the first dimension of mapping the substance use disorders in Egypt shedding the light on the location of the areas that were more affected other.

Methods: A sample of 30000 household random samples was driven from the Central Agency for Public Mobilization and Statistics (CAPMAS) with 27960 (93%) valid response. Standard quantitative measures were used guided by: the addiction severity index and research diagnostic criteria of DSM-IV TR for proper diagnosis of substance dependence and abuse. All the Egyptian governorates were covered. Field researchers were all social workers that were trained well in their home governorates and passed pilot assessment.

Results: The one year prevalence of substance abuse and addiction in Egypt varies substantially between governorates. In Egypt: Hashish and tramadol are the most common substances of abuse. Predictors of addiction include male gender, early adulthood. As expected the prevalence of substance use and addiction is much higher in males. However, there is a substantial proportion of women especially in large cities with this problem and they require dedicated treatment services. The relationship between lower levels of education. The distribution of addiction services in Egypt is quite variable with most of these specialized services concentrated in Giza and Alexandria.

Conclusion: Planning for a large scale study directed towards studying the treated from addiction population. Large study aiming at evaluating treatment modalities and its efficacy in order to generate national strategies for treatment of addiction.

P2.16   School socioeconomic context and recent adolescent substance use in Chile: who is at higher risk?

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Lay Summary: This study examines whether school socioeconomic context relates to past-month alcohol, tobacco and marijuana use among school children in Chile. Students attending socially deprived schools were at higher risk of recent tobacco and marijuana use, but at lower risk of drinking. Preventive strategies should be tailored according to the substance and school socioeconomic context.

Background: Adolescent substance use has a detrimental effect on health capital and health trajectories later in life. Although school socioeconomic context is known to influence academic outcomes and access to tertiary education, less is known on its impact on adolescent behaviours such as substance use. In this study, we used data from Chile, which has a socially segregated schooling system, to examine whether school socioeconomic context relates to recent substance use among Year 8 (Y8) and Year 10 (Y10) students.

Methods: Individual-level information on past-month alcohol, tobacco and marijuana use was self- reported by Y8 students in 2017 (N= 91,220; 8,367 school classes; 5,714 schools) and Y10 students in 2018 (N= 164,693; 7,119 school classes; 2,922 schools). Cross-sectional data was collected as part of the Educational Quality Assessment System implemented biannually for each school year at national level. Parents reported their own education level during this assessment. Schools were classified into five socioeconomic groups (low, lower middle, middle, upper middle, high) according to official Ministry of Education information. Hierarchical data were analysed using multilevel logistic regression. Models were adjusted for parental education and child's gender. Age information was not available. Analyses were performed using Stata 17.

Results: Alcohol was the most frequently consumed substance among Y8 students (14.5%; 95% CI: 14.3, 14.7) and Y10

students (34.6%; 95% CI: 34.4, 34.8). Of Y8 students, about 7% reported recent smoking (95% CI: 7.3, 7.7) and 6% reported recent marijuana use (95% CI: 6.0, 6.2). Among Y10 students, these numbers doubled for tobacco (15.7%; 95% CI: 15.5, 15.9) and marijuana use (13.7%; 95% CI: 13.5, 13.9) Results from multilevel models showed Y8 students attending high socioeconomic status (SES) schools were less likely to smoke (OR: 0.52; 95% CI: 0.45-0.62) and use marijuana (OR: 0.35; 95% CI: 0.28-0.42) compared to low SES schools. Among Y10 students, risk of tobacco use was lower in middle SES schools (OR: 0.64; 95% CI: 0.61-0.74) and risk of marijuana use was about 50% lower in high SES schools than in more socially disadvantaged schools. Among Y10 students there was an inverse social gradient in alcohol use, in which high SES school students were more likely to drink than low SES school students (OR: 1.77; 95% CI: 1.66-1.90). School SES was unrelated to drinking among Y8 students.

Conclusion: The influence of school socioeconomic context on adolescent substance use seems to differ depending on the substance. Students attending socially deprived schools are likely to be more vulnerable to tobacco and marijuana use and their long-term consequences.

P2.17 All-cause and specific-cause mortality, and moderating factors in people with an eating disorder: A systematic review and meta-analysis

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Lay Summary: We are conducting a systematic review investigating the risk of mortality in eating disorders compared with the general population. We will report on all-cause mortality, suicide, and other specific causes of mortality once the review is complete. This review is needed because most research reports on largely female samples, and many studies have been published prior to the release of the DSM-5 when binge eating disorder (BED) diagnoses were considered eating disorders not otherwise specified (EDNOS).

Background: Eating disorders (ED) have the highest mortality rates seen out of all psychiatric diagnoses. Evidence regarding mortality rates in ED is primarily based on female-only/largely female samples and published prior to the release of the DSM-5, when binge eating disorder (BED) diagnoses were considered eating disorders not otherwise specified (EDNOS). An updated and comprehensive review and meta-analysis reporting on all-cause and cause-specific mortality (including both natural and non-natural causes such as suicide) for anorexia nervosa, bulimia nervosa, BED and EDNOS is warranted. This review will evaluate three primary objectives: 1) determine the all-cause mortality risk for individuals presenting with an ED, 2) determine cause-specific mortality risk in ED, and 3) identify moderating factors of mortality in ED.

Methods: This systematic review follows PRISMA 2020 guidelines. Search strategies were developed with a librarian. Screening is being conducted in duplicate and double-blinded. Inclusion criteria are observational studies reporting on all-cause mortality, suicide, and/or other specific-causes of mortality in anorexia nervosa, bulimia nervosa, binge eating disorder, or EDNOS (defined according to DSM/ICD criteria, clinical charts, and/or validated scales). We will run subgroup analyses to look at differences in mortality risk among different age groups and sex.

Results: Screening is ongoing. We will present findings relating to the co-primary outcomes (all-cause mortality, suicide, and natural-cause mortality) and secondary outcomes (other specific-cause mortality) when the review is complete.

Conclusion: This systematic review will provide evidence on the severity of various EDs and differences among age and sex. This may have implications for guiding: 1) clinicians, to offer best treatment practices, and public health policy makers and funders, to enact effective programs and/or provide sufficient resources and support for individuals with an eating disorder.

P2.19 Obsessive-compulsive symptoms among the general population during the first COVID-19 epidemic wave in Italy

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Lay Summary: 1. A web-based survey spread throughout the internet during the first epidemic peak in Italy to assess the impact of the COVID-19 pandemic on obsessive-compulsive symptoms in the general population. 2. We found high rates (38,9%) of clinically relevant obsessive-compulsive symptoms, particularly in the contamination domain, associated with different covid-related stressful events. 3. These findings suggest the need to investigate further obsessive-compulsive symptoms trajectories in the general population, with the potential to help in the design of strategies to mitigate the long-term impact of the pandemic.

Background: The impact of the COVID-19 pandemic on obsessive-compulsive symptoms (OCS) is unclear. This study investigated OCS in the Italian general population during the initial stage of the pandemic and the impact of COVID-19 related potential risk factors.

Methods: A web-based survey spread throughout the internet between March 27th and April 9th 2020; 20241 individuals completed the questionnaire, 80.6% women. The Dimensional Obsessive-Compulsive Scale (DOCS) was included to assess the severity of the OCS domains. Further, selected outcomes were depression, anxiety, insomnia, perceived stress, and COVID-19 related stressful life events. Logistic or linear regression analyses was conducted to explore the impact of COVID-19 related risk factors, socio-demographic variables, and mental health outcomes on OCS.

Results: A total of 7879 subjects (38,9%) reported clinically relevant OCS. Specifically, more than half of the sample (52%) reported clinically relevant symptoms in the Contamination domain, 32.5% in the Responsibility domain, 29.9% in the Unacceptable thoughts domain, and 28.6 in the Symmetry/Ordering domain. Being a woman was associated with OCS, except for Symmetry/Ordering symptoms. A lower education level and younger age were associated with OCS. Depression, anxiety, perceived stress symptoms, insomnia, and different COVID-19 related stressful events were associated with OCS.

Conclusion: We found high rates of OCS, particularly in the contamination domain, in the Italian general population exposed to the first COVID-19 epidemic wave and COVID-19 related risk factors. These findings suggest the need to investigate further the trajectories of OCS in the general population along with the long-term socio-economic impact of the pandemic.

P2.20 Association between intentional and unintentional traumatic experiences, and substance/behavioral addiction in a sample of Italian late adolescents

Rodolfo Rossi[1]; Flaminia Reda[2]; Isabella Federico[1]; Giulia D'Aurizio[2]; Valentina Socci[2]; Tommaso Jannini[1]; Giorgio Di Lorenzo[1]

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Lay Summary: (1) We assessed different traumatic experiences (TE) and their association with behavioral and substance addictions (internet, gambling, cannabis and alcohol) in a group of high school students by means of a set of questionnaires. (2) We found that intentionality/non-intentionality and the life phase in which TEs occurred may have a significant impact on the development of the selected addictions. (3) Assessing a wide range of TEs and addictions might be important in order to develop more circumscribed and well directed early clinical interventions.

Background: Traumatic experiences (TEs) are well known risk factors for the development of addictions. However, evidence considering different TEs characteristics in relation to diverse addictions is still missing. The present study aimed to explore the association between intentional and unintentional TE (i-TEs and u-TEs), occurred at different ages (childhood, adolescence and during the previous 6 months), and, cannabis, alcohol abuse, problematic use of internet (PIU) and gambling.

Methods: 1010 high school students (mean age 18.7; SD=0.65) completed a set of questionnaires, evaluating addictions and TEs. The associations between TEs (independent variables) and addictions (dependent variable) was assessed by means of logistic regressions.

Results: Cannabis use was associated with u-TEs in adolescence (OR: 1.9; 95% CI: 1.1, 3.28) and recent i-TEs (OR: 1.85; 95% CI: 1.01, 3.4). Alcohol use was associated with u-TEs in adolescence and in the last six months (respectively OR: 1.41; 95% CI: 1.07, 1.86 and OR: 1.70; 95% CI: 1.2, 2.42) and recent i-TEs (OR: 1.42; 95% CI: 1.01, 2.00). PIU was associated with i-TEs during childhood, adolescence and recently occurred (respectively OR: 1.50; 95% CI: 1.08, 2.08; 1.54; 95% CI: 1.08, 2.18 and 1.60; 95% CI: 1.08, 2.37). Gambling was not associated with any TE.

Conclusion: Our results suggest that TEs represent a relevant risk factor for substance and behavioral addictions. However, uTEs and iTEs showed a complex pattern of associations with the selected outcomes. These patterns might be better explained by means of different pathways, including psychopathological mediators and moderators. These results warrant more detailed studies to assess the complex pathways leading from TEs to addictions.

P2.21 Association between complex PTSD, and behavioral addictions and substance use in a cohort of Italian late-adolescents

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Lay Summary: We assessed the association between Post Traumatic Stress Disorder (PTSD) and complex PTSD (cPTSD), and different substance and behavioral addictions in a sample of 1010 high school students. We found that PTSD was associated with alcohol use and problematic use of internet (PIU), while cPTSD was associated with cannabis abuse and PIU. Differentiating potential complications of PTSD and cPTSD might be important in order to develop more circumscribed and

well directed early clinical interventions.

Background: Post-Traumatic Stress Disorder (PTSD) is commonly associated with behavioral and substance addictions. While this association is well established, little is known about the association between addictions and complex PTSD (cPTSD) in late-adolescence. The present study aims to investigate the association between PTSD and cPTSD, and different substance and behavioral addictions.

Methods: 1010 high school students (mean age=18.7, SD=0.65) completed a set of questionnaires, assessing cannabis, alcohol, problematic internet use (PIU) and gambling, and the presence of PTSD or cPTSD symtoms (International Trauma Questionnaire - ITQ). The association between PTSD and cPTSD symptoms, and four different outcomes (cannabis, alcohol, PIU and gambling) was analyzed by means of logistic regression.

Results: PTSD symptoms are associated with alcohol use (OR: 1.59; 95% CI: 1.03, 2.46) and PIU (OR: 1.92; 95% CI: 1.18, 3.13). cPTSD symptoms are associated with cannabis abuse and PIU (OR: 5.13; 95% CI: 2.71, 9.70).

Conclusion: Our data suggest that post-traumatic symptoms may represent a risk factor for substance use and behavioral addictions, with partially differentiated patterns between PTSD and cPTSD. Based on the evidenced associations, we highlight the importance of wide psychopathological screenings, also in order to develop more circumscribed and well directed early clinical interventions. Finally, these results shed light on the addictions as potential complications of PTSD and cPTSD.

P2.22   Associations of antidepressants and antipsychotics with lipid parameters: Do CYP2D6/CYP2C19 genes play a role? A UK population-based study

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Lay Summary: We studied whether use of antidepressant and antipsychotic medications were associated with lipid levels (total, low-, and high-density lipoprotein (L/HDL-C) cholesterol and triglycerides) in almost half a million people, and if CYP2D6 and CYP2C19 genes influence any such associations. We found each antidepressant studied was associated with worse levels of each lipid, antipsychotics were associated with lower HDL-C and higher triglycerides, and that the CYP2C19 intermediate metaboliser phenotype may be protective for some lipids in people taking the antidepressant sertraline. These results are important because adverse lipid levels contribute to poor health and death in people with mental illnesses and lipids are not currently routinely monitored in people prescribed antidepressants, despite widespread use.

Background: Dyslipidaemia is an important cardiovascular risk factor for people with severe mental illness, contributing to premature mortality. The link between antipsychotics and dyslipidaemia is well-established, whilst evidence on antidepressants is mixed. Using UK Biobank data, we studied if antidepressant/antipsychotic use was associated with lipid levels, and if variation in CYP2D6 and CYP2C19 genes influences lipids in people taking these medications.

Methods: In this population-based study, we reviewed self-reported prescription medications to identify participants taking antidepressants/antipsychotics. Total cholesterol, LDL-C, HDL-C and triglycerides were derived from blood samples. CYP2D6 and CYP2C19 metabolic phenotypes were assigned from genetic data. Linear regression investigated associations between antidepressant/antipsychotic use with each lipid and the influence of genetic metabolic phenotypes in each medication group, adjusted for key covariates.

Results: Of 469,739 participants, 36,043 took antidepressants (53% female, 94% white ethnicity, median age 58, 17% taking cholesterol lowering medications) and 3,255 took antipsychotics (58% female, 92% white ethnicity, median age 57, 27% taking cholesterol lowering medications). Significant associations were found between use of each amitriptyline, fluoxetine, citalopram/escitalopram, sertraline, paroxetine, and venlafaxine with higher total cholesterol, LDL-C, and triglycerides and lower HDL-C, compared to participants not taking each medication. Venlafaxine was associated with the worst lipid profile (total cholesterol, mean difference: 0·21 mmol/L; 95% confidence interval [CI]: 0·17 to 0·26, p<0·001). Antipsychotic use was significantly associated with lower HDL-C and higher triglycerides. In participants taking sertraline, CYP2C19 intermediate metabolisers had higher HDL-C (0·05 mmol/L 95% CI: 0·01 to 0·09, p=0·007) and lower triglycerides (-0·17 mmol/L 95% CI: -0·29 to 0·05, p=0·007), compared to normal metabolisers. Post-hoc analyses of sertraline suggested these genetic effects were apparent only in participants not taking concomitant cholesterol lowering medications.

Conclusion: Antidepressants are significantly associated with adverse lipid profiles, potentially warranting baseline and regular monitoring of lipids. This sample was cross-sectional, we next seek to replicate findings in longitudinal data. Further research should investigate why the CYP2C19 intermediate metaboliser phenotype may be protective for HDL-C and triglycerides in people taking sertraline.

P2.23   ---- WITHDRAWN ----

P2.24 The Use of Popular Media to Support Youth Mental Health: Encanto & Intergenerational Trauma

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Lay Summary: An analysis of a popular children's film, Encanto, was undertaken as a potential avenue for accessible mental health care (e.g. psychoeducation) about intergenerational trauma. The film provides a simplistic exploration for children and their families to begin a conversation around a complicated topic, and has implications inside the therapy room. Mental health care needs to meet children and families where they are at, and in a digital world, that can be through movies, music, and other forms of media.

Background: In an ever evolving world, mental health care must reimagine itself to align with the times. The mental health care system must adapt to incorporate new technologies, shift from traditional individual therapy sessions as the gold standard for healing, and join children & youth in their world of multimedia consumption. Popular films, as one example, can serve additional purposes for children and families outside of pure entertainment. In recent years, films like Inside Out, Coco, and Soul are providing families with a foundation to have conversations about difficult topics spanning from grief to relationships to emotions. These films are helping children and families explore complex psychological topics, teach emotional literacy, and allow children to relate to characters like themselves. Encanto has recently joined the ranks of those movies with a new topic: intergenerational trauma.

Methods: Using up to date trauma literature, this analysis is a conceptualization of how mental health professionals, teachers, child care workers, parents, and other professionals can understand a piece of popular media to support healing of trauma within families.

Results: Intergenerational trauma is reported in communities around the world from Holocaust survivors to occupants of war struck zones to families touched by natural disasters. It is a topic mental health professionals should be well-versed in for clinical work to provide ethical care. Through an examination of Disney's Encanto, this talk will investigate the gentle introduction and exploration of intergenerational trauma represented within the Madrigal family. This will include defining intergenerational trauma, distinguishing from historical trauma, recognizing family scripts/roles, and discussing components of healing depicted throughout the film.

Conclusion: As the COVID-19 pandemic continues, and mental health care may have to be a hybrid delivery, considering popular media for cinematherapy could lend itself to supporting powerful changes in children and adolescents that happen outside of the therapy session. The film Encanto can provide clients with a way to see themselves and their families that can be encouraged by mental health professionals for viewing as not only a normalizing/destigmatizing act, but also as a processing tool for therapeutic work. It can be a tool to use in session with film clips or songs with clients as well. Using a film as a companion tool in their healing can provide both distance and a sense of play to navigate an often-painful topic.

P2.25   ---- WITHDRAWN ----

P2.26 Cost–Benefit Evaluation of an Organizational–Level Intervention Program for Decreasing Sickness Absence among Public Sector Employees in Sweden

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Lay Summary: The economic benefits of an organizational-level workplace program were evaluated. We found that productivity loss was reduced when managers received both monetary and facilitator support. This knowledge can help decision-makers to implement measures that are both effective and economically beneficial in terms of reducing work-related mental illness.

Background: Work-related mental illnesses create a vast economic burden for employers and society. Organizational-level workplace interventions are recommended to prevent these illnesses, but the knowledge about the economic benefits of such interventions is scarce. The aim of this study was to evaluate the economic benefit of an organizational-level workplace program for decreasing sickness absence.

Methods: A program was implemented in a large Swedish administrative region between 2017 and 2018, containing a monetary support approach (MSA) and an approach combining monetary and facilitator support (FSA). Cost–benefit analyses were used, where the results were compared to business as usual, using aggregated workplace sickness absence data to measure benefits, and wages and invoices to measure costs.

Economic benefits of reduced sickness absence were based on the value of reduced production loss and direct sick pay

costs, respectively. Sensitivity analyses were used to assess the robustness of the results.

Results: The program had a positive net benefit of MSEK1.7/year when measuring productivity loss, where the FSA had a net benefit (MSEK9.6/year) and the MSA had a net loss (MSEK-0.2 /year). A negative net benefit was derived when measuring direct sick pay costs (MSEK-2.7/year). For FSA, the implemented interventions were found to fit the respective workplace challenge to a larger degree compared to MSA. The intervention effect on sickness absence affected the net benefit the most.

Conclusion: Organizational-level workplace interventions can be economically beneficial for employers in terms of reducing the productivity loss. To achieve this benefit, implemented interventions need to fit the workplace challenge. Decision makers should not fear an initial high cost if evidence-based methods are used. A net loss was seen when only including reduced sick pay costs. However, future evaluations need to include other aspects than the value of reduced sock pay costs to fully capture the total net benefit.

P2.27   Linking electronic mental healthcare and benefit records in South London: design, procedure and outcomes

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Lay Summary: We linked data from two datasets, namely electronic mental health care records from people who received mental health treatment from the South London and Maudsley (SLaM) NHS Foundation Trust, with benefit records from the Department for Work and Pensions (DWP). We found that 84% of people with linked data had received benefits, with men, older people, those who had died, those who had received a primary psychiatric diagnosis and those living in an area of higher deprivation were most likely to have received benefits. We will use this linked data to further explore the impact of the benefits system on people with mental health problems.

Background: 1.8 million people face long-term sickness absence of four weeks or longer, costing the UK society £100 billion annually. Mental disorders are one of the most common causes of sickness absence. Yet, little is known about the interrelationships between employment status, benefit receipt and mental disorders. This study describes the outcomes of a data linkage between mental healthcare records from SLaM and administrative records from DWP.

Methods: 448,404 IDs of patients who accessed secondary mental healthcare services at SLaM were sent to the DWP, including personal identifiers. A deterministic linkage approach was applied. Data from SLaM covers years 2007-2019, whereas data from DWP covers years 2005-2020.

Results: A linkage rate of 92.3% was achieved. Women, younger people and people from ethnic minority groups were less likely to be successfully linked. Patients who had died, had received a primary psychiatric diagnosis, and had a higher number of historical postcodes available were more likely to be successfully linked. Of the patients who were successfully linked, 83% had received benefits. Men, older people, those who had died, had received a primary psychiatric diagnosis and those living in an area of higher deprivation were most likely to have received benefits.

Conclusion: This novel data linkage is the first of its kind to demonstrate the use of routinely collected mental health and benefits data. We will examine patterns of benefit receipt by sociodemographic, clinical and treatment factors and how these vary over time and by psychiatric diagnosis. We will also investigate how these factors predict return to work and the effectiveness of specific interventions on the likelihood and timeliness of return to work, and how this varies by psychiatric diagnosis.

P2.28   A systematic meta-review of systematic reviews on pharmacological and nonpharmacological treatment of Attention Deficit Hyperactivity Disorder

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Lay Summary: We performed a meta-review to systematically appraise systematic reviews published on ADHD related topics based on PRISMA guidelines and the Joanna Briggs Institute (JBI) methodology for umbrella review. There is good evidence about the efficacy of pharmacological treatment, particularly stimulants, in all age-groups, at least in the short term, but there are knowledge gaps about the efficacy of non- pharmacological treatments. Hence, this meta-review has made the existing knowledge on pharmacological and non pharmacological treatment of ADHD more available.

Background: Systematic reviews of research studies are important for establishing scientific evidence, and there has been a steady increase in published systematic reviews on pharmacological and non pharmacological treatment of ADHD during the last decade. However, the growing library of systematic reviews may be difficult to navigate for clinicians, researchers,

and policy makers. We here aim to systematically summarize current evidence on ADHD treatment available from systematic reviews.

Methods: We searched MEDLINE, PubMed, PsycINFO, Cochrane Library, Web of Science, for studies published from January 2010- February 14, 2021. We included systematic reviews and meta-analyses on any topic of ADHD that had hits in more than one database (including at least PubMed or Medline), involved two or more reviewers at any stage of review, and, with quality appraisal of included studies. Two independent reviewers performed quality assessment and extracted data adopted from Joanna Briggs Institute manual for evidence synthesis. We here present the results of the meta-review pertaining to pharmacological treatment, non-pharmacological treatment, or pharmacological vs nonpharmacological treatment. Data are presented in narrative synthesis and table format. This study is registered with PROSPERO number: CRD42020165638

Results: Systematic reviews have shown efficacy for pharmacological treatment of ADHD, and consistently stronger effects for stimulants than non-stimulants, in all age groups. In children and adolescents, in terms of efficacy, acceptability, and tolerability, evidence exists for methylphenidate (MPH) as the preferred first choice for short-term pharmacological treatment of ADHD. Similarly, for adults, regarding both efficacy and tolerability, amphetamines is the preferred first pharmacological choice for short-term treatment of ADHD. Few reviews reported that behavioral interventions improve childhood and adulthood ADHD symptoms. However, a comparative review of youth with ADHD suggested that while medication improved ADHD core symptoms, psychosocial interventions effectively improve academic and organizational skills.

Conclusion: In this meta-review, we found that pharmacological treatment was by far the most common topic for systematic reviews and meta-analyses of ADHD. The evidence of efficacy of pharmacological treatment is however mostly restricted to core symptoms of ADHD as an outcome and to short term durations of treatment., while clinicians, patients, and families are more interested in the long-term effects of treatment on real-life outcomes. Similarly, there is lack of studies for non-pharmacological interventions. Hence, future research should address these gaps related to pharmacological and nonpharmacological treatment of ADHD

P2.29 Psychiatric comorbidity in children diagnosed with ADHD: a longitudinal, population-based cohort study using Norwegian registry data

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Lay Summary: Using linked, individual level data from two nationwide Norwegian public registers we will investigate the presence of other mental, behavioral, and neurodevelopmental disorders in the population of children diagnosed with ADHD. We will describe patterns of comorbid diagnoses with ADHD, and consider its development over time. The findings will be relevant to clinicians, and will be informative in guiding future research.

Background: Attention-deficit/hyperactivity disorder (ADHD) commonly co-occurs with other mental, behavioral, and neurodevelopmental disorders such as learning disabilities, conduct disorder, anxiety, and depression. While comorbidity has been extensively studied, this research is often based on clinical samples. A valuable alternative approach is using registry data, which allows studying the complete population of interest. The Nordic countries are known for their extensive, high-quality public registers, providing complete and individual-level data for the entire populations. Consistent registration of personal identification number makes linkage between national registers possible. Due to the universal, single-provider health systems, patient data are essentially complete. Together, this offers a rare opportunity for conducting comprehensive longitudinal cohort studies of entire populations, with follow-up over several years and practically no attrition. Drawing on Norwegian registry data, our aim is to investigate patterns of psychiatric comorbidity in children diagnosed with ADHD on a population level. We will explore development over time, compare subgroups within the ADHD population, and contrast the ADHD population to a control sample from the general population.

Methods: We will use data from the Norwegian Patient Register (NPR) and the Norwegian Prescription Database (NorPD), two nationwide public registries that provide individual level data for the whole population. Our sample consists of all individuals aged 5-18 years that received an ADHD diagnosis in the Norwegian child and adolescent mental health services outpatient clinics during the years 2009 to 2011 (i.e., birth cohorts 1991–2006). The sample size is 9,360 individuals. Follow-up is until the end of 2020. Comorbid diagnoses will be categorized by section in ICD-10-chapter F01-F99 (i.e., 11 categories).

Results: As we have only recently received the full data material, analyses have yet to be ran at the time of the abstract submission deadline. Results will be presented at the conference.

Conclusion: The findings of this study will be relevant to clinicians working with this patient group, and will be informative in guiding future research.

P2.30 Improving knowledge and alleviating misperceptions of ADHD in Sri Lankan Primary School Teachers

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Lay Summary: 1) An experiment study was carried out to assess the effectiveness of a training programme to improve knowledge and misperceptions regarding ADHD in primary school teachers. 2)Our findings revealed that a brief training significantly contributed in improving the knowledge as well as misperceptions teachers had with regards to ADHD. 3) As children with special educational needs are educated in mainstream schools largely in an inclusive class room setting in Sri Lanka, it is vital to ensure all primary school teachers receive pre/in service training on ADHD.

Background: Attention Deficit Hyperactivity Disorder (ADHD), the 2nd most common psychiatric disorders in children, is a debilitating condition frequently impairing academic performance. Evidence demonstrates poor knowledge and misperceptions of ADHD among primary school teachers reflect the disadvantageous position children are placed at being identified early and receiving the necessary treatment for better outcomes. The study aimed at evaluating the effectiveness of an intervention to improve knowledge and alleviate misperceptions of ADHD among primary school teachers in Colombo district, in Sri Lanka.

Methods: A cluster randomized trial was conducted with 13 Sinhala medium state schools in each arm with 10 primary school teachers selected randomly from each school. Knowledge of Attention Deficit Disorder Scale (KADDS) was administered to teachers before and 2 weeks after a training programme to assess their knowledge and misperceptions regarding ADHD. Individual and cluster analyses were performed.

Results: Final response rates in intervention group was 92% while that of the waitlist control group was 91%. The baseline knowledge and misperception scores and basic characteristics between the two groups were comparable (p>0.05). Proportion of teachers in intervention group who demonstrated a satisfactory level of knowledge significantly improved following intervention (p<0.001). Post intervention, knowledge scores (p<0.001, η^2= 0.65) and misperception scores (p<0.001, η^2=0.24) both improved significantly in intervention group compared to control group. Cluster analysis further revealed significant improvement of knowledge scores among intervention group clusters relative to control group clusters (p<0.001, η^2=0.75).

Conclusion: A significant improvement of knowledge and misperception of ADHD results following an educational intervention. Given the widespread inclusive education practiced in Sri Lanka, a pre/in service training on ADHD for primary schoolteachers is highly recommended.

P2.31 Depression as a risk factor of Mild Cognitive Impairment in UK military veterans compared to the general population

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Lay Summary: This study compared the risk of MCI in UK military veterans and the general population with or without depression. We found the risk of MCI was higher in military veterans with depression compared to the general population without depression but not those in the general population with depression. These findings are important as it suggests depression maybe a potential clinical marker for identifying individuals with MCI who may progress to develop dementia.

Background: Depression is prevalent in military veterans, and this is of particular concern as depression is a risk factor of Mild Cognitive Impairment (MCI) in the general population. Due to limited findings of this associated risk in UK military veterans, the objectives were to investigate if depression is a risk factor of MCI in ageing UK military veterans compared to the general population.

Methods: We performed a prospective cohort study using data from the PROTECT study of participants (n=13,440) who were followed-up over 6 years between 2014-2022. Military veteran status was defined as a history of serving (and no longer serving) in the UK Armed Forces. Depression caseness was identified using the PHQ-9. MCI was defined as objective cognitive impairment (≥1 SD below the mean in either the Digit span, Paired Associated Learning, Verbal reasoning, the Self-ordered search test, Stroop test or the Trails Making test part B) and subjective cognitive impairment (using the IQCODE). Multivariate Cox proportional models were used to examine time to MCI in military veterans and non-veterans with or without depression.

Results: At baseline, military veterans were older than non-veterans (mean age: 65±8.9 vs 61±7.1 years). The proportion of depression caseness did not significantly differ between military veterans and non-veterans (19.8% vs 20.2%, p>0.05). Military veterans with depression were at a significant increased risk of MCI (HR: 1.49; 95% CI: 1.30-1.72) compared to non-veterans without depression. Although, the risk of MCI in military veterans with depression did not significantly differ to non-veterans

with depression (HR: 1.41; 95% CI: 1.41-1.53).

Conclusion: In this population-based cohort study, the finding's showed depression is an important risk factor of MCI in UK military veterans and non-veterans.