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World Psychiatric Association
Epidemiology and Public Health Section

Emerging mental health challenges across the globe

2018 Meeting

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Hosted by:

COLUMBIA UNIVERSITY | MAILMAN SCHOOL of PUBLIC HEALTH
Columbia University Mailman School of Public Health & Department of Epidemiology

GLOBAL MENTAL HEALTH PROGRAM COLUMBIA UNIVERSITY
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Book of Abstracts

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Welcome Message

Emerging mental health challenges across the globe

The science of understanding etiology, prevention, and treatment of psychiatric disorders has always had to contend with changing prevalence, new information and technology, novel risk factors, and many other facets of our science that make studying disorders and their consequences a moving target. In the past decade, we have witnessed a changing landscape of many important outcomes across the globe, including the rise of autism diagnoses across many countries as well as suicide, overdose and other injury. Further, these changes are positioned in a political and social landscape that is ever changing, as societies face new and different challenges. The 2018 WPA meeting will present a wide range of novel information regarding psychiatric disorders including the state-of-the-science for novel studies of the biology of illness, global trends in innovative treatment, prevalence, and risk factors.
We thank all of you for joining us and welcome you in New York.

The Meeting Co-Chairs,

Elie G. Karam

Professor and Head Department of Psychiatry and Clinical Psychology, St Georges Hospital University Medical Center and Balamand University Faculty of Medicine, Balamand University, Lebanon

Katherine M. Keyes

Associate Professor of Epidemiology, Columbia University, Mailman School of Public Health, New York, USA

Organization

Organized by:

WPA Epidemiology and Public Health Section

Under the Auspices of:

World Psychiatric Association (WPA)

Hosted by:

Columbia University Mailman School of Public Health & Department of Epidemiology

Columbia University Global Mental Health Program

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LOCAL SYMPOSUIM

Mental health in New York City: Policy and intervention meet public health

Would firearm-purchase restrictions related to alcohol-impaired driving reduce homicide and suicide? An agent-based simulation.

Magdalena Cerdá[1], Ava Hamilton[2], Katherine M. Keyes[2]
[1]University of California, Davis, California, USA; [2]Columbia University, New York, USA

Background: A history of alcohol abuse is as an important risk factor for interpersonal and self-directed firearm violence. Yet little information exists on the impact that disqualifying this high-risk group from owning firearms would have on firearm-related violence. We used an agent-based model to simulate the change in firearm-related homicide and suicide that would result from disqualifying people from owning a firearm if they had been convicted of at least one Driving Under the Influence (DUI) charge in the past 5 years.
Methods: We created a population of 260,000 agents reflecting a 5% sample of the adult population of New York City (NYC). Agents were placed into a grid representing the size, demographics, and location of NYC neighborhoods. Agents could interact, use alcohol, be arrested and convicted for various crimes, purchase or illegally obtain firearms, and engage in violence or self-harm. The model was based on more than 20 national and city-level data sources.
Results: Among the general population, disqualification based on having been convicted for at least one DUI in the past 5 years reduced firearm-related homicide by 0.89% (95% CI 0.86-0.93%) and suicide by 4.39% (95% CI 3.51-5.32). This effect was higher among agents convicted of at least one DUI: in this group, disqualification reduced firearm-related homicide by 21.38% (95% CI 19.80-23.90%) and suicide by 8.50% (95% CI 4.45-42.86%).
Conclusions: Disqualifications based on indicators of alcohol abuse such as DUI convictions would produce a substantial reduction in firearm-related homicide and suicide, particularly among populations experiencing alcohol abuse problems.

Ecstasy users in the New York City electronic dance music party scene: A high-risk population for unintentional use of more dangerous drugs

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Background: Ecstasy (MDMA) use has been prevalent in the electronic dance music (EDM) scene for decades; however, few studies have investigated use since powder ecstasy, also known as "Molly", has gained popularity. Ecstasy appears to have become more dangerous in the US in recent years due to adulteration with new psychoactive substances (NPS). We sought to estimate the prevalence of ecstasy use in this high-risk scene and to determine the extent of unknown use of NPS, possibly through adulterants in ecstasy.
Methods: Time-space sampling was used to recruit adults (age 18-40) about to enter EDM parties in NYC throughout the summer of 2016. Attendees (n=1045) were surveyed about past-year use of ecstasy/MDMA/Molly and other drugs. Hair samples were collected from a convenience sample of those surveyed and samples for past-year ecstasy users (n=90) were analyzed using UHPLC-MS/MS for the presence of >100 drugs. Prevalence of ecstasy use in this scene was estimated, and we determined the extent of unintentional use of NPS and other drugs, defined as testing positive for a drug after denying use.
Results: We estimate that a quarter (25.1%) of EDM attendees used ecstasy in the past year. Of past-year ecstasy users who were hair-tested, three quarters (74.4%) tested positive for MDMA. However, a third (33.3%) tested positive for an NPS, and 27.8% tested positive for synthetic cathinones (e.g., methylone, butylone, ethylone, pentylone, alpha-PVP). Half (51.1%) of users tested positive for a drug not reportedly used, with most testing positive for synthetic cathinones (72.0%) or methamphetamine (69.0%). Frequent EDM party attendance increased risk for testing positive for synthetic cathinones and other NPS.
Conclusions: Many ecstasy users in the EDM party scene are unintentionally using NPS or other drugs.

Results should inform prevention and harm reduction in this high-risk scene.

Partnering with African American churches to increase access to care

Sidney Hankerson
Department of Clinical Psychiatry, Columbia University Medical Center, New York, USA

Background: African Americans access mental health care significantly less than their Caucasian counterparts. Factors that contribute to this disparity include a general distrust of providers, limited access, stigma, and a preference for spiritually informed care. According to the Pew Foundation's Religious Landscape Study (2014), African Americans have the highest level of religious service attendance in the U.S. Thus, exploring how to expand access to mental health services through partnerships with faith-based organizations appears to be a promising approach to promote mental health equity and integrate cultural preferences.
Aims/Objectives/Issues of Focus: The aims of my talk are to review how a community-based participatory approach was used to address racial mental health disparities within African American churches in New York City.
Methods/Proposition: I published the first-ever depression screening study with a validated instrument (Patient Health Questionnaire [PHQ-9]) in three African-American churches in New York City. We conducted focus groups with clergy and community members to explore the feasibility and acceptability of providing church-based mental health services. We implemented Mental Health First Aid, an evidence-based health literacy intervention, in African American churches in Harlem.
Results/Potential Outcomes: Rates of positive depression screen (PHQ9 ≥ 10) were 19.7%. We successfully created an inter-disciplinary Community Coalition for Mental Health whose mission is to encourage help seeking for mental health problems among people in Harlem, with a specific focus on people of African descent in faith-based settings. We have trained 224 African American clergy and community members in Mental Health First Aid.
Discussion/Implications: Taken together, these findings suggest that there is good reason to harness the potential healing power of religiosity in mental illness. We advocate for the continued development, implementation, and evaluation of mental health programming in religious congregations, with a particular focus on African Americans and communities with limited access to traditional mental health services.
Learning Objectives: At the conclusion of this symposium, learners will be able to:
Identify four socio-cultural factors that contribute to racial disparities in mental health care.
Describe essential elements of a faith-based, community engagement initiative in under-resourced communities.
Funding: This work was funded by the National Institute of Mental Health (K23 MH102540); the Columbia University Zuckerman Mind, Brain, and Behavior Institute; the New York State Office of Mental Health Policy Scholar Award (Hankerson). Dr. Hankerson has no conflicts of interest to disclose.
References:
Hankerson SH, Lee Y, Brawley DK, Braswell K, Wickramaratne P, Weissman MM. Screening for Depression in African American Churches. *American Journal of Preventive Medicine*. 2015 Oct; 49(4):526-33.
Hankerson, SH, Suite, D, & Bailey, RK. (2015). Treatment disparities among African American men with depression: implications for clinical practice. *Journal of Health Care for the Poor and Underserved,* 26(1), 21-34.

Mental health needs of Asian Americans in New York City

Sumie Okazaki
Department of Applied Psychology at New York University Steinhardt School of Culture, Education, and Human Development, New York, USA

According to the Census estimates, there are now 1.3 million Asian Americans residing in New York City, comprising 15% of the city population. There are many centers of vibrant ethnic community life across the five boroughs, with a heavy concentration in Queens and Brooklyn neighborhoods. It is also a largely immigrant population, with three-fourths of Asian New Yorkers being immigrants and nearly 80% speaking language other than English at home. Importantly, a sizable segment of Asian Americans in the city live under the poverty line, which have ranged from 23 to 28% of the population (compared to the citywide average of 19.9%). These demographic factors combine to produce a portrait of mental health needs that are unmet by existing services. This talk will review what is known about the current mental health status of Asian Americans in NYC based on a recent survey of service providers and key stakeholders from various Asian-led and Asian-serving community organizations conducted by the NY Coalition of Asian American Mental Health and the Asian American Federation, as well as a study of service providers serving Asian American children in the city. The service providers acknowledged various sources of stresses that place immigrant Asian Americans at risk for mental health

problems, such as racism and immigration-related stress, parenting and family conflicts related to immigration and family separation, structural stressors such as crowded housing, financial strain, and legal or documentation problems. Across all studies, the service providers articulated multiple challenges facing the local Asian American population, including an inadequate number of linguistically and culturally competent clinician who can provide mental health services to this diverse population, barriers to accessing mental health resources, and invisibility with regard to their unmet needs at the city level. The talk will highlight areas of greatest need for research, practice, and policy.

The opioid overdose epidemic and public health responses

Hillary Kunins
New York City Department of Health and Mental Hygiene, New York, USA

The lecture is focusing on the epidemiology of the opioid epidemic in the United States, the differences and similarities to the epidemic in New York City, and the key public health responses, including naloxone distribution, rapid assessment and response, expanding access to effective treatment, instituting post-nonfatal overdose responses, and public awareness campaigns.

PLENARY SESSIONS PRESENTATIONS

INTRODUCTORY PLENARY TO THE CONFERENCE:

Challenges for psychiatric epidemiology in addressing 21st Century mental health challenges with 21st Century methods

Ronald Kessler
McNeil Family Professor of Health Care Policy, Harvard Medical School, Boston, Massachusetts, USA

Psychiatric epidemiology is at risk of even further marginalization in the coming years than it experiences currently as a result of several trends in biomedical research. These trends and some suggested promising responses to them will be discussed in this presentation. The four trends to be discussed will include: First, the increasing costs and decreasing response rates of community epidemiological surveys (Where will financial support come from for continued primary data collection?); Second, the increasing focus on biomarkers and, with it, a reduced appreciation of the importance of representative sampling; Third, the associated shift from probability surveys using interviewer-based data collection to non-probability surveys using inexpensive web-based data collection (What will happen to data quality?); Fourth, the shift in focus from primary to secondary analysis and meta-analysis (Where will political support come from for primary data collection?). The promising responses to be discussed will include: methodological research on data collection quality improvements using new technologies; mixed-mode epidemiological surveys (e.g., SAQ/interviewer-administered/IVR/performance-based data collection/passive sensors); omnibus surveys; collaborative multi-site community epidemiological studies; institutional surveys linked to pragmatic trials; and prospective clinical epidemiological studies (including citizen-scientist panels).

PLENARY SESSION 1:

Social Determinants: What do we do with them?

Joanna Maselko
Dept of Epidemiology, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, North Carolina, USA

The importance of social determinants in mental health has been acknowledged. We know that factors such as poverty, gender inequality, or education impact the both risk of developing a neuropsychiatric disorder as well as the likelihood of receiving effective treatment. Beyond that, it is easy to feel disheartened: We are not well equipped to get rid of poverty or equalize gender relationships. In this talk I will discuss what we, as epidemiologists, clinicians and public health practitioners can do to reduce the negative impact of some social factors on the populations we work with, while generating knowledge that will help further our understanding of how to reduce social inequities in mental health.

PLENARY SESSION 2:

A public health approach to the prevention of psychosis

Robin M Murray, Marta Di Forti, Evangelos Vassos, Harriet Quicgley, Antonella Trotta, Diego Quattrone, Victoria Rodrigues, Craig Morgan
Institute of Psychiatry, Psychology and Neuroscience, King's College, London, UK

Background: The main attempt to prevent the development of psychosis has been through prodromal clinics for people at clinical high risk. Such an approach is useful for research but can never reach the majority of individuals who will become psychotic. Biological markers could be used to identify individuals with unusual vulnerabilities e.g. those with copy number variations such as VCFS. However, identifying the individuals with such markers is unlikely to impact on the majority of cases, and as yet no useful interventions are available. How therefore to prevent psychosis?
Methods: Data will be presented from 3 studies of first onset psychosis (FEP) which used similar methods of ascertainment and assessment of cases and controls; AESOP and GAP from South London and the EU-GEI across 16 sites in 5 European countries. These studies sought to elucidate risk factors for psychosis.
Results: The identified risk factors for psychosis were the polygenic risk score for schizophrenia, childhood abuse, living in a city, being from an ethnic minority, drug abuse, adverse life events. The GAP study showed that the polygenic risk score accounted for the greatest variance in caseness; those with scores in the highest quintile were 7 times more likely to be a psychotic case than those in those lowest quintile. The GAP study also gave estimates of the population attributable fraction (PAF): these indicated that if no one was exposed to child abuse and use of high potency cannabis, then 16% and 24% respectively of psychosis in South London could be prevented. The EU-GEI study showed striking differences in the incidence of psychosis between Northern and Southern Europe; data will be prevented concerning the contribution of risk factors to this.
Conclusions: The knowledge that schizophrenia is the extreme of a continuum of psychosis has important implications for prevention. Preventive approaches to hypertension or obesity do not focus on identifying individuals carrying biological markers; rather they encourage members of the general population to take exercise and reduce their calorie intake. A similar approach should be adopted for psychosis. Clearly, reducing some of these (e.g. the polygenic risk factor for psychosis) is not within the powers of psychiatrists However, attempts to reduce other risk factors should be made e.g. addressing psychotogenic aspects of city living or by decreasing discrimination against ethnic minorities. This will be difficult. However, an obvious place to start is by attempting to influence society's patterns of consumption of high-potency cannabis. Unfortunately, public policy in the US and certain other countries appears to be moving in the opposite direction with increases in consumption and potency. Are these countries sleep-walking to more psychosis?

PLENARY SESSION 3:

Psychiatric epidemiology and mental health challenges in Mexico

Corina Benjet
Department of Epidemiological and Psychosocial Research, National Institute of Psychiatry; School of Psychology and Medical School, National Autonomous University of Mexico, Mexico City, Mexico

While the overall prevalence of psychiatric disorders in Mexico is comparable to other countries from the World Mental Health Surveys Consortium, Mexico has a greater proportion of severe cases, likely due to a small proportion making treatment contact and longer

treatment delays among those that do. Psychiatric disorders are treated more in specialized care rather than primary care. The greater prevalence of mental disorders, substance use and suicidal behaviors among younger generations, an important increase in violence in the country (e.g., kidnappings, homicides, feminicides, and organized crime) and the potential for large scale return migration, suggest that mental health challenges pharmacological and evidence-based psychological treatments, stigma towards psychiatric illness, and the lack of national policies or programmes for mental health prevention and intervention. Cultural strengths that are protective factors need to be leveraged in new modalities of prevention and treatment at the community level. Some of this is beginning to take place in the research context. This presentation will discuss the history of psychiatric epidemiology research in Mexico, what the findings of this research has taught us about mental health challenges in Mexico and how these findings have informed and can continue to inform public health policy in Mexico.

PLENARY SESSION 4:

Challenges in designing neuropsychiatric genetic research in Africa: Lessons from the NeuroGAP Moi project

Lukoye Atwoli[1,2,3], Edith Kwobah[1,2,3], Gabriel Kigen[4], Wilfred Emonyi[5], Stella Gichuru[1], Dan Stein[2], Karestan Koenen[6]

[1]Department of Mental Health, Moi University School of Medicine, Eldoret, Kenya; [2]Department of Psychiatry and Mental Health, University of Cape Town, South Africa; [3]Mental Health Unit, Moi Teaching and Referral Hospital, Eldoret, Kenya; [4]Department of Pharmacology and Toxicology, Moi University School of Medicine, Eldoret, Kenya; [5]Department of Immunology, Moi University School of Medicine, Eldoret, Kenya; [6]Department of Epidemiology, Harvard T. H. Chan School of Public Health, Boston, USA

Outcome: We shall present a summary of the study implementation so far and identify solutions that would will continue to increase. Quality psychiatric epidemiology research can help guide (and pressure policy makers) to tackle important challenges such as the limited proportion of the health budget spent on mental health, the large proportion of mental health spending on psychiatric hospitals rather than community services, the inequities in the distribution of mental health services, the lack of access to basic
make designing a similar study in other African settings more efficient.

Background: While it is an accepted fact that severe mental disorders such as schizophrenia and other psychotic illnesses have multifactorial aetiology that includes an individual's genetic makeup, comparatively little work has been done towards identifying the specific genetic factors that increase the risk of these disorders. In recent years some efforts have been made to generate information on the genetics of mental disorders and exciting results are beginning to be seen. However, most of the data in this area comes from populations that are predominantly Caucasian, and it is therefore difficult to determine the applicability of these findings globally. African populations are particularly under-represented despite the fact that they represent the most diverse genetic pool in the world, and it is perhaps from this pool that confirmatory findings on the genetic antecedents of mental disorders will emanate.

Method: This presentation examines the development of a research project whose objective is to characterise the genetic associations of psychotic disorders among Africans. The project, named Neuropsychiatric Genetics of African Populations (NeuroGAP), is a collaborative effort between the Harvard T.H. Chan School of Public Health and universities across the African continent-South Africa, Ethiopia, Uganda, and Kenya. We describe the challenges encountered in designing this project in the western Kenyan arm of the multicentre collaborative project, at Moi University's School of Medicine in Kenya.

Outcome: We shall present a summary of the study implementation so far and identify solutions that would make designing a similar study in other African settings more efficient.

SYMPOSIA PRESENTATIONS

SYMPOSIUM 1: Variation in incidence of psychiatric disorders over time and place

Is there an autism epidemic? The distinction between passive and active ascertainment

Traolach Brugha[1], Sally McManus[2], John Bankart[1], Freya Tyrer[1], Sally Ann Cooper[3], Nicola Spiers[1], Abdulreza Kiani[1], Rachel Jenkins[4]
[1]University of Leicester, Leicester, United Kingdom; [2]NatCen Social Surveys, London, United Kingdom; [3]University of Glasgow, Glasgow, United Kingdom; [4]Institute of Psychiatry Psychology and Neurosciences, London, United Kingdom

Background: Number of persons (in childhood) with autism until recently was reported to be increasing. Such reports rarely involve an intelligible, in depth examination of the effect of variations in method. Two explanations for any such rise may boil down to increases in recognition and reporting versus a true trend in the population (exemplifying fake news versus fact reportage?) Two substantive bodies of research may help cast light on this. A series of studies of education and health records of young children across different counties and states of the USA conducted by the Centers for Disease Control and Prevention (CDC), Atlanta, based on a disease surveillance, passive sampling method, will be summarised briefly, because the CDC work has been widely interpreted in the media as attesting to the autism epidemic proposition. Findings of three independent general population surveys using active sampling methods across the entire adult age range in England will then be presented in contrast to the CDC work.
Methods: The Adult Psychiatric Morbidity Survey (APMS) programme has conducted probability samples of adults from age 16 upwards, seven yearly since 1993. Autism was added to the programme in 2007 (Brugha et al 2011) and 2014. Because these community surveys actively sample verbally competent adults, only, a third survey using active sampling from adult intellectual disability registers was also completed, designed to enable amalgamation of prevalence estimates. The developmentally appropriate version of the Autism Diagnostic Observation Schedule (ADOS) acted as the case definition measure, which was cross validated in the able and intellectually disabled samples using standardised developmental history assessments conducted through informants.
Findings: Findings will be reported including a comparison of the 2007 and 2014 rates, the overall rate combining the able and intellectually disabled populations, and associations between prevalence and age across the entire adult age range. Other associations will be described that a population survey approach can provide in contrast to surveillance approaches.
Discussion: The discussion will focus on the relative merits of the passive and active approaches to sampling design and the scientific, public health and clinical implications for future work on the lifecourse epidemiology of autism.
References: Brugha TS, McManus S, Bankart J et al. Epidemiology of autism spectrum disorders in adults in the community in England. Arch Gen Psychiatry. 2011;68:459-465.
Brugha TS, Spiers N, Bankart J et al. Epidemiology of autism in adults across age groups and ability levels. Br J Psychiatry. 2016, Dec;209(6):498-503.
McManus S, Bebbington P, Jenkins R, Brugha T. (eds.) (2016) Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014. Leeds: NHS Digital.

Comparing children mental health across countries: Challenges and results

Viviane Kovess- Masfety
EHESP School for Public Health, Paris, France

The School Children Mental Health Europe was an EU funded project designed to set up a kit of instruments enabling cross EU comparisons. A literature review allows to select the SDQ (Strengths and Difficulties questionnaire) to be administered to the parents and teachers and the Dominic Interactive, a sort of video game designed to evaluate DSM more commune diagnoses since the children were primary school children 6 to 11 years old. Previously done in France, the project has collected around 1000 children per country in Germany, Italy, Netherlands, Lithuania, Bulgaria, Romania and Turkey. In addition, it measured parental attitudes, domestic accidents, some physical diseases, parental mental health, school achievements, access to care for mental health problems and some socio demographics. It allows exploring in depth the instruments contents across countries as their relative concordance on separate

clinical samples from each of the countries using the DAWBA a clinical instrument. The lecture proposes to present and discuss the comparisons on the main mental health dimensions across countries and the challenges for interpreting the differences. It will also describe how such cross comparisons could participate at the evaluation of diverse policies such as tobacco banning, physical corporal punishment regulations, car accident prevention or mental health services provision for children. I will conclude on the possibilities to extend this approach in different countries and different situations such as developing countries as countries under conflicts.

Heterogeneity in psychoses: A global perspective

Craig Morgan[1], Hannah Jongsma[2], Charlotte Gayer-Anderson[1], Robin Murray[1], Bart Rutten[3], Jim van Os[4], James Kirkbride[5], Peter Jones[2], Alex Cohen[6], Gerard Hutchinson[7], Rangaswamy Thara[8], Oye Gureje[9], EU-GEI Work Package 2 study team, INTREPID study team

[1]Institute of Psychiatry, Psychology, and Neuroscience, King's College London, London, UK; [2]University of Cambridge, Cambridge, UK; [3]Maastricht University, Maastricht, The Netherlands; [4]Utrecht University, Utrecht, The Netherlands; [5]University College London, London, UK; [6]London School of Hygiene and Tropical Medicine. London, UK; [7]University of the West Indies, Jamaica; [8]Schizophrenia Research Foundation, Chennai, India; [9]University of Ibadan, Ibadan, Nigeria

There is substantial evidence that the incidence, presentation, and outcome of psychoses vary across space and by social group. For example, there is evidence that rates of psychotic disorder differ by population density and that rates and outcomes vary by minority ethnic group. However, much of this evidence comes from studies in a select number of northern European countries and it remains unclear whether these patterns are generalisable to more diverse settings. Broadening our perspective to investigate psychoses in a wider range of contexts promises to deepen our understanding of the heterogeneity in psychotic disorders. In this paper, we present data from two multi-country studies on variations in psychoses: the EU-GEI study - a 6 country, 16 centre incidence and case control study of first episode psychosis, and INTREPID - a study in 3 developing countries of the phenomenology, incidence, and course and outcome of psychoses. In analyses to date, we have found evidence a) of marked variations in incidence and other aspects of psychotic disorder and b) that these variations do not simply mirror what has been found in studies in northern Europe. For example, in our EU-GEI sample of 2,780 cases of psychosis, we found high rates in urban vs. rural centres in northern European countries but not in southern European countries. Further, in analyses of pilot data from INTREPID, we found high rates in all sites compared with previous studies in developing countries. Understanding these variations may provide novel insights into the nature and aetiology of psychoses.

What is causing the substantial cross-national drop in suicide mortality?

Michael Phillips

Suicide Research and Prevention Center, Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China

The absolute number and age-standardized rate of suicide have dropped substantially in most, but not all, countries over the last two to three decades, much faster than the drop in the rate of death by most other causes. There are huge differences in the rate and demographic pattern of suicide deaths between countries, and between regions within countries, but with a few notable exceptions the rates of suicide in both genders and in most age groups have all dropped steadily over this period. Surprisingly, these changes have not been associated with corresponding changes in the prevalence and burden of depression, alcohol use disorders, or other mental health conditions that are considered the most important risk factors for suicide. So, the reasons for these major changes in the rate, demographic pattern and global distribution of suicides remain unclear. Moreover, despite the declining trends, the most recent projections from the Global Burden of Disease study indicate that only 18 of the 188 countries assessed will achieve the goal of the WHO Global Mental Health Plan to decrease suicide death rates from 2015 to 2020 by 10% and only four countries will achieve the UN's Sustainable Development Goals (SDG) target of reducing suicide rates by one-third between 2015 and 2030.

SYMPOSIUM 2: Sixty years after WHO meetings on psychiatric epidemiology: Perspectives of impact

The first 40 years of The World Health Organization's mental health programme: a snapshot and the long-term consequences

Norman Sartorius

Association for the Improvement of Mental Health Programmes (AMH), Geneva, Switzerland

The presentation will give a brief description of the development of the Mental Health programme of the World Health Organization during its first 40 years of existence. It will describe the main lines of action and the results of its work which also included the publication of results of international epidemiological studies and the organization of meetings of experts on various topics including the epidemiology of mental illness. This will provide a background to the reviews of developments over the 60 years in three important fields of work of psychiatry - that of schizophrenia and psychotic disorders, that of abuse of psychotropic substances and that of changes of health services for people with mental illness.

Changing paradigms for schizophrenia

William T. Carpenter
Department of Psychiatry, Maryland Psychiatric Research Center, University of Maryland School of Medicine, Baltimore, USA

The concept of schizophrenia presented over a century ago by Kraepelin and Bleuler remains influential, but the effort to establish schizophrenia as a single disease entity with a unifying etiology and pathophysiology has failed. Approaches to syndrome deconstruction are essential in research and clinical application. Examples include subtypes, symptom dimensions, phenotypes, and reorganizing the framework of psychopathology (HiTOP). New paradigms for research include the SyNoPsis, the Research Domains Criteria (the NIMH RDoC initiative), and the study of mechanisms by defining specific aspects of psychopathology in clinical and basic science laboratories. Concepts of therapeutic targets are shifting from disease category to specific clinical indication considered across diagnoses. Personalized medicine is dependent on individual differences within syndromes.
Large scale epidemiology is challenged to move from the syndrome level (e.g., where schizophrenia is the phenotype for GWAS studies with weak results) to the level of specific psychopathology. While disorder categories are still meaningful and necessary in nosology, component psychopathology viewed across categories is essential for robust psychiatric epidemiology. Epidemiology of risk factors for psychopathology and concepts for primary prevention can be viewed through the lens of deconstruction.

Precision public health: A method for disease surveillance and intervention development in psychiatric epidemiologic research

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While communicable disease surveillance has been a hallmark of public health since the end of the 19thcentury, it was much later when the field began its surveillance of non-communicable diseases and not until the mid-20th century for psychiatric disorders. This surveillance, needed to understand the relative burden to society as well as the need for services, started with a number of landmark psychiatric studies around the world. Central to the launching of each was, of course, the need for a unified concept of the symptoms and resultant disorders, a familiarity with nosology and ultimately a diagnostic assessment that operationalized all of these to determine the presence of psychiatric conditions and their impairment level. This presentation will focus on the cross-cultural aspects of surveillance, especially as they pertains to the study of substance abuse/dependence/harmful use. We will discuss the tension between primary data collection (almost a lost art) and Big Data approaches. While there are advantages to “data mining” with large datasets, the hyperlocal cultural issues, environmental context and the voice of the community may be underrepresented more than ever. This presentation will address issues that must be kept in our modern surveillance efforts along with evidence-based examples from around the world focused on: principles of community engagement, assessment of the social determinants of health, dissemination of findings, integrating special populations, collaboration with clinical and translational science colleagues, and workforce development. A Precision Public Health model will be used to show how multiple datasets can be combined for surveillance, treatment need, and ultimately intervention development. An ethics moment related to surveillance of psychiatric conditions will be addressed, spurred by the WHO Guidelines on Ethical Issues in Public Health Surveillance.

Epidemiology links to nosology and mental health policy: Historic perspective

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Following World War II, there was a renewed interest in the degree to which environmental exposures were related to the etiology and prevalence of mental disorders. These exposures included combat stress as well as the environmental conditions that resulted in a high number of volunteers being excluded from military service based on mental health screening instrument results- including the

Army's Neuropsychiatric Screening Adjunct (NSA) (Srole p. 42). Social psychiatrists and epidemiologists including Leighton, Srole, Pasamanick, and Dohrenwend in the U.S. used variants of the military screening instrument as a case finding tool to identify people with symptoms of mental illness and associated disability ("strains"), that could be correlated with socio-economic stressors. Without clear diagnostic criteria, it wasn't possible to assess the prevalence of specific mental disorders in large populations where clinicians could not make direct diagnoses. Wide variations also existed across national boundaries on the criteria used for diagnosing such central psychiatric conditions as schizophrenia and manic-depressive psychotic illnesses (Wing J et al.).

With the advent of the DSM-III in 1980, more specific diagnostic criteria, screening instruments, and clinical assessment instruments became available for case-finding in large epidemiological studies (Regier DA et al., 1984). The Epidemiological Catchment Area (ECA) study was the first to use such criteria to link mental health epidemiology to ongoing biological, nosological, genetic, familial, mental health service use, and clinical research on mental disorders (Freedman DX, 1984). This link had profound national and international health policy implications. These changes were facilitated by the adoption of the DSM-III explicit diagnostic criteria approach for the WHO's 10th edition of the International Classification of Diseases (ICD-10), and the development of the DIS, CIDI, SCAN, and SCID diagnostic interviews for epidemiological, mental health services, and clinical research.

This presentation will focus on the impact of these changes on mental health policy issues including mental health parity legislation, integrated treatment with primary care clinicians, public education destigmatization campaigns, mental disorder contributions to the Global Burden of Disease, reducing the potential abuse of psychiatry (Soviet Union and China), and quality assessment for treatment reimbursement.

SYMPOSIUM 3: Interventions in a global mental health setting: Successes and challenges

Together we can lasso a lion - Adapting and integrating IPT into primary health care in Ethiopia

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'Der Biaber ambessa yasser,' transliterated from Amharic, is a proverb that means together we can lasso a lion, evoking the metaphor of overcoming threat through a unified effort – in this case, it is referring to the lion of under-treated, stigmatized mental illness. In Ethiopia there are now 80 psychiatrists and about 200 Masters level mental health workers – for 100 million people. The Biaber Project (PIs: Wondimagegn & Pain), funded by Grand Challenges Canada, which ended in 2017 sought to integrate mental health services into primary health care in Ethiopia. Canadian and Ethiopian psychiatrists developed training materials for local mental health workers in Addis Ababa, who taught general nurses and health officers working in primary care health centers. These health workers, who had no previous formal exposure to Western mental health ideas were taught to screen and treat patients' positive for common mental disorders using culturally adapted IPT for Ethiopians (IPT-E). Over 4 years, 27,000 Ethiopians in primary health settings were screened and 13% (2000) of these patients were treated with IPT-E. We adapted IPT to the context and conditions of Ethiopians. We found IPT-E a model that was easily accepted by both trainers and patients in primary care settings, and had high rates of satisfaction. IPT is an evidence-supported, potentially scalable treatment for numerous psychiatric disorders, especially depression across the lifespan that has been used in numerous trials and humanitarian projects in LMIC settings. The therapeutic focus of IPT, on relationships and interpersonal stressors of social role transitions, role disputes, and grief, resonates with universal human experiences of suffering and the central role of relationships in health and well-being. With a strong body of research supporting it as an efficacious mental health treatment, IPT is included in the World Health Organization's mhGAP depression guidelines. Improved access to IPT is needed in light of its adaptability, effectiveness, low drop-out rates, and high levels of patient satisfaction. This presentation will describe the Biaber Project and processes that we used in culturally adapting IPT-E."

Research to practice partnerships to decrease the mental health treatment and research gaps

Milton Wainberg
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The Global Burden of Disease Study 2010 not only corroborated findings from 1990 about the significant burden of mental and substance use disorders, but it also

identified that the burden of these disorders had worsened. Mental and substance use disorders are now the leading cause of years lived with disability globally. Lack of human resources, poor to no financing, weak governance, and mental illness illiteracy and stigma all contribute to the global mental health treatment gap, which in comparison to high-income countries is worse in low- and middle-income countries and in low-resource settings of high-income countries. The goal to vastly spread access to care in low-resource settings requires multiple strategies to increase resources and capacity building to implement and scale-up effective interventions for the prevention and treatment of mental and substance use disorders. In spite of this well-documented global burden of mental illness, efforts to address the global mental health treatment gap have been sparse in comparison to the well-funded (non-mental health) global health programs. Concerns about the low research to practice and policy yield are far worse in the mental health field, even in high-income countries. The global mental health research and treatment gap requires investing in implementation science researcher capacity building and research projects facilitated by participatory approaches with policy makers and community stakeholders and practice-based production of research. A successful partnership between US, Brazil and Mozambique will be presented as a model to address the global mental health research and treatment gap.

Interventions for depression delivered by non-physician primary health care workers in Nigeria

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Nigeria, like most other low and middle-income countries (LMIC), has inadequate specialist manpower to provide mental health care for persons in need. Bridging the resulting treatment gap requires the integration of mental health care into primary health care, with the frontline providers at this level receiving appropriate training as well as on-going support and supervision from the few available specialists. Several studies have demonstrated that with training, non-physician primary health care workers (PHCWs) can deliver effective interventions for common mental disorders. Our experience from 2 recently concluded trials and an on-going implementation study in Nigeria provides an opportunity to examine the opportunities and challenges of delivering interventions for depression in primary care. These studies adopted a measurement-based, stepped-care approach, where most interventions were delivered by frontline PHCWs after training by psychiatrists with ongoing support and supervision provided by primary care physicians as well as by psychiatrists mostly through the use of mobile phones. Interventions used in these studies included psychosocial interventions such as psychoeducation, activity scheduling, problem solving treatment, reactivation of social network and medications (mainly amitriptyline). The PHCWs had little difficulty delivering the interventions for patients identified for them by research staff using a screening tool. We found that simple psychosocial interventions were effective in ameliorating depression symptoms and reducing disability. Most of the patients were effectively managed by the primary care providers with only about 2% requiring specialist consultations. The common constraints were those of the time (20-30 minutes) required for the psychosocial intervention sessions and retaining patients in care. Two major challenges identified in our ongoing implementation study are that the identification of women with perinatal depression by the PHCW is very low (at about 12%) and that these workers had little motivation to integrate depression care into routine maternal care. While primary care workers can indeed provide effective interventions for depression, scalability of a task-shifting/sharing approach requires targeted efforts to improve the identification skills as well as the motivation of the providers to provide depression care within an integrated routine primary care.

Challenges to improve adolescents' mental health in Latin America

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There are many factors influencing adolescent mental health – such as increased pressure to succeed, coupled with social isolation – and the great prevalence of the mental health problems. The majority of mental health disorders have their onset in adolescence. This is an especially vulnerable time for development, because of the many positive and negative influences they receive in this part of the life cycle.
The positive news is that these issues can be addressed with prevention and early detection and intervention. However, in Latin America, it has been found the health services currently available do not meet their needs.
In this context, the challenges are to generate evidence on interventions aimed at improving the mental health of adolescents and youth with an approach that is: 1) comprehensive and encourages inter and trans-disciplinary dialogue; 2) empirically based; 3) systemic and multilevel 4) intersectoral, which includes

strengthening the link between educational communities and health and social services; 5) aware of the life cycle; and 6) culturally, territorially, and gender aware. Additionally, for this population is useful the use of the participatory action research designs, as well as the use of information and communication technologies (ICTs) in the interventions.

We propose initiatives that focused on: 1) to explore the causes and social consequences of mental health problems; 2) to raise awareness and reduce stigma; 3) to promote the development of socio-emotional skills; 4) to prevent emotional distress, risk behaviors, and psychopathology; 5) to facilitate and encourage the early detection of psychopathology and timely access to mental health services; 6) to adapt, develop, and evaluate mental health treatments specifically for this population; and 7) to contribute to the strengthening of public policies focused on this group.

As examples, we have implemented interventions: 1) to improve the knowledge of adolescent depression among school staff; 2) to treat depression in adolescents in primary care clinics; and 3) to prevent depression in school setting.

SYMPOSIUM 4: Translation and back translation of basic and clinical research to public health

Challenges and opportunities for translational neuroscience for psychiatry

Joshua Gordon
Director, National Institute of Mental Health Bethesda, MD, USA

While much progress has been made in neuroscience of relevance to psychiatry, comparatively little progress has been made in translating neuroscientific understanding into novel treatments. This lecture focuses on the challenges and opportunities for translation. Challenges include (1) the complexity of the genetic architecture of psychiatric disease, (2) the difficulty of constructing and validating animal models of psychiatric disorders, and (3) the lack of definitive translatable biomarkers, among others. Opportunities afforded by recent developments may help address these challenges, including (1) the emergence of numerous biological clues coming from genetic and environmental risk factors, (2) increasingly sophisticated tools for interrogating neural circuits, (3) the availability of novel computational and theoretical tools, (4) novel experimental systems, including human cellular approaches.

Impact of SeXX on psychiatric disorders: The case for why neuroscience needs epidemiology and vice versa

Jill Goldstein
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There is no larger unmet need in women's health than tackling the issue of shared pathophysiology, epidemiology, and healthcare for the brain and heart. Heart disease is the number one killer of women in the U.S., impacting over half of American women and those in most middle-income countries. Recently, W.H.O reported that major depressive disorder topped ischemic heart disease as the number one cause of disability worldwide, and women have twice the risk. In fact, the prevalence of the comorbidity of depression and cardiovascular disease (CVD) is >20%, is significantly higher in women than men, and when present together results in a 3-to-5-fold risk of death. Finally, depression, CVD and metabolic syndromes (like obesity and diabetes) are independent risk factors for memory decline and Alzheimer's disease in later life, also with a 1.5-fold higher frequency in women than men, and not simply due to longevity. Thus, understanding the brain-heart connections and how these differ by sex is critical for understanding risks and resilience for maintaining healthy aging across the lifespan. Our team has been investigating the fetal programming of shared pathophysiology for understanding sex differences in depression and CVD risk. We believe that taking a lifespan approach, beginning in fetal development, is critical for understanding shared risks and resilience for sex differences in the comorbidity of these illnesses that primarily occur in adulthood. Dr. Goldstein will use this work to exemplify why neuroscience needs epidemiology and vice versa. There are growing efforts to decrease the gaps in knowledge about the impact of sex on diseases of the heart and brain, although they occur independently in departmental silos by discipline. We believe that an integrated approach across the lifespan to study brain-heart connections will accelerate the development of novel early interventions that are sex-dependent and more effective in alleviating the burden of disease nationally and globally.

Contributions of genetic epidemiology to our understanding of mental disorders in the molecular era

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This talk will describe the contributions and challenges of genetic epidemiology in advancing our understanding of mental disorders. Recent findings from genome wide association studies (GWAS) of each of the major mental disorders and their core components will be described and a summary of aggregate phenotypic risk estimates, and phenotypic and genotypic heritability based on GWAS will be summarized. Examples from recent family and twin studies of the core components and endophenotypes of mental disorders that may inform future genetic studies will be presented. Future opportunities and applications of epidemiology to our understanding of psychiatric disorders in the molecular genetics era will be discussed.

The valley of death and evidence-based health care; the problem of adolescent depression

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The "valley of death" in biomedical research refers to the difficulty in translating research findings into changes in clinical practice and policy. For there to be a fruitful synergy between basic and clinical research in mental health that successfully "crosses" this valley, there needs to be some agreement on what are the key evidence gaps that must be filled to influence health outcomes to the greatest degree. One of the most important roles played by the publication and dissemination of rigorously produced Clinical Practice Guidelines (CPGs) is to identify key evidence gaps that must be filled to improve outcomes for a population. However, it will be illustrated, using adolescent depression as an example, that the development of CPGs in child and youth mental health are mostly of poor quality and so do not provide clear insight into what research needs to be done so that mental health outcomes for children and youth can be improved.

SYMPOSIUM 5: Causality and psychopathology: Novel study design, measurement and methods for causal inference

Causal effect decomposition in the context of time varying exposures and mediators: An example

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In the past decade the field of causal inference has seen a renewed interest in mediation and the development of intuitively meaningful indices of direct and indirect causal effects. So-called interventional effects provide a useful approach to effect decomposition in the presence of mediator-outcome confounding or in the context of multiple correlated mediators. Recently VanderWeele and colleagues have extended this approach to a repeated measures context involving repeated assessments of a time dynamic risk exposure, mediators and an outcome. This approach makes it possible to derive meaningful indices of causal effect decomposition reflecting the accumulative history of exposure to a risk factor over repeated assessments. This presentation uses data from the Christchurch Health and Development Study (CHDS) to illustrate these methods. The CHDS is a longitudinal study of a birth cohort of 1265 children born in Christchurch (New Zealand) in 1977 and studied repeatedly over the life course from birth to age 40. The analysis uses repeated measures data gathered at 5-yearly intervals through adulthood to explore the causal linkages and mediating pathways between the history of a mental disorder (major depression) and a measure of adult economic well-being (income).

Common mental disorders in adolescents and offspring early life emotional reactivity: A causal sequential mediation analysis of a prospective intergenerational study

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Introduction: Parental mental disorder in the perinatal period is a well-established risk factor for offspring mental disorders. These associations may be causal, operating via environmentally-induced epigenetic changes postnatally or in utero. Another possibility is that the effects of parental mental disorder on offspring begin well before

conception, either via persistence of established risk factors into the perinatal period or direct preconception effects through enduring modifications to gametes. Preconception exposures remain largely unstudied, however, along with the extent to which these effects are transmitted via persistence of problems into pregnancy and the postpartum period. Here we examine the associations between maternal preconception and perinatal mental health problems and offspring infant emotional reactivity, an early phenotypic marker of vulnerability for later mental disorder, using data from *The Victorian Intergenerational Health Cohort Study (VIHCS).*

Methods: VIHCS is a prospective two-generation study with repeated assessments of parent mental health, substance use and social context over fifteen years from adolescence to adulthood, and during pregnancy, postpartum, infancy and mid-childhood for 1026 subsequently born offspring. We first examine the associations between maternal preconception mental health problems, and heightened offspring emotional reactivity. We then use causal mediation analysis based on interventional effects to examine the role of two sequential mediating processes across the perinatal period. Specifically, we examine the role of antenatal and postnatal maternal mental health problems in the association between preconception mental health and offspring infant emotional reactivity.

Results: Offspring heightened emotional reactivity at one year of age was associated with preconception maternal mental health problems in adolescence and young adulthood (adjusted RR 1.9, 95% CI 1.2-2.9), during the third trimester of pregnancy (aRR 1.7, 95% CI 1.0-2.9), and concurrently at one year of age (aRR 1.8, 95% CI 1.1-3.0), but not at 10 weeks postpartum. Associations between maternal preconception mental health problems and offspring emotional reactivity were only partially mediated by ante- and postnatal maternal mental health problems.

Conclusions: These findings suggest that the origins of early vulnerability for later mental disorder do not lie solely in the perinatal period, but also in processes established well before this time.

Integrating information across efficacy trials to gain insights on antipsychotics mechanism of action

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Background: Mediation analysis allows decomposing a total effect into a direct effect of the exposure on the outcome and an indirect effect operating through a number of possible hypothesized pathways. We provided a novel decomposition of the total effect that unifies mediation and interaction when multiple mediators are present. Recent work making use of causal mediation analysis has provided critical insights for the treatment of schizophrenia. However, secondary analyses conducted in individual trials are likely not sufficiently powered to yield strong conclusions about mediating and interactive mechanism. The current study aims to address the issue of missing data, capture the complex underlying mechanisms of change, and integrate information from four paliperidone efficacy trials to produce more powerful causal mediation analyses.

Method: The statistical analysis of the current study consisted of two main approaches (1) hierarchical linear modeling and (2) multivariate meta-analysis. Within the frameworks of the two integrative approaches, causal mediation analysis was performed to clarify and quantify the roles of side effects and positive symptom change in explaining the association between treatment and change in negative symptoms among patients with schizophrenia.

Results and Conclusions: The present study provides the first application of integrative approaches for causal mediation analysis with multiple mediators in the presence of potential effect modification. The inference we drew based on the results from the two approaches were similar, demonstrating the reproducibility of our results via different methods. PANSS positive symptom score was identified as the most important mediator; it explained approximately 80% of the treatment effect in the high dose group (12mg/day), approximately 70% in the medium dose group (9mg/day), and approximately 50% in the low dose group (6mg/day).

Understanding effectiveness in populations: Bridging internal and external validity

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Many policy and practice questions involve wanting to know about the causal effects of interventions or risk factors in populations. However, while rigorous designs such as randomized controlled trials provide unbiased effect estimates for the sample at hand, they do not necessarily inform about effects in a target population of interest — they provide internal validity but not necessarily external validity. While there has been increasing discussion of this limitation of traditional trials, relatively

little statistical work has been done developing methods to assess or enhance the external validity of randomized trial results. This talk will provide a framework for thinking about internal and external validity in the context of population treatment effects and will provide an overview of statistical methods to assess and enhance external validity. Applications in psychiatry and mental health will be included. Implications for how future studies should be designed in order to enhance generalizability will also be discussed.

SYMPOSIUM 6: Trauma and mental health in a global setting: Research on refugees and displaced persons around the globe

The new H-5 model: Integrated holistic approach for refugee humanitarian aide

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This paper presents a new approach to breaking down the silos to humanitarian aide to refugees worldwide. It builds upon the H-Model which is gaining traction and attention globally due to its innovative "bottom up" methodology. The WHO definition of health is redefined to meet the current cultural and evidence-based view of health and wellness. The silos of safety and security, food, shelter and water and infectious disease management are broken down to include mental health and economic and social development integrated at all levels of refugee policy. The latter is achieved by following the new H-5 model which focuses on the restoration of wellness in traumatized communities damaged by war and gender-based violence. The H-5 model includes major policy and programmatic areas centered on the TRAUMA STORY of the affected population including: 1) human rights, 2) humiliation, 3) healing (self), 4) health promotion, 5) Habitat.
Current research is provided that supports the H-5 model.

Care for Caregivers: Improving the mental health of Health Care Workers in humanitarian settings

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Across diverse contexts, healthcare providers are documented to have an increased risk for depression and suicide compared to the general population. Burnout among health care workers is associated with high turnover rates and absenteeism, and low job satisfaction. Burnout has been documented to effect the safety of care provided by physicians and can result in personal relationship problems, substance abuse, depression and even suicide. Humanitarian aid workers, across sectors, are also reported to have high levels of mental ill health, a study in Uganda reporting that 68%, 53% and 26% of respondents reported symptom levels associated with high risk for depression, anxiety disorders, and posttraumatic stress disorder (PTSD). Despite these increased risks, the mental health of healthcare providers within humanitarian contexts is often given little or no attention.
The International Rescue Committee (IRC) works in more than 35 countries providing health care to people affected by conflict and disasters. Local health care workers in IRC supported health facilities absorb a tremendous amount of stress. In Liberia, Health Care Workers (HCW) have been exposed to stress and trauma for a protracted period of time, both the primary stress of the direct danger of exposure to the Ebola Virus Disease in 2014 and the secondary stress of being exposed daily to the death and suffering of their patients.
There are tested interventions that have been shown to improve the psychological wellbeing of healthcare workers. Systematic reviews of these interventions demonstrate that cognitive-behaviors techniques, mindfulness-based programs and self-help interventions have a statistically significant improvement on self-reported mental health, reducing perceived stress, anxiety and burnout, between pre and post intervention. Over the last three years, the IRC has gained valuable insights on the positive effects of investing in the mental health of HCWs through the Care for Caregivers project in Liberia. The project aimed to improve the motivation, resilience and well-being of frontline HCWs through a staff support groups, facility workshops and individual counselling. Twenty-two health facilities in Montserrado county participated in this project.
The findings from project evaluations found that the staff support group was an extremely positive experience for HCWs, with HCWs reporting that they were taught how to regulate their emotions, which improved their ability to cope with stress and manage their anger, and to improve their resilience to the daily stressors of being a HCW. The project also led to a more positive work environment, with reports of more respectful communication between patients and colleagues, and increased motivation among HCWs to deliver higher quality care.

Challenges in assessing the mental health needs of refugees and displaced persons

Paul Bolton
Center for International Emergency, Disaster and Refugee Studies, Johns Hopkins University, Baltimore, USA

While there is substantial evidence that many mental disorders described in the DSMV and ICD-11 occur across cultures there remain challenges in accurately identifying disorders among refugees, displaced persons, and other persons currently experiencing adverse circumstances. Situational challenges include the presence of physical disorders that mimic mental disorders that are not diagnosed and therefore not excluded. The presenter will discuss these and other challenges to identification of mental disorders in these populations. He will also discuss approaches to dealing with these issues in order to enhance the accuracy of mental health assessments.

War and Mental Health

Elie Karam[1,2,3], **John Fayyad**[1,2,3], Dahlia Saab[1], Claudia Farhat[1], Lynn Itani[1], Nadine Melhem[4]
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It is a well-established fact that mental health is influenced by prior trauma. Unfortunately, research has rarely looked at several types of traumata simultaneously and rather focused on one type such as physical abuse, rape and war. Moreover, the evaluation of the effects of war frequently misses not only other trauma such as childhood adversities (CA), but also family atmosphere and personality characteristics (sensitivity) and genes.
A number of research projects conducted by IDRAAC, including the national study (L.E.B.A.N.O.N.; N=2,857 adults), have highlighted the importance of studying the short and long impact of CA on other major disasters such as wars and armed conflicts. It is especially true that the co-occurrence of adversities and war traumata does not happen at random. In another study on Syrian refugees (N= 579), we found that war had more of an impact on PTSD in children with lower levels of CA and higher levels of sensitivity.
We are conducting a prospective study on a large sample of Syrian refugee children in Lebanon (N=1600), in collaboration with Queen Mary University, exploring biological pathways involved in refugee children's psychological response to war-related traumatic experiences. We have just completed the first wave of data collection. Some preliminary results might be ready for this conference.

ORAL PRESENTATIONS

ORAL PRESENTATIONS SESSION 1: Substance use, adverse childhood events, and externalizing disorders across the life course

OP01 | Spanking and adult mental health impairment: The case for the designation of spanking as an Adverse Childhood Experience (ACE)

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Introduction: A growing literature has examined the long-term impacts of adverse childhood experiences (ACEs) such as child abuse on poor adult health outcomes. Spanking has shown a similar association with health outcomes, but to date has not been considered an ACE. The aims of this work will be to a) review the up-to-date legal bans on corporal punishment from a global perspective; b) review the most up-to-date data on spanking and mental health outcomes; c) using the original CDC-Kaiser ACEs data, determine if spanking is empirically similar to physical and emotional abuse and associated with similar mental health outcomes in adulthood; and d) discuss spanking from a global human rights perspective.

Methods: Data were drawn from Wave II of the CDC-Kaiser ACE Study based on self-reports from adults in southern California seeking routine health checks at an outpatient clinic (N = 8316 ages 19-97 years). Mental health outcomes included depressed affect, moderate to heavy drinking, street drug use, and suicide attempts. Confirmatory factor analysis and logistic regression models were conducted.
Results: Spanking loaded on the same factor as the physical and emotional abuse items. Furthermore, spanking was associated with increased odds of suicide attempts (Adjusted Odds Ratios (AOR) = 1.37; 95% CI = 1.02 to 1.86), moderate to heavy drinking (AOR) = 1.23; 95% CI = 1.07to 1.41), and the use of street drugs (AOR) = 1.32; 95% CI = 1.4 to 1.52) in adulthood over and above experiencing physical and emotional abuse. This indicates that spanking accounts for additional model variance and improves our understanding of these outcomes.
Conclusion: To date, 33 countries worldwide have legal bans on spanking. Canada and the United States are not among them. Our data indicate that spanking is empirically similar to physical and emotional abuse and including spanking in these models adds to our understanding of these mental health problems. Spanking should also be considered an ACE in efforts to prevent violence and improve mental health outcomes. Assuring safe, stable, nurturing relationships and environments for all children is essential for healthy growth and development, effective parenting in the future parents, safer communities, and stronger economies.

OP02 | Gestational age at birth and symptoms of ADHD in 5- and 8-year-old children: A population-based sibling-comparison study

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Introduction: Preterm birth is associated with an increased risk for ADHD. However, it is unknown whether this association reflects a causal relationship. The aim of this study was to investigate if there is a causal relationship between gestational age and symptoms of ADHD in preschool and school age children, adjusting for unmeasured genetic and environmental factors. Possible sex differences in the associations were also investigated.
Methods: The associations were estimated by conventional cohort analyses using data on more than 100 000 children, including 33 000 siblings, from the Norwegian Mother and Child Cohort Study. These results were compared with estimates from analyses using a sibling-comparison design, adjusting for genetic and environmental factors shared within families. Analyses compared children and siblings discordant for gestational age group: early preterm (delivery before week 34), late preterm (week 34-36), early term (week 37-38), term- (week 39), term (week 40), term+ (week 41), and late term (delivery after week 41). The outcome measures were maternally reported symptoms of ADHD in children at age 5 and symptoms of inattention and hyperactivity/impulsivity at 8 years. Covariates included child and pregnancy characteristics associated with both week of delivery and the outcomes.
Results: The results from the conventional analyses showed that children born early preterm were rated with more symptoms of ADHD, inattention and hyperactivity/impulsivity than term-born children were. The results of the sibling-comparison analyses indicated a causal relationship between early preterm birth and symptoms of ADHD in preschool children and inattentive symptoms in school-age children. Prematurity did not influence hyperactivity/impulsivity. The causal effect on pre-school ADHD symptoms was more pronounced in girls than in boys.
Conclusion: To our knowledge, this is the first study to show a causal relationship between gestational age at birth and dimensional measures of ADHD using a sibling-comparison design.

OP03 | Very unsuccessful attempts to quit: Examining correlates from the Global Adult Tobacco Survey

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Background: Every year, millions of smokers try to quit smoking. Unfortunately, a significant portion of these smokers fail to maintain abstinence for more than 24 hours, resulting in a Very Unsuccessful Attempt to Quit (VUAQ). Previous studies have shown that VUAQ is related to both levels of nicotine dependence and the severe symptoms of nicotine withdrawal. However, there are indications that other variables may also play a role. This study aims to investigate correlates of VUAQ using a large cross-national sample.

Methods: We used data from the Global Adult Tobacco Survey (GATS) - designed to produce national estimates among all non-institutionalized men and women 15 years of age or older - from the 13 countries where almost 2/3 of the World's smokers live. Smokers who reported having tried to quit at least once were included in the analysis: Bangladesh (n=1,058); Brazil (n=2,928); China (n=489); Egypt (n=1,577); India (n=3,499); Indonesia (n=821); Mexico (n=839); Philippines (n=1,288); Russia (n=1,403); Thailand (n=1,503); Turkey (n=1,028); Ukraine (n=832); Vietnam (n=1,168). We carried out weighted regression models for VUAQ including sociodemographic, smoking (dependence levels), treatment (NRT, counselling, brief advice, or other), and media/perceptions as dependent variables.
Results: VUAQ varied from 1.0% in the Philippines to 13.6% in Brazil. The category most consistently associated with VUAQ was less time to first cigarette (7 countries), followed by being female and older (5 countries) and cigarette advertising in stores (4 countries). Nicotine Replacement Treatment (NRT) was negatively associated with VUAQ in only two countries and Counselling and Brief Advice in none. Smoking profile variables were important in all the continents. Sociodemographic variables had more effect in Latin America. Media/Perception variables had more effect in Europe. NRT had no effect in Asia.
Conclusion: Our findings support both the multicausality and great variability of VUAQ. Although reinforcing the importance of dependence levels in many countries, the use of medications that alleviate withdrawal, such as NRT, had hardly any effect. Interestingly, there is a justification for special interventions for women and the older, and also the banning of in-store advertising, in the attempt to reduce VUAQ.
Funding: None. The Global Adult Tobacco Survey (GATS) functions as a multi-partner initiative that represents global, regional, and national organizations. We acknowledge WHO, CDC, GATS Implementing Agency, Johns Hopkins Bloomberg School of Public Health, RTI International, and the National Governments of Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Philippines, Russia, Thailand, Turkey, Ukraine, and Vietnam, for carrying out such an important survey, and releasing data for public use.

OP04 | Linking DSM-V alcohol-use disorders with policy-relevant correlates in young adults: Implications for an evidence-informed national alcohol harm reduction policy

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A total of 1155 university students from 8 private and public universities from Lebanon participated in a survey in May 2016 aimed at understanding the association between policy-relevant factors and alcohol consumption. Among past-year drinkers (n=582), 15% were screened with DSM-V moderate to severe alcohol-related problems. Compared to drinkers with no AUD, they were also more likely to purchase their alcohol beverages mostly from pubs/bars [OR=2.43 (1.16, 5.08)] and to recall seeing alcohol ads worn by sports players [OR=2.8 (1.70, 4.61)]. Drinkers with moderate/severe alcohol problems (versus no AUD) also believe that earlier closing times for pubs/bars [OR=2.23 (1.48 -3.35)], banning all forms of alcohol marketing [OR=1.8 (1.00, 3.24)], pricing promotions [OR=2.21 (1.33, 3.65)], as well as enforcing a minimum BAC [OR=2.11 (1.07, 4.13)] would decrease their alcohol consumption levels, all probable points of entry for a national alcohol harm reduction policy, also supported by additional data including: (1) 40% of past-year drinkers reported drive through drinking stores that sell cheap low quality alcohol as their source of alcohol, in addition to music concerts/other events; (2) only 8% of past year drinkers (who reported drink-driving) were pulled over for a breath test; (3) 98% reported an alcohol outlet near school/home, 88% perceived alcohol as easily accessible, 92% had never been asked for ID when purchasing alcohol, and less than 1% have been refused alcohol after they have had too much to drink; (4) and lastly, students choice of alcoholic drink as well as brand most recalled matched the alcohol brands most advertised. In the absence of specialized care for people with alcohol-problems, coupled with an alcogenic environment characterized by cheap, widely available and heavily advertised alcoholic beverages, Lebanon is one of many countries that must strengthen their national response via a contextualized evidence-based alcohol harm reduction policy.

OP05 | Specificity and patterns of physical conditions with mood and anxiety disorder subtypes in a nationally representative sample of US youth

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Introduction: Although comorbid physical conditions are well-recognized in clinical samples of youth, there are limited data on patterns of comorbidity between mood and

anxiety disorders in youth, particularly with respect to specific subtypes representative of the general population. Our objective was to examine patterns and specificity of physical conditions with specific subtypes of mood and anxiety spectrum disorders in a nationally representative sample of youth.
Methods: The sample includes 6,483 adolescents aged 13-18 in the National Comorbidity Survey-Adolescent Supplement (NCS-A) with data on both mental disorders and physical conditions. Participants were directly interviewed with the Composite International Diagnostic Interview (CIDI) Version 3.0 that generates diagnoses for DSM-IV disorders. Physical conditions were self-reported using a checklist method. Crosstabulation and logistic regression models were used. Complex sampling design was taken into account in estimating prevalence and odds ratios and their variances. Models controlled for demographic characteristics and comorbid psychiatric diagnoses.
Results: Physical conditions were common in youth, especially headaches, allergies, skin conditions, and asthma. Metabolic conditions were associated with mood disorders whereas pain conditions were associated with anxiety disorders. Headache was associated with major depression (OR 1.5, 95%CI 1.1-2.0), social phobia (OR 1.6, 95% CI 1.1-2.3), and specific phobia (OR 1.4, 95% CI 1.1-1.6), whereas chronic pain (OR 1.8, 95% CI 1.1-3.0) was more common among those with bipolar disorders. Asthma, heart conditions, and seasonal allergies were not more likely among any subtypes of mood and anxiety disorders. Agorahobia and generalized anxiety disorder were not associated with greater risk of physical conditions. In contrast, separation anxiety disorder was associated with the greatest frequency of physical conditions.
Conclusions: Patterns of physical-mental comorbidity may provide insight into the heterogeneity of etiology of these conditions. Likewise, both physical and mental conditions should be considered in assessing disability and treatment planning.
Funding: The National Comorbidity Survey-Adolescent Supplement (NCS-A) was supported by the National Institute of Mental Health (U01-MH60220 and ZIA MH 002808) and the National Institute of Drug Abuse (R01DA016558).

ORAL PRESENTATIONS SESSION 2: Suicidality, depression and anxiety: Understanding etiology and health consequences from womb to adulthood

OP06 | Individual variability in depression and anxiety symptoms and primary care consultations over time: Longitudinal analysis of survey and linked administrative data from the PATH through Life project

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Introduction: Primary care is a key health service context for common mental disorders such as anxiety and depression. There is, however, little research examining whether individual variability in mental health over time is reflected in health service use. The current study draws on longitudinal survey data from a middle-aged community cohort which is linked to administrative health service use data. The study investigates the association between depression/anxiety symptoms and General Practitioner (GP) service use over time, controlling for time-invariant differences between respondents, and seeks to quantify this association at the population level.
Method: Analysis of four waves of data for up to 12 years from 2158 respondents in the middle-aged cohort of the PATH through Life project. At each wave, data was collected on anxiety and depression symptoms (assessed using the Goldberg Anxiety and Depression scales), socio-demographic characteristics, chronic physical conditions, and physical functioning. Administrative data on number of primary care consultations during the six-months surrounding respondents' interviews were drawn from Australia's universal health insurance scheme (Medicare). Negative binomial GEE and random-effects models assessed the association between depression/anxiety symptoms and number of GP consultations, examining both between-person differences and within-person changes in symptoms over time. Population Attributable Fractions contrasted the proportion of GP consultations explained by different factors.
Results: There was a linear association between number of depression/anxiety symptoms and number of GP consultations: a difference of three symptoms between people was associated with a 10% difference in GP consultations, and a change of three symptoms over time was associated with an 8% change in GP consultations. In the final model, psychiatric morbidity explained just over 17% of GP consultations, comparable in magnitude to chronic physical conditions, physical functioning limitations, and key socio-demographic factors.

Conclusion: Depression and anxiety symptoms are a major determinant of primary care consultations. Importantly, by using longitudinal data, the current study shows that primary care service use mirrors change in individuals' symptoms over time.
The PATH through Life project has been funded by grants from the National Health and Medical Research Council and support from Safe Work Australia.

OP07 | General and suicide mortality among people receiving cognitive behavior therapies in a community setting

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Introduction: The Improving Access to Psychological Therapies (IAPT) program has provided evidence-based psychotherapies for depression and anxiety disorders in England since 2007. However, up to now, its impact on mortality, especially for suicide mortality, has not been studied. We thus aimed to investigate the association between IAPT engagement and mortality, including suicide.
Methods: We conducted a retrospective cohort study consisting of psychological therapy service users in community with anonymized electronic mental health records from a southeast London catchment, linked to national death certification, following IAPT referrals between 1 May 2009 and 31 March 2015. The exposures of interest were engagement to IAPT therapies, referral and psychotherapy methods, and symptom level changes for anxiety and depression. Age- and gender-standardized mortality ratios (SMRs) for general and suicide mortality were first calculated for all service users, then stratified by engagement and gender. Suicide mortality was analyzed in competing-risk Cox regression models by univariate and multivariate analyses.
Results: In 104,994 catchment residents receiving IAPT services, 763 deaths were identified, including 36 suicide deaths. The SMR for suicide was elevated among all IAPT service users (1.82; 95% CI: 1.27, 2.52) and in those with non-engagement (2.08; 1.37, 3.02). SMRs for all-cause mortality were raised in IAPT users with non-engagement (1.19; 1.10, 1.29), lowered for those who engaged (0.65; 0.55, 0.77), mostly accounted for by cancer and circulatory diseases as causes of death, and were not raised overall. With confounding considered, a mental disorder other than anxiety or depression requiring secondary mental healthcare was found a major reason for suicide mortality among the non-engaged ones. For the engaged services users, no improvement of depression symptoms and requiring secondary mental healthcare services were revealed to increase the risk of general mortality after confounding control. More visits to IAPT services and ever taking high-intensity treatment were also associated with lower general mortality significantly.
Conclusion: Patients who engage with IAPT services have lower all-cause mortality than the general population. The extent to which this is due to the protective effect of psychological therapy or to selection factors needs further investigation.

OP08 | Association between parental age, offspring psychopathology, and neurocognitive performance in the Philadelphia Neurodevelopmental Cohort

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Introduction: There is abundant evidence that parental age is associated with neurodevelopmental and behavioral disorders in offspring; however, the mechanisms for these associations are unknown. A potential explanation for these associations is cognitive function, which has also been shown to be impacted by parental age. The aim of this research is to examine the associations between parental age at birth, offspring psychopathology, neurocognition, and cortical morphology in a community-based sample of adolescents.
Methods: 9498 youths (ages 8-21 years) participated in the Philadelphia Neurodevelopmental Cohort study: different subsets completed the psychopathology and neurocognitive assessments, and multimodal neuroimaging. Crude and adjusted regression models with parental age predicting offspring psychopathology, neurocognition, and cortical morphology were completed. Adjustment variables include demographic factors and social environmental variables.
Results: After controlling for sociodemographics and comorbid psychopathology, both younger maternal and paternal ages were associated with behavior syndromes and psychosis, whereas advanced paternal age was associated with pervasive developmental

disorders/autism. After controlling for sociodemographics and the social environment, the only significant neurocognitive associations were between maternal and parental age and the speed of complex cognition.
Conclusions: These findings suggest that younger and older parental ages at birth are associated with specific forms of psychopathology and neurocognition in offspring. The persistence of the influence of parental age after control for sociodemographic factors suggests that additional explanations for these findings should be examined in future studies. Enhanced performance among offspring of older parents suggests that cognitive function does not influence the association between advanced parental age and psychopathology.
Funding source: The study was supported by RC2 grants from the National Institute of Mental Health (NIMH): MH089983 and MH089924 (R.E. Gur and H. Hakonarson). Dr. Merikangas has received support from a NIMH T32 grant to R.E. Gur (MH019112).

OP09 | Cardiometabolic dysregulation and cognitive decline: Potential role of depressive symptoms

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Background: Previous studies have examined associations of cardiometabolic factors with depression and cognition separately.
Aims: To determine if depressive symptoms mediate the association between cardiometabolic factors and cognitive decline in two community studies.
Method: Data for the analyses were drawn from the Rotterdam Study, the Netherlands (n = 2940) and the Whitehall II study, UK (n = 4469).
Results: Mediation analyses suggested a direct association between cardiometabolic factors and cognitive decline and an indirect association through depression: poorer cardiometabolic status at time 1 was associated with a higher level of depressive symptoms at time 2 (standardised regression coefficient 0.07 and 0.06, respectively), which, in turn, was associated with greater cognitive decline between time 2 and time 3 (standardised regression coefficient of -0.15 and -0.41, respectively).
Conclusions: Evidence from two independent cohort studies suggest an association between cardiometabolic dysregulation and cognitive decline and that depressive symptoms tend to precede this decline.

OP10 | Absolute and relative risks for suicidality, violence perpetration and victimization, and premature death in a cohort of young adults discharged from inpatient psychiatric care

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Introduction: Young persons discharged from inpatient psychiatric care are at elevated risks for a range of adverse outcomes, including premature death, non-fatal and fatal violence perpetration and victimization and self-harm. However, no previous research has reported on such a broad array of adverse outcomes in a single study cohort. We examined risks across multiple endpoints among discharged young adults in a national cohort.
Methods: We conducted a matched cohort study of all persons born in Denmark during 1967-1996. Each discharged patient was matched on date of birth and gender with 25 comparison subjects without a history of psychiatric admission. We calculated cumulative incidence and hazard ratios to estimate absolute and relative risks, respectively, among discharged patients versus persons not admitted, for: (a) all-cause mortality; (b) suicide; (c) accidental death; (d) homicide victimization; (e) homicide perpetration; (f) non-fatal self-harm; (g) violent criminality; (h) and hospitalization following interpersonal violence.
Results: Risks for all adverse outcomes examined were markedly elevated in the cohort of discharged patients. Within 10 years of their first discharge, 1 in 19 of these patients will have died from any cause (1 in 60 by suicide, 1 in 2000 by homicide), 1 in 555 will have perpetrated homicide, 1 in 4 will have harmed themselves non-fatally, and 1 in 13 will have been convicted of committing a violent crime. For self-harm and suicide, especially large risk elevations were seen in the first year post-discharge, whereas for violent criminality and accidental death the level of risk elevation remained relatively constant throughout the 10-year period.
Conclusion: People discharged from inpatient psychiatric care are at much higher risk than the rest of the population

for experiencing a broad range of fatal and non-fatal adverse outcomes. Our findings indicate the need for optimized inter-agency cooperation to address these multiple vulnerabilities, soon after discharge as well as in the longer term. Future research should focus on explanatory models and the elucidation of causal pathways.

POSTER PRESENTATIONS (PP01-PP76)

PP01 | Mental health in Ethiopia: Psychosocial support service for refugees and research approaches

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Background: In Ethiopia but also in other countries of the sub-saharen Africa we currently observe two phenomena: (1) "brain drain" which is defined as a migration of highly educated and talented people from low-income countries to western countries since the living and working conditions are better there and (2) the centralization of medical care which means that trained medical doctors work primarily in the capital and in major cities; a trend that leads to medical undersupply of the population in remote regions.

In 2009 only 45% of the Ethiopians had access to the health system, 80% of the medical doctors have left the country in recent years, and there were all together only 900 medical doctors in Ethiopia. According to the WHO report in 2006 there were three non-psychiatric care centers, six inpatient treatment centers, and one psychiatric hospital in Addis Ababa available for patients with mental diseases. There was a total of 34 psychiatrists, and 27 of them worked in the capital.

First solutions: Our main aims in Ethiopia have been and still are: (1) construction of psychiatric care through training of mental health masters, (2) multiplication of health workers trained in psychiatry, (3) decentralization of mental health care in Ethiopia and (4) supply of rural population through health centers. To achieve these goals a program called "Master of science in integrated clinical and community mental heath care" was established at Jimma University (JU). In a two-years course nurses and employees in the health care sector were trained in psychiatry. After five years 42 students finished the program successfully. Graduates have spread over the country and work in different regions of Ethiopia. None of them has left the country for better living and working conditions in western countries. One of the graduates works in a refugee camp in Dolo Ado on the establishment of a comprehensive mental health and psychosocial support service for refugees (Adorjan K [...] Schulze TG: Psychiatric care of refugees in Africa and the Middle East: Challenges and solutions, 2017).

Research activities: The Jimma University in southwestern Ethiopia has a unique health and demographic surveillance system called "Gilgel Gibe Field Research Center" (GGFRC) with a catchment area of about 60.000 people. In this setting, we studied the effect of khat use as risk factor for the development and the stability of psychotic symptoms as well as of symptoms of common mental disorders among young men in the community. Furthermore, we wanted to demonstrate the reliability and validity of research methods that are necessary for future genetic epidemiological studies, i.e. the validity and reliability of pharmacological screening tests as well as assessments performed by trained local interviewers. Our study was the first psychopharmacological study in cooperation between the Institute of Psychiatric Phenomics and Genomics (IPPG) in Munich, Germany and the JU in Ethiopia. Under suboptimal conditions (high temperatures, limited refrigeration options, lack of infrastructure), we collected biological samples and analyzed them on site.

Design: Trained raters interviewed participants at two subsequent time points, i.e. during the dry season (T1; N=853) and during the rainy season nine months later (T2); N= 695). They assessed (1) khat use during the past 7 days with the TLFB diary, (2) psychotic symptoms experienced during the past 6 months with four CIDI items selected on the basis of previous studies and (3) potentially traumatic experiences by an adapted version of the LEC-5 (T1: exposure until T1; T2: additional exposure since T1, i.e. recent trauma; lifetime exposure is defined as the sum of events T1+T2). Urine samples were collected to analyze khat alkaloids through immunoassay tests for amphetamine. Two to 14 days after T1, mental health experts reassessed khat use and psychotic symptoms in a randomly selected subgroup of 125 individuals. Urine samples were taken for amphetamine-immunoassay analysis and quantitative detection of norephedrine using HPLC.

Results: Khat use was associated with the presence of "khat-induced" psychotic symptoms, - particularly at T1V as the most valid indicators of both khat use (HPLC) and khat-induced psychotic symptoms were collected. During the rainy season (T2) immunoassay test and lifetime history of traumatic events varied with the prevalence of "khat-induced" psychotic symptoms; focusing on individuals with positive immunoassay test, among 121 with up to three potentially traumatic experiences the prevalence was 14.0%, and among 124 with more than three such events it was 26.6% (p=.015). Results were attenuated during dry season (Adorjan K [...] Schulze TG: Khat use and occurrence of psychotic symptoms in the general male population in Southwestern Ethiopia: evidence for sensitization by traumatic experiences, World Psychiatry, October 2017).

Conclusions: In this study, we added some new findings to the scientific discussion on the sensitization hypothesis - besides the fact that this is the first study to report on a serious problems of some low-income countries like Ethiopia where khat chewing is highly prevalent:

Not in a specific subgroup (that might be especially prone to substance abuse) but in the general Ethiopian male population the interaction of the environmental risk factors khat and trauma act in a similar way on psychotic symptom development like is has been shown for cannabis and trauma.

The sensitization by traumatic experiences for the psychotomimetic effects of substances might not just be limited to childhood experiences but might involve experiences from the whole lifetime.

The changes in availability of khat have an effect on the presentation of "khat-induced" psychotic symptoms and in the season with high availability the sensitization effect seems to be larger.

Future plans: Our project can be seen as a pilot and feasibility study to prepare a comprehensive population-based genetico-epidemiological study on various gene-environment interactions that should be carried out in the very near future. The infrastructure of GGFRC offers us a unique opportunity to build collectives of multiple-thousand people in a shortest period of time and to perform genetic studies as they have not yet been taken in Africa in this form so far. The extensive epidemiological registration of a population of 60.000 people, the stable population structure, and the quit stable environment, such as the urban and rural way of life with all its characteristics of an African country provide ideal conditions for this. The population is ideally suited to study the impact of polygenic risk profiles of various psychiatric disorders on behavioral traits and their interaction with environment.

Based on our experiences in teaching and research, the Federal Ministry of Health in Ethiopia asked us to help to establish a first rehabilitation farm in Ethiopia for patients with substance use disorders (alcohol, khat and cannabis). In the Amhara region, north of the capital Addis Ababa, a rehabilitation center should be established. In this region especially, young people suffer from substance use disorders which can not be treated adequately due to the current lack of mental health care. Through an evidence-based rehabilitation program patients should be treated professionally and on that basis find a way back to work and to their social and family life.

PP02 | Investigation of androgens' serum levels in pre-pubertal male autistic children

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Introduction: Recent advances in research addressing Autism spectrum disorders (ASD) have linked the development of this disease to multiple factors like: immune dysfunctions, several environmental factors and changes in the levels of various hormones, including androgens. Studies on the association of ASD and androgens are controversial and conflicting. Scientific reports on the levels of androgens in autistic children ranged from no detectable changes to increased serum levels during selective periods of human growth.

Design: A case-control study was utilized to explore any possible changes in the blood levels of androgens, sex-

hormone binding globulin and their potential involvement in the pathogenesis of autism in Jordanian children.

Methods: In this study, serum levels of total testosterone (TT), dehydroepiandrosterone (DHEA), sex-hormone binding globulin (SHBG), follicle-stimulating hormone (FSH) and luteinizing hormone (LH) were investigated in 32 Jordanian autistic male patients and in 32 healthy age-matched children. Hormones were measured in blood samples using Chemmiluminescence Immunoassay available in the Laboratory Department at KAUH. Independent t-test was used to investigate statistical significance in study groups with a (p) value of less than 0.05 was considered significant.

Results: In autistic group TT and DHEA levels were significantly higher compared to the control group by 120% and 50%, respectively. TT had a positive strong correlation with DHEA ($r=+62$, $p\leq0.001$), suggesting an adrenal source of the elevated androgens. SHBG and FSH serum concentrations were significantly lower in autistic patients compared to the control group by 55% and 33%, respectively. Serum LH levels showed no significant differences between both groups.

Conclusion: Our results demonstrate a significant hormonal imbalance in autistic children in comparison to age-matched control group. The demonstrated increase in androgens in pre-pubertal male autistic children further substantiates the postnatal role of androgens, SHBG and FSH in the pathogenesis of autism. Further studies are needed to elucidate their role as diagnostic biomarkers and the potential ameliorating effect of anti-androgen therapy in autism.

PP03 | Burden of misconception in sexual health care setting: A cross-sectional investigation among the patients attending a psychiatric sex clinic of Bangladesh

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Introduction: Bangladesh is a country in South Asia with about 160 million people and achieved health related Millennium Development Goals (MDG) significantly. But sexual health is still an untapped issue with predominant myths and misconception. We aimed to look into the proportions of patients attending sexual health care services due to misconceptions.

Methods: The descriptive, cross-sectional study was conducted among 110 patients attending Psychiatric Sex Clinic (PSC) of Bangabandhu Sheikh Mujib Medical University. Respondents were included in the study with convenient sampling from November 2016 to March 2017. Data were collected through face-to-face interview with semistructured preformed, pretested questionnaire and analyzed by SPSS software 16.0 version.

Results: Most of the patients (93%) were male, 60% were married, 62% were urban habitant, 42% were under grade 10, and 33% were service holder. Total 55% of the patients had misconceptions and 29% visited only for misconception; 14% had Premature Ejaculation; and 12% had desire disorder. 32% of the patients had psychiatric disorders and among them depression was most common, 13%.

Conclusion: Positive openness in sexual health and appropriate strategy should be taken to improve the quality of sexual life as well as reduce the misconception in the people of Bangladesh.

PP04 | Demography and risk factors of suicide in Bangladesh: Six-month paper content analysis

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Introduction: Suicide is a global public health problem too often neglected by researchers and Bangladesh is not an exception. There is no suicide surveillance and nationwide study is yet to be conducted in the country. It was aimed to look into the suicide based on newspaper reporting in Bangladesh focusing the demographic variables and risk factors.

Methods: 6 national newspapers were scrutinized since November 2016 to April 2017. Data were checked, crosschecked and then analyzed with SPSS software.

Results: In six month duration total 271 cases were reported; age was found 11-70 years, (26.67±13.47). 61% (83) of the reported cases were less than 30 years of age, 58% were female, 24% (64) were student, 17% were house maker, 61% from rural background, and 45% were married. Hanging was found as the commonest method (82.29%); marital and familial discord remained as a noticeable risk factor 34.32%. Family members and neighbors noticed 103 (38%) cases, and only 3 cases were found to have suicide notes.

Conclusion: Suicide is an under attended public health problem in Bangladesh with few research and paucity of literature. Nationwide survey conduction and establishment of national suicide surveillance is now a time demanded step.

PP05 | Prevalence of mental disorders and associated service use in adolescents and young adults: A regional cross-sectional epidemiological study in Germany

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Introduction: Prevalence estimates for mental disorders are crucial for service planning and timing of etiological and pathogenetic research efforts. The "Behavior and Mind Health (BeMIND) Study" is a multi-faceted prospective-longitudinal epidemiological study program among adolescents and young adults in Germany aiming to provide novel insights into the etiology and pathogenesis of mental disorders. Aim of the present analysis is to provide prevalence estimates for a broad range of mental disorders according to most recent diagnostic criteria as well as related service use.
Methods: Symptoms, syndromes and diagnoses of mental disorders (depressive, bipolar, anxiety, trauma-/stressor-related, obsessive-compulsive or related, eating, somatic symptom or related, attention-deficit/hyperactivity, disruptive-/impulse control/conduct, alcohol/tobacco/drug use, psychotic) were assessed face-to-face via standardized interview (updated epidemiological research version of the DIA-X/CIDI) by trained clinical interviewers in a random community sample of N = 1180 adolescents and young adults aged 14 to 21 in Dresden (Germany) in 2015/16. Service use corresponds to positive endorsement of any contacts to the health care system due to mental or substance use problems.
Results: Four in ten of the adolescents and young adults met criteria for any mental disorder in the past year; five in ten at some point in the lifetime. Weighted lifetime prevalence for individual diagnoses was highest for (mostly mild) tobacco use disorder (15.5%) and alcohol use disorder (15.2%) in males and Major Depression (21.7%) and (mostly mild) tobacco use disorder (18.1%) in females. The substance use conditions were also most prevalent during the past 12-months in both genders; in girls, specific phobia was the most prevalent 12-month diagnosis. Females were significantly more often affected by anxiety, post-traumatic, somatic symptom, major depressive, and eating disorders whereas males were more frequently affected by alcohol use, cannabis use, intermittent explosive and childhood onset conduct disorder. Of those meeting criteria for any mental disorder, less than one third reported any service use; another 14.1% had thought about seeking help or were recommended by others to do so.
Conclusions: Mental disorders pose a tremendous public health problem requiring considerably intensified efforts into recognition and treatment as well as identification of risk factors and effective preventive interventions.
Funding: The BeMIND study program has been funded by the German Federal Ministry of Education and Research, grant numbers: 01ER1303/01ER1307.

PP06 | Implementation of the PAX-Good behavior game in indigenous communities: Perspectives of school personnel and community members

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Introduction: Rates of suicide and suicide attempts of Indigenous youth in Canada are alarmingly high and have been identified internationally as a major public health concern. PAX Good Behaviour Game (PAX-GBG) is a school-based mental health promotion strategy shown to decrease suicidal behaviours, tobacco, aggressive behaviors, alcohol and drug use as well as improve academic achievement in children and youth. There is a paucity of research investigating PAX-GBG when implemented under real-world conditions, particularly in Indigenous communities. This qualitative study examined the implementation of PAX-GBG in Indigenous communities in Northern Canada.
Methods: The team conducted three focus groups with community members and eight one-on-one interviews with school personnel using a semi-structured interview guide. Content analysis was conducted through line by line analysis, isolating patterns and uncovering emerging themes from the data.
Results: PAX-GBG was viewed as a gentle approach that helped students with behavior management, self-regulation, and coping with life's challenges. This was deemed consistent with traditional values of love and respect. Challenges included high teacher turnover, students transferring during the school year, adapting for small and multi-level classrooms and for children with developmental disabilities. Cultural adaptations were suggested: incorporating cultural teaching, legends, traditions and values and translating PAX-GBG posters into Indigenous languages. Participants described their community and the challenges they must contend with, thus providing a greater contextual understanding necessary for successful program implementation. They

spoke of high levels of historical trauma, poverty, violence and addictions and a troubled relationship between school and parents. Solutions to address PAX-GBG implementation challenges included: expanding the program from only first graders to all grade levels, enhancing training and ongoing support to teachers, providing special training to student leaders and involving them in program implementation, as well as engaging parents and the wider community through community events, workshops and materials designed for parents.
Conclusion: PAX-GBG was perceived as acceptable, culturally appropriate, feasible and sustainable in Indigenous communities. Successful adoption was demonstrated in two of the three communities studied. These findings are informing future adaptation and program implementation in Indigenous communities.

PP07 | Childhood mental disorders and subsequent adverse outcomes in early adulthood: A population-based longitudinal study

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Introduction: While previous research has increased our understanding of the relationship between childhood and adolescent mental disorders and adult outcomes, the clinical samples and surveys on which they are based are prone to a number of biases. To our knowledge, no previous studies have followed a cohort of children using administrative data which addresses the challenges of selection bias, recall bias, and self-reporting. The objective of this study was to examine the associations between diagnosed mental illness and suicidal behaviours in childhood and adolescence, and adverse outcomes in early adulthood.
Methods: Using de-identified administrative databases from the Manitoba Population Research Data Repository, we created a birth cohort of 60,838 residents of Manitoba, Canada, born from fiscal years 1980/81 to 1984/85 and followed them to the end of study period in 2014/15. We used survival analysis, controlling for key childhood covariates, to determine whether people diagnosed with mental disorders in childhood or adolescence were at higher risk of early adverse adult outcomes than those with no childhood mental disorders.
Results: Having a diagnosis of a mental disorder in childhood or adolescence increased the risk of being diagnosed with the same disorder in early adulthood (at age 30 to 35 years old). It also increased the risk of suicidal death (hazard ratio (HR): 2.41), suicide attempts (HR: 3.05), public housing use (HR:1.44), income assistance use (HR: 2.07), criminal accusation (HR:1.53), and criminal victimization (HR:1.54) in adulthood. Similarly, but to a greater extent, suicide attempts in adolescence increased the risk of suicidal death (HR:3.65), suicide attempts (HR:5.68), public housing use (HR:1.64), income assistance use (HR:1.68), criminal accusation (HR:2.18), or criminal victimization (HR:2.43) in adulthood.
Conclusion: Young people's mental health status has significant influence on their trajectories of health and well-being into adulthood. This enhanced knowledge could directly inform policy and practice to provide better population-based mental health promotion, prevention and early interventions for children and adolescents with mental disorders and subsequently prevent these adverse adult outcomes in the future.

PP08 | Scoping review of evidence-based interventions for adolescents with depression and suicide related behaviors in low and middle-income countries

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Background: Depression is the number one cause of disability for adolescents. Adolescents who suffer from depression are more likely to engage in risky behaviors such as substance abuse, unsafe sexual behaviors and violence. Moreover, depression is the second highest cause for death by suicide among adolescents worldwide.
Aims: To map a body of depression and suicide prevention evidence-based interventions for adolescents in LMICs and to disseminate findings of evidence-based interventions.
Methods: An established five-stage process for scoping reviews was utilized: (1) identifying research question; (2) identifying literature; (3) selection of randomized control trials (RCTs); (4) presenting data; and (5) collating, summarizing and reporting results.
Results: A Total of 28 RCTs conducted in 15 different LMICs between 1995 and 2016 were reviewed. Nine different interventions have been evaluated to see if they improve depressive symptoms and suicide prevention among adolescents. Sixteen of the twenty-eight RCTs achieved statistically significant results.

Conclusion: Considering that 2/3 of the world's countries meet criteria for LMIC status and 75% of suicides occur in LMICs, it is surprising that so few RCTs addressing depression and suicide have been conducted in these countries. This dearth of information poses challenges to development and deployment of effective interventions.

PP09 | Effects of depressive symptoms on central arterial stiffness in healthy young adults

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Introduction: Cardiovascular disease (CVD) and mental health disorders are of public health importance. Specifically, depression is now considered a risk factor for ischemic heart disease and CVD. Adaptations in carotid-femoral pulse wave velocity (cfPWV), the gold standard assessment of central arterial stiffness, and cardiovagal baroreflex sensitivity (cvBRS), a measure of blood pressure regulation, have been observed among healthy adolescents with high depressive symptoms, and middle-aged adults with and without clinical depression. The present study examined the association between depressive symptoms, cfPWV, and cvBRS in healthy young adults.
Methods: Fifty (28 females) healthy young adults participated in the present study. cfPWV (m/s) was assessed in the supine position using applanation tonometry at the common carotid and femoral arteries with distances measured relative to the suprasternal notch. cvBRS (ms/mmHg) was determined via spectral analysis in the low-frequency (0.04 - 0.15 Hz) band. Depressive symptoms were determined using the Centre for Epidemiological Studies Depression Scale and dichotomized into low (<16) and high (≥16) depressive symptoms based upon published standards. Physical activity was assessed using the International Physical Activity Questionnaire and current smoking status assessed as never, occasional, and daily.
Results: cfPWV was significantly elevated in the high depressive symptoms group ($p = 0.01$) although no group differences were observed in BP, HR, cvBRS, or anthropometric variables ($p > 0.05$; all). Depressive symptoms group was a significant predictor of cfPWV independently and after accounting for associated cardiovascular variables ($R2 = 0.4484$, $AdjR2 = 0.3677$, $p = 0.0003$). Depression remained significant after further accounting for smoking status and physical activity (PA) (days/week of moderate PA).
Conclusion: cfPWV was elevated in healthy young adults with high depressive symptoms compared to those with low depressive symptoms, however cvBRS was not influenced by depressive symptoms in the present study. Importantly, depressive symptoms were an independent predictor of cfPWV when controlling for traditional cardiovascular co-variates. Future directions of this research will involve investigation of the role of pro-inflammatory cytokines on the association between depressive symptoms and arterial stiffness in healthy young adults.
Funding source: Canadian Institute for Health Research.

PP10 | Formal, informal and school-based mental health service use patterns among adolescents: Does adversity matter?

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Introduction: Adults play a critical role in adolescent mental health help-seeking. However, adolescents experiencing adversity may lack adult social capital to assist with treatment entry. To understand help-seeking from the adolescent perspective and to better inform mental health support for adolescents, we examine patterns in formal, informal, and school-based mental health service use among adolescents experiencing adversity.
Methods: A diverse sample of sixth-graders (N=751) were analyzed using baseline data from a school-based anti-stigma intervention study. Participants completed self-administered surveys that assessed mental health symptoms, perceived mental health problem, and help-seeking behaviors. Adjusting for sociodemographics, family cohesion, and aggressive behaviors, logistic regressions examined patterns in help-seeking across different types of adversity: older-aged student, poverty status, broken/disrupted parent union, and mental illness/substance abuse in the family. Mental health service outcomes included formal services such as primary and specialty care, parents, and school-based support including school counselor and friend.
Results: Among the total sample, talking to a parent for a mental health problem was most common (19%), followed by doctor or friend (17%), taking medication (15%), and school counselor (11%); less than 10% reported talking to a therapist or priest. Adolescents with mental illness/substance abuse in the family compared to those

without it had twice the odds of seeking a friend and school counselor; those with high-level symptoms and a perceived problem reported three times the odds of using school-based services compared to those with low symptoms and no perceived problem, respectively. Adolescents experiencing poverty versus not had twice the odds of seeking formal services. Adversity did not influence seeking help from a parent. Models stratified by symptom levels and perceived problem showed consistent patterns to the total sample (interactions non-significant).
Conclusions: Although one-fifth of the sample reported seeking help from a parent, adolescents experiencing poverty report increased formal service use perhaps due to increased access into safety-net programs. Additionally, adolescents with mental illness/substance abuse in the family showed greater use of school-based services. These adolescents may lack social capital and have disproportionate mental health risk and thus depend on more readily accessible school-based mental health support. To help adolescents experiencing adversity, providing school-based services is important.

PP11 | The timing of sleep and the mental health of adolescents

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Introduction: Recent evidence suggests that preference in the timing of sleep, or chronotype, relates to adolescent mental health. The hypothesis is that night owls struggle more than early birds because they get less sleep, in part due to early school start times. Yet few studies have adjusted for sleep duration and none controlled for school start time. We examined the association between chronotype and indicators of youth mental health, controlling for sleep duration and school start time.
Methods: Data were collected in the 2014 Canadian Health Behaviour in School-Aged Children survey (29,635 students; ages 10-18). Chronotype was estimated using the mid-cycle sleep time on weekends, corrected for catch-up sleep. We examined scores for emotional problems (range 0-33), emotional well-being (0-22), behavioral problems (0-28) and prosocial behaviours (0-25). We analyzed data using school random-effects regressions, adjusted for sleep duration, school start time, individual and family characteristics, rurality, season, latitude, and province.
Results: The average mid-sleep time was 4:11 a.m. A later chronotype was associated with worse mental health scores. Each hour delay in mid-sleep was associated with 0.4 (95% CI 0.3, 0.5) higher point score on emotional problems and 0.2 (95% CI 0.1, 0.3) on behavioral problems, and 0.2 (95% CI 0.1, 0.3) lower point score on emotional well-being and 0.3 (95% CI 0.2, 0.4) on prosocial behaviors.
Conclusion: A later chronotype was associated with poorer mental health, independent of sleep duration and school start time, and across internalizing and externalizing mental health domains. Further research is needed to clarify the mechanisms underlying this association. The timing of sleep, and not just its duration, may be an additional consideration for youth mental health. Studies are needed to further clarify the mechanism underlying this association.
Financial Support: This study was supported by a postdoctoral fellowship from the Canadian Institutes of Health Research (CIHR).

PP12 | Resilience and dysfunction among Iranian and Iraqi torture survivors in Finland and Sweden

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Introduction: Even after many years, past torture is significantly associated with emotional distress. Previous trauma, lower education, as well as post-migratory factors such as few social contacts and no occupation predict emotional distress and/or a lower health-related quality of life (Carlsson, Mortensen, & Kastrup, 2006). This study compares the health and well-being, as well as health service utilization and the social and economic situation of torture and trauma survivors with non-survivors in Finland and Sweden.
Methods: This presentation addresses findings from two population-based studies conducted with immigrants resident in Finland (2010-2012) and Sweden (2005). In the data sets men of Iranian and Iraqi origin were selected for additional study as their reports indicated a significant prevalence of torture experiences (20-25%) and other potentially traumatic events (PTEs). Both studies included the Hopkins Symptom Checklist-25 (Derogatis, Lipman, Rickels, & Covi, 1974) and other measures of health and well-being. Other variables assessed in both studies included demographic data, employment status, economic situation, language proficiency in Finnish/Swedish and experiences of discrimination.
Results: Participants in this study that reported PTEs and torture in particular were doing significantly worse on many indicators, compared to those not reporting any PTEs. It must be noted however, that employment status was not impacted by past PTEs. Loss of interpersonal trust was evident in that confidence and trust in authorities and public service providers was significantly lower among

torture survivors. This may in turn impact help seeking. Torture survivors also reported more discrimination by authorities and in daily life.
Conclusion: The findings of this study support previous evidence that torture and other PTEs are prevalent in refugee and migrant populations and that they create a wide-ranging and long-term vulnerability to resource loss that impacts social functioning, health and quality of life. Effective screening, continuous trust building and flexible service provision is necessary to address the multiple needs of migrants and refugees with experiences of severe PTEs, such as torture.

PP13 | From DSM-IV to DSM-V alcohol-use disorders among university students from Lebanon: Epidemiological and clinical implications

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A total of 1155 university students selected from 8 large private and public universities in Lebanon participated in an anonymous self-filled survey in May 2016. Data on DSM-IV and DSM-V criteria of alcohol-related disorders were gathered from the 582 past-year drinkers, of which 203 (34.88%) were screened for DSM-V any alcohol-use disorders (AUD) and 377 (64.78%) for abuse/dependence (64.6% abuse, and 8.25% dependence). Of the 203 diagnosed with DSM-V any AUD, 58% had mild, 21% moderate, and 21% severe alcohol-related problems. Both DSM-IV and DSM-V classified 199 students (34% of the sample) and 197 (33.8%) as having AUD-negative and AUD-positive, respectively. Still, a total of 180 students (31.8%) were AUD-negative as per DSM-V, but were positive for DSM-IV abuse (but not dependence), mostly driven by the 'hazardous use criterion'. The 6 students who were AUD-positive according to DSM-V but not DSM-IV had reported positively on the newly added criterion of "craving". Of the 191 students who had a score of 1 on DSM-V-defined AUD, only 5 (2.62%) met the DSM-IV criterion of 'legal problems' (excluded in DSM-V). Overall percent agreement was 68% (kappa=0.41). Nonetheless, using a summation score for DSM-IV abuse and dependence criteria (range 0-11), and DSM-V any AUD as the 'reference', the area under the ROC curve was 0.9895, and a cut-off of 2+ for DSM-IV abuse/dependence yielded a sensitivity and specificity of 96.55% and 98.68%, respectively. In this university sample of young adults, DSM-5 diagnostic criteria do not seem to inflate prevalence rates of AUD as compared with DSM-IV. A substantial percentage of young adults who don't meet DSM-V criteria of any AUD may still be a source of harm to themselves and others due to their driving, or operating machinery in general after having had too much to drink.

PP14 | Diurnal patterns of motor activity in association with mood disorders in two family studies

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Introduction: Growing evidence regarding the association between low physical activity and mood disorders has led to increasing application of objective mobile assessments of motor activity. We compared data of two family studies assessing motor activity with the same accelerometer device. Using a novel functional data analysis framework our aims were to: (1) evaluate the diurnal patterns of motor activity (a) between subjects (subject-specific) and (b) within subjects (day-specific), and (2) compare these patterns across diagnostic groups.
Methods: The sample consisted of 69 participants from the NIMH family study and 491 participants from the Lausanne family study, both part of the Motor Activity Research Consortium for Health (mMARCH), a collaborative network established to facilitate coordination of procedures, analyses, and data sharing among groups conducting actigraphy research. Minute-to-minute activity counts derived from the GENEActiv device were collected over a 2-week period for each participant. Psychiatric assessment was based on structured diagnostic interviews. Functional principal component analysis conducted with R was used to evaluate daily motor activity profiles, and individual principal scores were used to study the association between (1) subject heterogeneity and (2) day-to-day variation with mood disorders.
Results: The following 4 subject-specific principal components of motor activity were similar in both studies: (1) average daily activity 24hr-period (explaining 61% in the NIMH study and 34% in the Lausanne study, of the total variation), (2) contrast between daytime and nighttime activity/sleep (explaining 18% and 15%), (3) morning versus afternoon activity (9% and 10%), and (4) morning and afternoon peaks (explaining 3% and 9%). Our analysis on the principal scores for PC2 showed marginally lower

day-to-day variation in bipolar-II (p=0.07) and higher PC3 for major depressive disorder (p=0.03) compared to controls. The day-specific principal components did not differ among mood disorders.
Conclusions: These findings suggest that differences in patterns of motor activity may characterize people with different subgroups of mood disorders. Future studies should focus on mechanisms that may inform on potential interventions such as light therapy in order to stabilize daily motor activity.

PP15 | "Mental health" isn't what it used to be – How labels and images systematically bias recruitment into observational and intervention studies

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Introduction: Researchers spend thousands of hours and millions of dollars carefully constructing sampling frames, maximising recruitment, weighting samples etc. to minimise selection bias. Rarely do we consider how labels and images used can select people. We manipulated labels and images in two Facebook recruitment campaigns to assess any systematic biases in the samples recruited
Methods:
1) Five Facebook advertisement themes ("resilience", "happiness", "strength", "mental fitness", and "mental health") were used to recruit 342 male participants to an online observational mental health cohort study.
2) An RCT of Headgear, a mobile App intended to help reduce and prevent depressive symptoms, recruited 1079 people through Facebook using 12 advertisements (4 themes: "resilience", "mental health", "wellbeing" and "humour"), consisting of a short call to action (e.g. "Get mentally tough") and a description of the App, and one of 3 images (realistic, cartoon and phone).
We evaluated whether there was any demographic and symptom differences in the samples recruited from each of these advertisements.
Results: In both studies the "mental health" advert recruited the most unwell sample (significantly higher symptoms (K6 and PSS) in the observational study, and PHQ9 in the trial; and lower wellbeing (WHO-5) and strength (CD-RISC-10) in both studies), but they did not differ by age or employment status. The Effect Size of the differences in symptoms was as high as 0.78 in the observational study and 0.48 in the trial. "Happiness" recruited a less healthy and younger sample, but there was no bias associated with "humour". The "mental fitness" ad recruited the most healthy sample, and "wellbeing" an older sample. The images in the trial had no influence on symptom scores but did attract a different demographic. There were also substantial differences in recruitment rates and cost per participant, but less so on engagement in both studies between different themes.
Conclusion: The words used to describe and recruit to an online study can systematically bias the mental symptom and demographic profile of participants, with effect sizes larger than those found in many mental health trials. Whilst this can be used to better target trial recruitment it can undermine generalisability and internal validity. We recommend that the labels and images used be reported in studies as they may be as important as other technical sampling issues. Whether these biases are also seen with clinic, face to face, or other media recruitment is unknown but it is unlikely advertising companies are paid billions of dollars for nothing.

PP16 | Depression among individuals with HIV infection

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Introduction: Globally, 36.7 million people were living with HIV at the end of 2015.Since identification of the first HIV infected Sri Lankan in 1987, a cumulative total of 2308 of HIV positive individuals have been reported at the end of 2015 with HIV prevalence of less than 0.01%. Depression among people living with HIV infection is reported to be significant. However, psychiatric disorders are likely to be under detected in HIV care settings. Objectives of this study are to assess prevalence of depression among individuals with HIV infection & the factors associated with comorbid depression, reasons for delay in seeking treatment.
Methods: This is a descriptive cross-sectional study conducted with individuals attending STD clinic at Colombo North Teaching Hospital, Ragama. The convenient sampling method was used. The Socio-demographic factors were assessed using an interviewer administered questionnaire. Depression was assessed using ICD-10 classification for mental and behavioral disorders and Peradeniya depression scale.
Results: Eighty-one (81) seropositive individuals participated for the study and 65.4% of them were males. Prevalence of depressive disorder is 27.2% (n=22) and 23.5% (n=19) among HIV zero positive individuals according to clinical assessment and Peradeniya

depression scale respectively. Depressive disorder is more commonly seen during initial 12-month period after diagnosis of HIV infection. Individuals with low CD4 count (<350 mm3) report significant association with depression. Depressive disorder is associated with noncompliance to antiretroviral therapy. Majority (n=9) of the individuals who are depressed found multiple reasons for not seeking treatment for depression including lack of awareness of available psychiatric facility, stigma associated with HIV and poor insight into depressive illness.

Conclusion: Prevalence of depression is similar to findings form studies in other countries. Factors significantly associated with depression are low CD4 count (<350 mm) and initial twelve months since diagnosis of HIV infection which indicates the importance of screening for depression in the management of such patients. Poor adherence to antiretroviral therapy is observed among individuals who are depressed. This study shows that future research should focus on multi center studies to assess the psychiatric morbidity and related factors in detail.

PP17 | Depression and incident diabetes: Does the measure of depression matter? A systematic review and meta-regression analysis

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Introduction: Meta-analyses report that people with depression have a 32% to 60% increased risk of incident diabetes. However, depression is not uniformly defined in the literature and may refer to current or historical depressive symptoms, a diagnosis of major depressive disorder using a clinical diagnostic interview, physician-detected major depressive disorder, or antidepressant use. Previous reviews have noted that the measure of depression may be an important source of heterogeneity in the literature. However, this hypothesis has never been formally assessed or quantified. As well, prior reviews often included language restrictions or were limited to published literature. The objective of this meta-analysis is to determine whether the association between depression and incident diabetes varies by depression measure in longitudinal studies of participants aged 18+ in the scientific and grey literature.

Methods: The following databases were searched from inception to July 16, 2017 with no language restrictions: MEDLINE, EMBASE, CINAHL, PsychInfo, Web of Science Emerging Sources Citation Index, Web of Science Conference Proceedings, Proceedings from the Psychosial Aspects of Diabetes Study Group Meetings, the Cochrane Library, ProQuest Dissertations and Theses, and the Centre for Reviews and Dissemination.

Results / **Conclusion**: A total of 22,062 records were assessed for inclusion from the title and abstract. Of these, 196 were selected and are currently being assessed for inclusion using the full-text. Two reviewers will extract data and perform quality assessments using ROBINS-I and the Cochrane tool for randomized trials for the selected texts. The primary association for analysis will be the risk ratio of incident diabetes in people with versus without depression, approximated by the odds ratio or hazard ratio when appropriate. A random effects meta-regression will determine the influence of the measure of depression on this association, adjusting for study characteristics such as follow-up time, region, population characteristics, and study covariates. For studies that use depressive symptom scales, we will also assess if the specific scale (ex. PHQ9, CESD) contributes to heterogeneity in this association. Overall heterogeneity and publication bias will be assessed using I^2 tests and visual techniques. Preliminary results of this analysis will be presented and discussed.

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PP18 | Alcohol use and intimate partner violence in low- and middle-income countries: Estimating an unbiased measure of association through propensity score matching and meta-regression

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Introduction: Partner alcohol use is a consistent correlate of intimate partner violence (IPV) in low- and middle-income countries (LMICs). However, the magnitude of this association differs across studies, which may due to contextual and methodological factors. This study aims to estimate an unbiased measure of the association between alcohol use and IPV in LMICs and explore sources of heterogeneity between countries.

Methods: Nationally representative data from 114,968 couples in 29 LMICs that participated in the Demographic and Health Surveys between 2005-2016 were included in this analysis. Partnered women of reproductive age reported on their male partner's alcohol use and IPV perpetration. We compared five methods of propensity score matching and weighting using covariates from male

and female interviews related to demographics, gender norms, reproductive health, smoking, and family history of domestic violence. We applied the matching method that produced the lowest standardized bias to logistic regression models quantifying the relationship between alcohol use and IPV. Country-specific odds ratios were combined using a random effects model to estimate the pooled odds ratio by world region. Country-level indicators of health and development were regressed on odds ratios to identify characteristics that explain variability in these estimates.

Results: In fully matched samples, the adjusted odds ratio describing the association between alcohol use and IPV was 2.55 (95% CI: 2.25, 2.88). There was substantial variability between countries (I2=74.5%). The region-specific odds ratios ranged from 1.92 in Latin America and the Caribbean to 12.55 in Middle East and North Africa. Countries with a high (>50%) prevalence of past-year alcohol use among men had lower odds ratios relative to countries with mid-range prevalence estimates (25-49.9%). The availability of substance use treatment services was associated with larger odds ratios. Indicators of economic and social development, alcohol policy, armed conflict and colonization history did not explain variability in the estimates.

Conclusion: Partner alcohol use is consistently associated with increased odds of IPV in LMICs, but to varying degrees across regions. While development characteristics did not explain observed variability, differences in prevalence of alcohol use and availability of treatment services was related to heterogeneity in these estimates between countries.

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PP19 | Maternal fever during pregnancy and child ADHD: Findings from a longitudinal cohort study

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Introduction: Maternal fever during pregnancy is associated with several adverse child outcomes, but its significance as a risk factor for ADHD is uncertain.

Methods: We used data from the Norwegian Mother and Child Cohort Study. Pregnant women throughout Norway were recruited between 1999 and 2008. Information about children's ADHD diagnoses was obtained from the Norwegian Patient Registry. Mothers reported symptoms of inattention and hyperactivity/impulsivity in questionnaires.

Results: Children exposed to maternal fever during pregnancy had increased risk of receiving an ADHD diagnosis. This overall association was mainly driven by associations with maternal fever in the first trimester. The risk was particularly high for children exposed to two or more episodes of maternal fever in the first trimester. Reports of inattention were increased for children exposed to maternal fever in the first and, to some extent, the second trimester. Hyperactivity/impulsivity was only weakly related to fever during pregnancy, and was not trimester-specific.

Conclusion and relevance: Maternal fever in the first part of pregnancy was associated with ADHD in the offspring. Maternal fever was also associated with inattention symptoms in the child.

PP20 | Trends in depression diagnoses at hospitalization for labor and delivery, 1999-2014

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Introduction: We describe national and state-specific trends of depression diagnoses at hospitalization for labor and delivery from 1999-2014, stratified by age and insurance status.

Methods: We analyzed national data from the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample and state-specific data from 30 states and the District of Columbia (D.C.) with publicly available data from the State Inpatient Databases, 1999-2014. We identified depression diagnoses and hospitalizations for labor and delivery with International Classification of Diseases, Ninth Revision, Clinical Modification diagnostic and procedure codes. We estimated prevalence rates of depression diagnoses at hospitalization, stratified by age and insurance status, and calculated national and state-specific average annual percentage point change for available years of data.

Results: Nationally, the prevalence rate of depression diagnoses per 1,000 delivery hospitalizations increased from 3.2 in 1999 to 26.4 in 2014 with an average annual change of 1.7% ($p<0.05$). Women aged 35 years

(30.6/1000) and women with public insurance (29.2/1,000) had the highest rates of depression at hospitalization for labor and delivery in 2014 (p<.05). The availability of state-specific data by year ranged from 14 states in 1999 to 27 states and D.C. in 2011. Of the 25 states and D.C. with 2014 data, Minnesota, Oregon, Wisconsin, and Vermont had the highest prevalence rates of depression diagnoses per 1,000 delivery hospitalizations (>49.0), nearly twice the national rate of 26.4 per 1,000 delivery hospitalizations. The average annual change significantly increased in all 27 states with significant linear trends; Maine (1999-2002; 2006-2012), South Dakota (2007-2014), and Vermont (2001-2014) had more than twice the estimated national annual increase (>3.4%; p's<0.05).
Conclusion: The rate of depression diagnoses at hospitalization for labor and delivery increased nationally and in all 27 states with significant linear trends. The largest increases over time were seen in Maine, South Dakota, and Vermont and the highest rates in 2014 were seen in older maternal ages and deliveries covered by public insurance. These data highlight a need to determine if increasing rates are due to changes in screening or diagnosing practices, an increase in depressive symptoms, or some combination of these factors.

PP21 | A population-level study of risk for a future schizophrenia diagnosis after an index diagnosis of unspecified psychosis in Manitoba, Canada

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Introduction: Few population-level studies have evaluated risk of schizophrenia after a diagnosis of unspecified psychosis. Clinical predictor tools have been developed based on data from secondary or specialized mental health settings based outside of North America. A good characterization of the risk of illness progression has important health and social service planning implications.
Methods: A population-level study using administrative data for all residents in Manitoba, Canada ages 13-60 years. The cohort consisted of individuals with an inpatient (ICD-10) or outpatient (ICD-9) diagnosis of unspecified psychosis between April 1, 2007 and March 31, 2012, and without any prior diagnosis of schizophrenia or related disorder (N=3, 289). All individuals were followed until a diagnosis of schizophrenia was recorded after the index diagnosis of unspecified psychosis or until March 31, 2015. Adjusted hazard ratios (HR) were computed controlling for age, sex, urbanicity, income, prior diagnosis of unspecified psychosis, provider making the diagnosis, prior 12-month psychiatric hospitalization, and prior 12-month diagnoses of mood, anxiety, substance use, or personality disorders, and substance-induced psychosis. Particularly vulnerable subgroups were identified with a classification tree.
Results: The cumulative risk of a diagnosis of schizophrenia during the follow-up (mean 4.5 years) was .26, with a mean time to diagnosis of 2.0 years. A future diagnosis of schizophrenia was associated with younger age (HR = 0.98, 95% CI 0.98-0.99), male sex (HR = 1.40, 95% CI 1.21-1.62), diagnosis by psychiatrist (HR = 2.65, 95% CI 2.22-3.18), and psychiatric hospitalization (HR = 1.27, 95% CI 1.08-1.50). A prior diagnosis of a mood or anxiety disorder was protective (HR = 0.82, 95% CI 0.71-0.95). From the classification tree, the highest risk group consisted of those diagnosed by a psychiatrist, younger than 27 years, without a mood or anxiety disorder, male, and residing in a low income neighbourhood; 61.2% of this subgroup progressed to schizophrenia.
Conclusion: Following a diagnosis of unspecified psychosis, approximately 1 in 4 individuals will receive a future diagnosis of schizophrenia. These findings build on available risk prediction tools for clinicians in North America and those practicing outside of specialized mental health settings.

PP22 | Uncovering neurodevelopmental windows of susceptibility to internalizing disorders using dentine microspatial analyses of neurotoxic metal exposures

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Introduction: The toxic consequences of occupational metal exposures have been well characterized throughout history and research findings suggest exposures adversely impact the adult brain. The developing brain is inherently more susceptible to toxic injury, yet, little is known about critical windows of development that are most vulnerable to adverse outcomes. Accurate, objective assessment of exposure timing, especially during fetal development, is a major challenge in identifying these critical windows. Here,

we describe our novel use of deciduous "baby" teeth as a biomarker for accurately estimating metal dose and timing over the prenatal and early childhood periods. We focus on associations between three neurotoxic metals -- manganese (Mn), lead (Pb) and zinc (Zn) – and behavioral outcomes in children.

Methods: We present results from 153 subjects enrolled in a longitudinal birth cohort study in Mexico City who provided deciduous teeth. We estimated weekly prenatal and postnatal Mn, Zn and Pb concentrations in teeth using laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS) and measured behavior at ages 6-16 years using the Behavior Assessment System for Children, 2nd edition (BASC-2). We used distributed lag models and lagged weighted quantile sum regression to identify the role of individual and mixed metal exposures on childhood behavioral outcomes controlling for maternal education and gestational age.

Results: Postnatal Mn and Zn demonstrate non-linear associations with increased anxiety symptoms. At 6 months, a 1-unit increase (unit = 1 SD of log concentration) in Mn or Zn is associated with a 0.18-unit (unit =1 SD of BASC-2 score) and 0.25-unit increase in BASC-2 anxiety score, respectively. At 12 months, a 1-unit increase in Pb is associated with a 0.4 unit increase in anxiety score. When examined as a metal mixture, we observe two windows of susceptibility to increased anxious behaviors: the first window (0-8 months) is driven by Mn, the second window (8-12 months) is driven by the mixture and dominated by Pb. A 1-unit increase in the mixture is associated with a 0.7-unit increase in SD of anxiety score.

Conclusion: Childhood behaviors may demonstrate postnatal windows of susceptibility to individual and mixed metal exposures.

PP23 | Neural correlates of cognitive impairment and posttraumatic stress disorder: Preliminary analyses of 43 World Trade Center responders

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Introduction: World Trade Center (WTC) responders experienced multiple toxic and traumatic exposures during search, rescue, and clean-up efforts. A recent study of responders at the CDC-funded Stony Brook University WTC Health Program found that nearly 20% of responders developed posttraumatic stress disorder (PTSD) and 13% had mild-severe cognitive impairment (CI). PTSD is increasingly recognized as a risk factor for CI and Alzheimer's disease and related dementias (ADRD). Little is known about mechanisms underlying this relationship between PTSD, CI and ADRD. The objective of this overall study was to analyze neural correlates of PTSD and CI in WTC responders. This report provides preliminary results comparing resting state functional connectivity between CI cases, PTSD cases, and controls.

Methods: The parent sample included 3,022 SBU WTC responders. A subset of 42 responders participated in an ongoing nested case-control study with brain magnetic resonance imaging (MRI) including 8 with CI only, 12 with PTSD only and 17 with neither SCI or PTSD. A 10-minute resting state functional MRI scan was acquired on a Siemens 3T PET/MRI scanner and preprocessing of functional images was performed using FSL including motion correction. Group comparisons examined connectivity patterns between CI vs controls and PTSD vs controls.

Results: Preliminary analyses suggest reduced connectivity in the default mode network (DMN) and the frontal-parietal network (FPN) in CI cases (n = 8) compared to controls (n = 17) ($p < 0.05$). DMN connectivity in PTSD subjects (n = 8) was greater than controls (n = 17) ($p < 0.05$). Significance did not survive correction for multiple comparisons.

Conclusion: These preliminary results support anticipated trends overserved in the literature suggesting that CI may be associated with decreased functional connectivity in the DMN and FPN and that PTSD may be associated with aberrant connectivity patterns in DMN. Further analyses (to be included in poster) will utilize a larger sample, examine comorbid PTSD and CI, address associations with additional brain regions using seed-based approaches, and examine covariates including age, sex, depression/anxiety, and WTC exposure. Results are important for completing the long-term clinical picture of WTC exposure effects and have implications for brain aging.

PP24 | Factors associated with the use of psychotherapy among adults with suicidal ideation and suicide attempt

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Introduction: The current study aims to characterize the use of psychotherapy and to identify the sociodemographic and clinical factors associated with the use of psychotherapy among adults who reported suicidal ideation, or a prior suicide attempt, and among adults with no lifetime suicidal thoughts or behaviors.
Methods: Data were drawn from a large 2005 cross-sectional general population survey (n=22,138) conducted in four regions of France. Data were collected by trained interviewers using a computer-assisted telephone interviewing system. The Composite International Diagnostic Interview-Short Form was used to determine DSM-IV psychiatric disorders in the previous 12 months. Respondents were also asked a series of questions regarding their use of psychotherapy over the course of their lifetime, and in the previous 12 months.
Results: Overall, 7.0% of adults reported having undergone psychotherapy in the course of their life, and 1.9% in the previous 12 months. Psychotherapy was provided by psychiatrists (56.6%), psychologists (28.9%), by psychoanalyst (11.3%). Factors associated with psychotherapy included gender, being separated, a higher level of education, and unemployment status. Among adults with a prior history of suicide attempt, 17.5% underwent psychotherapy at some point in their life, and 13.2% reported multiple psychotherapies. While the frequency of psychotherapy sessions was greater among those with a prior attempt as compared to those with no prior attempt, there was no difference in therapy duration. Factors associated with having undergone a psychotherapy in the previous 12 months included specific mental disorders, gender, age, education, income level, employment status, marital status, and region of residence.
Conclusion: Psychotherapy is currently not reimbursed by the national social security and health benefits available to all residents. While there currently are efforts to consider the reimbursement of psychotherapy, few data are available regarding the use of psychotherapy. The present study provides important insight into the use of psychotherapy in the general population and among those with a history of suicide attempt.

PP25 | Neuropsychiatric disorders in the tropics: Findings from the global burden of disease study 2015

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Introduction: Despite the globally observed and widely documented epidemiological transition that takes place in many developing regions within the tropics, the possible emergence of neuropsychiatric disorders as a significant contributor to disease burden as dictated by the Global Burden of Disease 2015 study (GBD 2015) has not yet been considered in this world region.
Methods: We re-aggregated disability-adjusted life years (DALYs) for individual countries into tropical and non-tropical groups. UN population estimates, projected Gross National Income (GNI) and 2015 DALY rates for tropical countries were applied to predict future burden estimates for neuropsychiatric and communicable disease groups up to the year 2050.
Results: Our analysis of the GBD 2015 suggests that the neuropsychiatric disease burden in tropical counties had increased by 72.1% between the years 1990 and 2015 (Abstract Figure 1). The neuropsychiatric burden in tropical countries, with respect to total DALYs in 1990, has grown at almost twice the rate as that of the neuropsychiatric disease burden in non-tropical countries. The increase in the burden of tropical communicable diseases by contrast was found to be 14.4% during the same period; a statistically insignificant increase. Further increases of 129.0% are projected for the burden of neuropsychiatric disorders in the tropics between 2015 and 2050, whereas there is projected to only be an increase of 34.5% in the burden of tropical communicable diseases during the same period (Abstract Figure 2).
Conclusion: These figures call for a re-orientation of health services in tropical regions so as to cater to the emerging neuropsychiatric disease burden, which is likely to surpass the tropical communicable disease burden by as early as 2020. The emergence of neuropsychiatric disorders over the last two decades, and the projected increase in health burden can be attributed to a range of factors which are unique to tropical regions. These factors may include: socioeconomic disadvantage and poverty, cultural attitudes and stigma attached to mental illness, lack of effective preventative health measures and primary health care, climate change and natural disasters, and the

unique neuropsychiatric sequelae of certain neglected tropical diseases.
Funding: James Cook University College of Medicine and Dentistry

PP26 | ICD-9-CM to ICD-10-CM transition among pediatric mental health diagnoses

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Introduction: The United States' transition to International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) in 2015 impacted diagnostic coding for pediatric mental health. It is imperative to critically examine mental health trends to assess whether changes in prevalence are true or attributed to the complex transition of 456 ICD-9-CM codes to 706 ICD-10-CM codes. We present trends in New York City (NYC) pediatric mental health Emergency Department (ED) visits from 2006 through 2016, stratified by three categories to demonstrate how the ICD transition influenced pediatric mental health trends.
Methods: Utilizing an ICD-9-CM to ICD-10-CM crosswalk from the Centers for Medicare and Medicaid Services, we created three categories based on complexity of transition: (1) "1-to-1": one ICD-9-CM mapped to one ICD-10-CM code, (2) "Many-to-1": multiple ICD-9-CM collapsed to one ICD-10-CM code, and (3) "1-to-Many": one ICD-9-CM expanded into many ICD-10-CM codes. NY Statewide Planning and Research Cooperative System data provided ED use from 2006 to 2016 for NYC children under 21. Joinpoint Regression 4.0.4 calculated trends by proportion of ED visits that were mental health related by diagnoses within each category.
Results: The proportion of ED visits with a primary mental health diagnosis increased significantly by 1.93% from 2009 to 2014, then decreased significantly by 1.34% until 2016. Mood disorder ("1-to-1") ED visits increased significantly by 3.25% from 2010 to 2014, then decreased significantly by 2.99% until 2016. Schizophrenia and psychosis ("Many-to-1") ED visits increased significantly by 1.29% from 2006 to 2013 and by 4.62% from 2013 to 2016. Substance use ("1-to-Many") ED visits increased significantly by 1.40% from 2006 to 2011, followed by a nonsignificant trend until 2016.
Conclusion: Monitoring pediatric mental health trends requires evaluating how diagnostic coding was affected by ICD transition. In this analysis, "1-to-1" diagnoses mirrored trends in overall mental health. However, trends fluctuated for diagnoses that underwent complex transition. Such findings illustrate that results may differ depending on how codes have changed due to coding transition. While findings cannot conclude whether observations reflect true changes in prevalence, utilizing this approach of systematic methodology can help assess impact of ICD transition on mental health trends.

PP27 | Preliminary evaluation of a fidelity questionnaire for first episode psychosis services

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Introduction: Early intervention (EI) services for psychosis provide intensive, youth-focused, sustained treatment to people experiencing a first episode of psychosis. 'Fidelity' refers to the degree to which a program is delivered as intended; research shows substantial heterogeneity in EI services delivery. There are several fidelity instruments available for EI services; however, most lack evidence of reliability or validity, and cannot be applied in all research contexts because they are based on resource intense chart audits. We conducted an evaluation of the reliability and validity of our recently developed fidelity questionnaire that can be completed by EI staff and used in research on EI effectiveness.
Methods: A sample of nine EI teams in England participated in the evaluation of the 29-item fidelity questionnaire. Two staff members, who were the most familiar with the team's operations, independently completed the questionnaire. A third (theoretical 'gold standard') was completed by a member of the research team using EI team administrative documentation and a random sample of patient medical records. Inter-rater reliability (IRR) was estimated, using percent agreement and Cohen's kappa, by comparing the responses from EI team staff members to each other and to the 'gold standard'. A composite fidelity score is in development.
Results: Seventeen staff members from nine teams completed the fidelity instrument. The 'gold standard' was completed for eight teams. Percent agreement for items of staff-completed questionnaires ranged from 12.5% to 100%, with 83 of the 142 item response categories showing agreement of 75% or more. Kappa for all individual items ranged from -0.5 to 1.0. The kappa for 46 of the responses indicated that there was no more agreement (kappa=0) or less agreement (kappa<0) than

expected by chance, whereas for 23 of the responses it was 0.41 or more (moderate to greater agreement). Comparisons between 'gold standard' and EI-staff-completed fidelity questionnaires also yielded a wide range of estimates.

Conclusions: This preliminary analysis shows evidence of reliability for some questionnaire items; however, a large number could not be measured reliably in our evaluation. Further analyses will examine whether a composite fidelity score and sub-scores are more reliable and therefore useful.

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PP28 | The independent and combined effects of cannabis use and HIV on everyday functioning

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Introduction: Cannabis use and HIV have independently been associated with poorer everyday functioning. Studies investigating their combined effects are scarce, despite medical cannabis being legalized in numerous states for HIV-associated symptoms. This study aims to characterize the independent and combined effects of cannabis use and HIV on daily functioning.

Methods: Data were collected from 277 individuals (ages 18 to 60), including HIV+/cannabis users (CAN+) (n=54), HIV+/non-cannabis users (CAN-) (n=75), HIV-/CAN+ (n=71) and HIV-/CAN- (n=77). CAN+ participants reported recent and regular cannabis use. Daily functioning was assessed using two self-report (the Social Adjustment Scale and the Lawton and Brody - Activities of Daily Living Scale) and two performance based (The Finances Test, and the revised Medication Management Test) tests. Mean scores of daily functioning tests were compared among four HIV/CAN subgroups via ANCOVA with including potential confounders (i.e., age, alcohol use, mental health). All post hoc pair-wise comparisons of between group differences were carried out with the Fisher-Hayter test.

Results: Significant differences in the mean score of the Finances Test ($p<0.01$), and the revised Medication Management Test ($p<0.01$) were observed between the groups. Compared to HIV-/CAN- individuals, each of the other three subgroups showed lower functioning in the financial and medication management tests (p-values<.05); however, they did not differ significantly from each other.

Conclusions: Our results suggest that both cannabis use and a positive HIV status are associated with poorer performance-based, but not self-report, measures of everyday functioning. There was no evidence for additive adverse effects of cannabis use among HIV+ individuals. Further studies will examine whether cannabis use severity influences these results or if specific subsets of HIV+ individuals are more vulnerable to cannabis-associated deficits.

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PP29 | The effect of parental drinking on children's mood and anxiety problems as young adults – A longitudinal combined survey and registry study

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Introduction: The preliminary aims were to explore the putative long-term associations between exposure to parental drinking during childhood and mental health outcomes in early adulthood.

Methods: Sample: 5431 children nested within 4328 two-parent families from the Nord-Trondelag Health Study (HUNT and Young-HUNT). The study was conducted 1995-1997, when children were between 13 and 19. Children and parents completed extensive questionnaires. Exposure variables: Information from the questionnaires concerning parental drinking, parental and child mental health, family and SES characteristics was used to identify a preliminary set of risk factors associated with parental drinking. Outcome variables: Children's mood and anxiety problems were identified through three population-encompassing registries capturing: 1) primary health care consultations, 2) treatment in specialist health care, and 3) dispensed prescription drugs. Information was available from 2004 and onwards, capturing mood/anxiety outcomes in early adulthood. Analytical approach: A simple count variable captured the individual participant's appearance in 0-3 registries. Preliminary univariate zero-inflated Poisson (ZIP) models explored the association between identified risk factors and mental health problems in early adulthood. Subsequent, analyses will explore the associations between more complex patterns of early familial risk and mental health problems in early adulthood.

Results: The preliminary simple ZIP models revealed no increased risk associated with children's future mental

health outcomes as a function of any maternal or paternal alcohol-use variables as assessed during childhood, i.e. drinking amount and frequency; examination of putative high-risk categories and critical cut-off points will be conducted in the next analytical step. However, as would be expected, mental health outcomes in early adulthood were significantly associated with children's own and their parent's mental health problems as assessed during childhood. Overall, children who had elevated scores on a depression scale, or had both parents with high depression scores, had 15-18% increased risk of registry-related outcome. Additional analyses will utilize more complex classification approaches in order to identify meaningful patterns of early familial risk (i.e., unique combinations of parental drinking and mental health problems), and their putative contribution to subsequent mental health problems among children from such families.
Conclusion: The results will be discussed.

PP30 | The relationship between negative household level events and adverse health outcomes in South African adults: Evidence from the National Income Dynamics Study (NIDS)

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Background: Research suggests that there is a relationship between negative household events (e.g. loss of employment of or death of a family member) and adverse health outcomes: hypertension, diabetes and depression. We aim to examine the relationship between such events at household level and adverse health outcomes in individuals in a longitudinal study of South African adults.
Methods: We analysed data from the National Income Dynamics Study (NIDS), a national panel survey consisting of four waves of data collected between 2008 and 2015. The probability that negative household events occurring during Wave 1 are associated with individual adverse health effects recorded at Wave 4 was modelled using Stata's generalized linear latent and mixed models (GLLAMM) feature, specifying the multinomial logit link.
Results: Preliminary results suggest that serious illness or injury of a household member (3.52%) destruction of property (1.76%) and principal breadwinner losing their job were the most prominent (2.52%) negative household events (n=16,838 individuals). About 12% of the respondents had high blood pressure, 3% had diabetes and the mean depression score was 4.8. Unadjusted effects suggest that negative household events appeared to be associated with onset of depression (RR: 1.5; 95%CI: 1.1-2.18).
Conclusions: Preliminary findings suggest that there is a relationship between negative household African adults. Further interrogation of the data will be conducted including adjusting for individual level covariates.

PP31 | Mind the gap: Alcohol use screening and discussions with care providers among Asian adults in the United States

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Introduction: Although alcohol use prevalence increased by nearly 30% among Asians between 2002 and 2013, in 2014 they had lower alcohol use screening in primary care settings than non-Hispanic (NH) Whites. We estimated frequency of alcohol use screening at healthcare visits among Asians in the U.S. and tested differences in screening/discussions by alcohol use disorder (AUD) and other racial/ethnic groups.
Methods: We pooled data from the 2015-2016 National Survey on Drug Use and Health. Among Asian adults reporting past-year alcohol use, we estimated weighted frequencies of alcohol screening (i.e., no screening, screened only, discussions with provider) in any past-year healthcare encounter. We calculated frequencies of the content of the discussion and whether a brief intervention (i.e., advice) or treatment information was provided. Multinomial logistic regressions estimated associations between alcohol use screening/discussions (ref: no screening/discussion) by race/ethnicity (NH White, NH Black, Hispanic, Multiple, NH Asian). Weighted logistic regression estimated odds of getting advice to cut down or alcohol treatment information by race/ethnicity. Weighted models adjusted for socio-demographics and past-year mental illness.
Results: Among Asian adults who reported past-year alcohol use, 24.5% reported no alcohol use screening at a healthcare visit, 24.3% were screened but had no discussion with their provider, and 51.2% discussed alcohol use. Of all reporting discussions, 69.1% and 73.0% discussed quantity and frequency of use, respectively, 13.2% discussed problems associated with their drinking, 4.1% were provided brief advice on cutting down on use, and 2.1% were offered alcohol treatment information. Asians had significantly lower adjusted relative odds of alcohol screening only (p's>0.01) and discussions (p's>0.05) than each of the other racial/ethnic groups. Only 1 in 14 Asians with an AUD received advice to cut down or treatment information from their provider; odds of getting

this advice was two times higher for non-Hispanic Whites with an AUD (aOR=2.34[1.09-5.02]).
Conclusion: Findings highlight a gap in alcohol screening and discussions with providers among Asian Americans relative to other racial/ethnic groups, including people with AUD. As Asians are the fastest growing racial/ethnic group in the US, interventions tailored to increase clinician discussions and disseminate treatment information to this heterogeneous group are needed.
Support: L30DA042436 (Mauro), R01DA037866 (Martins)

PP32 | Incidence of first-admitted schizophrenia in Spain between years 2009 and 2013: Results from a nationwide register of inpatient cases

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Introduction: Since the World Health Organization Ten-Country study, incidence of schizophrenia is commonly estimated through a sampling frame that screens every subject seeking mental health treatment for the first time. Recent evidence following a variant of the first-contact method suggests that the incidence of schizophrenia in Spain may be around 15 cases per 100,000 person-years, with median age ranging between 26 and 33 y-o. However, studies using data from electronic longitudinal registers (ELRs) have yielded a higher incidence, with more cases in older age intervals. Our objective is to estimate the incidence of first-admitted schizophrenia in Spain using ELRs.
Methods: We performed a population-based retrospective study using data from the nationwide Minimum Basic Data Set (MBDS) of discharged patients. We analyzed admissions due to a diagnosis of schizophrenia (ICD-9 CM: 295.XX) between years 2004 and 2013. To estimate the incidence of new cases, we selected all Spanish residents between 20 and 54 y-o who were discharged with a main diagnosis of schizophrenia between 2009 and 2013. We excluded those with a prior admission due to the same cause or with schizophrenia as a secondary diagnosis, aiming to capture the first hospitalization where the diagnosis was established. We obtained crude incidence rates per 100,000 person-years. We also calculated each of the studied years incident subjects' median age in years.
Results: A total 27,613 new cases of schizophrenia were identified in hospital admissions in Spain during the 2009-2013 period. The crude incidence rate was 23 cases per 100,000 person-years, being double in men (31 cases per 100,000 person-years) than in women (15 cases per 100,000 person-years). The median age at diagnosis was above 38 years-old [interquartile range: 31, 46].
Conclusion: In line with the literature, estimates of schizophrenia incidence and age of diagnosis arising from ELR are higher than those reported in first-contact designs. Indeed, our first-admittance approach probably underestimates the actual figure: during the 1980's Spain underwent a psychiatric reform that lead to a decrease in the point-prevalence of admissions due to schizophrenia. Future studies should include diagnoses from outpatient devices and ascertain rate trends over a longer period of time.

PP33 | Implementing a recovery-oriented intervention to address stigma towards mental disorders: A randomized controlled trial

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Introduction: Only a few anti-stigma interventions have been implemented in Latin America. We conducted a randomized controlled trial of a recovery-oriented intervention based on narrative therapy to address self-stigma among people with severe mental illness. The primary outcome was self-stigma; secondary outcomes included quality of life, psychopathology, and perceived stigma.
Methods: Participants were men and women, 20 to 60 years of age, with a diagnosis of severe mental disorder according to ICD-10 criteria (e.g., schizophrenia, schizoaffective disorder, bipolar disorder and major depressive episode with psychotic symptoms). Seventy-six individuals were recruited and allocated to either intervention group (n=38) or control group (n=38). The intervention consisted of 10 sessions, delivered weekly to a group of 7 to 10 participants. It had three core components: 1) recovery orientation, focused on hope, self-determination, revelation and empowerment; 2) socioconstructivist psychoeducation, based on individual or shared experiences that can be obtained through group discussions; and 3) narrative therapy, which emphasizes the deconstruction (stigma) and reconstruction (empowerment) of users' stories by employing therapeutic

techniques such as the "tree of life". Assessments were performed at baseline (T0), three months (T1), and six months (T2) after randomization. Measures included Internalized Stigma of Mental Illness Scale (ISMI), Link's Perceived Devaluation Discrimination Scale (PDD), Seville Quality of Life Questionnaire (SQLQ) and the Positive and Negative Syndrome Scale (PANSS). Paired t-test and general linear models (GLM) were performed. Missin data
Results: ISMI mean scores were similar at baseline but lower at T1 ($t = -5.23$; $p < 0.001$) and T2 ($t = -4.53$; $p < 0.002$) in the intervention group compared to the control group. GLM models showed a positive interaction between group and time point assessment ($F = 8.24$; $p<0.001$) controlling by sex, age, employment and education. No significant differences between groups were seen on Perceived stigma (PDD), Psychopathology (PANSS) and Quality of Life (SQLQ).
Conclusions: Here we describe promising findings from a novel recovery-oriented intervention to reduce self-stigma. This is the first clinical trial of such a program in Latin America. Future research is needed to determine its effectiveness and scale up in mental health services.

PP34 | Adult attention-deficit /hyperactivity disorder: Association with transition to adulthood and problematic substance use

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Background: Attention-Deficit/Hyperactivity Disorder (ADHD) is worldwide one of the most prevalent psychiatric conditions in children. Contrary to an earlier assumption that ADHD only occurs during childhood and adolescence, more recent research has demonstrated that roughly 65% of children or adolescents diagnosed with ADHD will continue to suffer from ADHD symptoms in adulthood. In particular, Adults with ADHD symptoms are at increased risk of adverse consequences, including unfavorable occupational, economic, and social consequences, and psychiatric disorders such as substance use and addition. The present study aims to investigate whether adult attention-deficit/hyperactivity disorder (ADHD) is associated with transition to adulthoods and risky substance use and substance use disorders (SUDs). We will further examine its impact on the course of these problematic substance use patterns.
Methods: The study sample included 4,975 Swiss men (mean age 20±1.2 years) who participated in the baseline and 15-month follow-up assessments of the Cohort Study on Substance Use Risk Factors. We examined the association between of ADHD, as assessed at baseline using Adult ADHD Self-Report Scale Screener (ASRS-v1.1), and emerging adulthood (psychological states and social roles of adulthood), the risky use of alcohol, nicotine and cannabis and their corresponding use disorders (alcohol use disorder, cannabis use disorder and nicotine use disorder) at follow-up. In addition, the association between ADHD and the course of outcomes (i.e., absence, initiation, maturing out, persistence) over 15 months. All analyses were adjusted for socio-demographics and co-morbidity.
Results: ADHD symptoms severity was associated with a decreased number of adulthood markers and increased psychological states of emerging adulthood. Young people with high ADHD symptoms severity also had a reduce number of adulthood markers over time. Men with ADHD were more likely to exhibit persistent risky alcohol and nicotine use, and to mature out of risky cannabis use. ADHD at baseline was positively associated with alcohol use disorder(AUD) and negatively associated with cannabis use disorder (CUD) at follow-up, but not with nicotine use disorder (NUD). For all substance use disorders, ADHD had a positive association with persistent use and maturing out. Comparing these two trajectories revealed that early onset of alcohol use distinguished between persistence and maturing out of AUD, while the course of NUD and CUD were related to ADHD symptoms and SUD severity at baseline.
Conclusions: ADHD symptoms severity may delay the transition to adulthood. Men with ADHD symptoms are more likely to exhibit persistent problematic substance use patterns already shown in early 20s. Substance-specific prevention strategies, particularly implemented before early adulthood, may be crucial to reducing the development and persistence of pathological patterns in such individuals.

PP35 | Combining green cards, telephone calls and postcards into an intervention algorithm to reduce suicide reattempt (ALGOS): An as-treated analysis of a randomized controlled trial

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Background: Brief contact interventions (BCIs) might be reliable suicide prevention strategies. BCI efficacy trials, however, gave equivocal results. In order to elicit intervention strengths and weaknesses, an As Treated analysis strategy was applied to the ALGOS trial, a composite BCI that gave inconsistent results when analyzed with Intention-To-Treat strategy.
Methods: ALGOS was a randomized controlled trial conducted in 23 French hospitals. Suicide attempters were randomly assigned to either the intervention group (Algos) or the control group (Treatment as usual TAU). Algos first attempters received crisis cards; Algos non-first attempters received a phone call, and post-cards if the call could not be completed, or if the participant was in crisis and/or non-compliant with treatment. AT analysis accounted for the actual intervention received, regardless of the group patients belonged to.
Results: 1,040 patients were recruited and randomized into two groups of N=520, from which 53 withdrew participation; 15 were excluded after inclusion/exclusion criteria reassessment. Algos first attempters were less likely to reiterate suicide attempt (SA) than their TAU counterparts at 6 and 13-14 months (RR [95% CI]: 0.46 [0.25-0.85] and 0.50 [0.31-0.81] respectively). Algos non-first attempters had similar SA rates as their TAU counterparts at 6 and 13-14 months (RR [95% CI]: 0.84 [0.57-1.25] and 1.00 [0.73-1.37] respectively). SA rates were dissimilar within the Algos non-first attempter group.
Conclusions: Crisis cards were efficacious to prevent SA reiteration among first-time attempters. Phone calls were not efficacious among multi-attempters, but were informative of their SA reattempt risk, thus a key component of future interventions.

PP36 | Associations between trauma exposure, DSM-5 posttraumatic stress disorder, and engagement in sexual risk behaviors in a nationally representative sample

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Introduction: Previous work examining the link between posttraumatic stress disorder (PTSD) and sexual risk behaviour has mostly been conducted in clinical or college samples, has used DSM-IV PTSD, and has not examined the independent impact of individual PTSD symptom clusters on sexual risk. The current study examined associations between DSM-5 PTSD and engagement in three sexual behaviors - the presence of a sexually transmitted disease/infection [STD/STI], infrequency of condom use, and sex with a known injection drug user.
Methods: Data came from the National Epidemiologic Survey on Alcohol and Related Conditions - III (NESARC-III: 2012-2013), a nationally representative survey of non-institutionalized U.S. adults aged 18 years and older. Sexual behaviors and trauma exposure were assessed via self-report, and DSM-5 PTSD was assessed using a structured interview. Logistic and multinomial regression analyses examined associations between PTSD, PTSD symptom clusters, and traumatic event type, and each sexual behavior.
Results: Lifetime PTSD was associated with an increased likelihood of having a past year STD/STI and having sex with a known injection drug user (adjusted odds ratio [AOR] range 1.96-2.22). A greater number of symptoms from the negative cognitions and mood PTSD cluster was particularly associated with increased odds of a past year STD/STI. Reporting of child maltreatment, adult sexual assault, assaultive violence, and 'other' trauma as one's worst event was associated with increased odds of a past year STD/STI (AOR range 1.74-4.75), while child maltreatment and adult sexual assault were associated with using condoms "never/almost never" in the past 12 months (AOR range 1.43-1.72).
Conclusion: The current study demonstrated an association between certain trauma exposures, PTSD, and a higher likelihood of engagement in sexual risk behaviors. Clinicians working with individuals with PTSD symptoms, particularly those who have been exposed to interpersonal trauma, should screen for the presence of engagement in these practices.

PP37 | The relative prevalence of mental disorders in the pregnancy and postpartum periods: A population-based study

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Introduction: Most population-based studies examining the prevalence of perinatal mental disorders have focused on select disorders and have not included a control group of non-perinatal women. We compared the prevalence of mental disorders and suicide attempts within the same women across the pre-pregnancy, pregnancy and postpartum periods, and between this perinatal cohort and a non-perinatal control group using population-based, administrative data.

Methods: Data came from the Manitoba Centre for Health Policy, an administrative data repository for residents in Manitoba, Canada. A perinatal cohort consisted of women aged 18-45 who experienced at least one pregnancy ending in live birth between April 1, 2011 and March 31, 2014 (n=45,362). Pre-pregnancy, pregnancy and postpartum periods were defined as 40-week intervals representing mean gestation. The control cohort consisted of age-matched women who were never pregnant during the three-year period (n=139,705). Mental disorder diagnoses were determined using physician-diagnoses. Generalized estimating equation modelling was employed to compare relative risks of mental disorders between groups adjusted (aRR) for demographic factors, parity, and mental health history.
Results: Within the perinatal cohort, pregnancy was associated with a lower risk of a diagnosed mood and anxiety disorder, substance use disorder, and suicide attempt relative to pre-pregnancy (aRR range 0.21-0.82). There was a higher risk of being diagnosed with a psychotic disorder in postpartum compared to pre-pregnancy (aRR 1.76, 95% CI 1.32-2.36), but postpartum was also associated with a lower risk of a mood and anxiety disorder and a suicide attempt. Compared to postpartum, pregnancy was associated with a lower risk of all mental disorders and suicide attempt (aRR range 0.44-0.88). Relative to the control group of non-pregnant women, pregnant women showed a lower risk of all outcomes (aRR 0.25-0.82), while women in the postpartum period had a lower risk of a mood and anxiety disorder, psychotic disorder, and suicide attempt (aRR 0.58-0.93).
Conclusion: Compared to a non-pregnant period, the risk of a diagnosed mental disorder is reduced during pregnancy and in postpartum. Pregnancy may be protective against mental disorders, or may lead to less help-seeking due to competing priorities. There is also an apparent increased risk of psychosis during postpartum that requires early identification and rapid access to intervention.

PP38 | Sex differences in predicting ADHD clinical diagnosis and pharmacological treatment

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Background: In youth, ADHD is more commonly diagnosed in males than females, but higher male-to-female ratios are found in clinical versus population-based samples; suggesting a sex bias in the process of receiving a clinical diagnosis of ADHD. This study investigated sex differences in the severity and presentation of ADHD symptoms, conduct problems and learning problems in males and females with and without clinically diagnosed ADHD. We then investigated whether the predictive associations of these symptom domains on being diagnosed and treated for ADHD differed in males and females.
Methods: Parents of 19,804 twins (50.64% male) from the Swedish population completed dimensional assessments of ADHD symptoms and co-occurring traits (conduct and learning problems) when children were aged 9 years old. Children from this population sample were linked to Patient Register data on clinical ADHD diagnosis and medication prescriptions.
Results: At the population level, males had higher scores for all symptom domains (inattention, hyperactivity/impulsivity, conduct, and learning problems) compared to females, but similar severity was seen in clinically diagnosed males and females. Symptom severity for all domains increased the likelihood of receiving an ADHD diagnosis in both males and females. Prediction analyses revealed significant sex-by-symptom interactions on diagnostic and treatment status for hyperactivity/impulsivity and conduct problems. In females, these behaviours were stronger predictors of clinical diagnosis (hyperactivity/impulsivity: OR: 1.08, 95% CI: 1.01, 1.15; conduct: OR: 1.43, 95% CI: 1.09, 1.87), and prescription of pharmacological treatment (hyperactivity/impulsivity: OR: 1.08, 95% CI: 1.01, 1.15; conduct: OR: 1.43, 95% CI: 1.09, 1.87).
Conclusions: Females with ADHD may be more easily missed in the ADHD diagnostic process and less likely to be prescribed medication unless they have prominent externalising problems.

PP39 | Common mental disorders in the second decade after genocide

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Context: Brutal civil wars and genocide are endemic in the global south. However, studies of the scope and trajectory of the mental health and disability consequences of such conflicts are rare.
Objective: Seventeen years after the Rwandan Genocide against the Tutsi, to estimate prevalence of probable Posttraumatic Stress Disorder (PTSD), Major Depressive Episodes (MDE) impaired social and cognitive functioning.
Design, Setting, Participants: Cluster random survey; 504 adults from 46 villages, February-March 2011. Interviewers clinically trained.
Main Outcome Measures: Probable PTSD (PCL Checklist); MDE (depression module, Mini International Neuropsychiatric Interview); Cognitive Impairment (subscale of WHO -Disability Assessment Scale); social/emotional functioning (Short Form- Health Survey 36.). Adjustment for sampling design and potential confounders.
Results: Participation rate, 96%. Participants, 40%, below age 35; 77%, female; 20%, no schooling. Overall PTSD rate 23.90 (95%CI 18.21-29.58); among persons heavily exposed, 64%. The overall MDE rate was 29.94% (95% CI 24.62-35.26); among highly exposed individuals, 71%. Higher incomes and possession of material assets were associated with markedly reduced odds of MDE, e.g., odds for cell phone users was 60% below that of individuals without a phone (AOR=0.39 95% CI 0.20-0.73). Individuals with MDE or PTSD alone and especially comorbid individuals had significantly greater odds of impaired cognitive, social and emotional functioning as compared with persons free of both conditions. For cognitive impairment the AOR for persons comorbid for the two disorders was 4.25 (95%CI 1.78-10.15) fold that of persons free of both disorders.
Conclusions: Almost two decades after the Genocide, a substantial proportion of Rwandan adults suffer from MDE and PTSD with rates strongly associated with genocidal violence. Two prior studies conducted in 2002 and 2009 afford no evidence of PTSD or of MDE rate decline. The prominence of depression and the persistence of probable PTSD should inform planning of mental health services and interventions.

PP40 | Evolution of depression before, during and after a major protest

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Introduction: Social movements could have a profound impact on population mental health - yet their mental health consequences remain sparsely documented. We sought to examine the longitudinal patterns and predictors of depression trajectories before, during, and after the 2014 "Occupy Central/Umbrella Movement" (OCUM) in Hong Kong.
Methods: Prospective study of 1,170 adults randomly sampled from the population-representative FAMILY Cohort. We administered interviews at six time points from March 2009 to November 2015: twice each before, during, and after OCUM. The Patient Health Questionnaire-9 (PHQ-9) was used to assess depressive symptoms and probable major depression (PHQ ≥ 10). We investigated pre-event and time-varying predictors of depressive symptoms, including socio-demographics, general health status, resilience, family support, family harmony, and neighbourhood cohesion.
Results: Four trajectories were identified: "resistant" (22·6% of sample), "resilient" (37·0%), "mild depressive symptoms" (32·5%), and "persistent moderate depression" (8·0%). Baseline predictors that appeared to protect against "persistent moderate depression" included higher household income (OR 0·18, 95% CI 0·06-0·56), greater psychological resilience (OR 0·62, 95% CI 0·48-0·80), more family harmony (OR 0·68, 95% CI 0·54-0·86), higher family support (OR 0·80, 95% CI 0·69-0·92), better self-rated health (OR 0·30, 95% CI 0·17-0·55), and fewer depressive symptoms (OR 0·59, 95% CI 0·44-0·79).
Conclusion: Depression trajectories following a major protest were comparable to those in the wake of natural disasters or terrorist attacks. Health care professionals should be vigilant of the mental health consequences during and after social movements, particularly among individuals lacking social support.
Source of funding: The establishment of the original cohort was supported by the Hong Kong Jockey Club Charities Trust from 2007 to 2014.

PP41 | A sibling study of child neglect and depressive symptoms in adulthood: Evidence from the FAMILY Cohort

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Introduction: Studies have suggested that the mental health consequences of child neglect may be comparable to physical and emotional abuse. However, these findings are susceptible to confounding by childhood environment and potential genetic disposition. As sibling studies control for confounding from shared measured and unmeasured confounders, we therefore sought to examine the association between child neglect and depressive symptoms using a sibling fixed effects design.
Methods: 1,042 participants aged ≥ 18 years (482 sibling groups) from the FAMILY Cohort in Hong Kong were administered a child neglect scale including items on health, clothing, food, education and safe living conditions. Depressive symptoms were assessed using the Patient Health Questionnaire-9. Multilevel hurdle models predicting the presence and severity of depressive symptoms from child neglect were fitted.
Results: 37.1% of adults reported childhood neglect. Within-sibling effects of child neglect were not associated with the presence (adjusted OR=1.03, 95% CI 0.61 to 1.75) or severity of depressive symptoms (adjusted IRR=1.15, 95% CI 0.89 to 1.48), adjusting for non-shared factors (age, sex, nativity and parental occupation at age 10). Between-sibling effects of child neglect were also not associated with the presence (adjusted OR=0.75, 95% CI 0.49 to 1.48) or severity of depressive symptoms (adjusted IRR=1.17, 95% CI 0.92 to 1.48).
Conclusion: The sibling fixed effects model did not find an association between child neglect and depressive symptoms. Future studies should account for potential confounding influences from the childhood environment, examine whether associations might be contextually specific and the role of shared mediators and colliders in a sibling study.
Source of funding: The establishment of the original cohort was supported by the Hong Kong Jockey Club Charities Trust from 2007 to 2014. Further support provided by a grant from the Research Grants Council General Research Fund (Ref. No.: 17633216).

PP42 | Mental health and pharmaceutical characteristics of individuals with a diagnosed alcohol use disorder: A retrospective cohort study using linked administrative data

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Introduction: Alcohol use disorders (AUDs) are associated with mental and physical health comorbidities as well as compromised quality of life. Several prescription drugs exist which are aimed at treating these AUDs. However, these drugs are rarely prescribed. Moreover, little is known about the mental health comorbidities nor the patterns of pharmacotherapy used to treat these individuals.
Methods: Our objective was to describe the clinical mental health characteristics of those individuals with an AUD who received a prescription for acamprosate, naltrexone, or disulfiram – prescription drugs used to help manage withdrawals or cravings for alcohol – and to identify the medical specialty most likely to prescribe these medications. We used total population administrative health data to identify treatment naive individuals with an AUD (i.e., with a mental and/or physical health diagnosis due to harmful alcohol consumption without a prior prescription for a drug used to treat an AUD) who were eligible to receive acamprosate, naltrexone, or disulfiram, April 1, 1990 and March 31, 2015. Individuals with a prescription dispensed for these drugs (users) were age- and sex-matched to individuals with an AUD who did not have a prescription dispensed (non-users). T-tests and chi-square tests were used to identify statistically significant differences between the two groups.
Results: (125 word limit – at 96): We identified 53,556 individuals with an AUD using total-population data. 493 (0.92%) received a prescription for acamprosate, naltrexone, or disulfiram between April 1, 1996 and March 31, 2015. Users were 1.60 times as likely to have a comorbid mood or anxiety related diagnosis. In the one year prior to their AUD diagnosis, 75% of users and 54% of non-users had a mental health related ambulatory visit. Additionally, 16.53% of users and 11.35% of non-users were dispensed a selective serotonin reuptake inhibitor, a class of antidepressant, and 14.60% of users and 5.57% of non-users were dispensed sedatives and anti-anxiety medications. Finally, the majority of dispensed prescriptions for an AUD came from general practitioners from urban centers (53.55%), followed by psychiatrists (22.31%).

Conclusion: Drug therapies to aid in the recovery from AUD are being underutilized. Diagnosis of and treatment for mental health disorders is more common among those dispensed these medications. Programs that study clinicians' use of AUD-targeted drug therapies should be considered, while psychiatric services in addiction care require significant improvement.

PP43 | Patterns of health and social service use associated with alcohol use disorders: A total-population, retrospective cohort study using linked administrative data

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Introduction: While alcohol use disorders (AUDs) are associated with mental health comorbidities, little research has documented the long-term impact of AUDs on health and social services use.

Methods: We aimed to identify the health and social service use associated with having a diagnosed AUD. We used linkable administrative data from the Manitoba Population Research Data Repository, which houses individual-level information on the health and social services used by virtually all Manitobans. We identified AUDs using ICD-9/10-CA codes for conditions due to harmful alcohol use: 1990 to 2015. Those with an AUD were matched to a comparison group (1:3) based on sex, age, and postal code of residence at time of diagnosis. We linked individuals' health, social services, and justice records to identify outcomes associated with AUDs. Outcomes included rates of hospitalizations, physician visits, emergency department (ED) visits, moving into social housing, and justice charges. We followed individuals from 5 years before to 20 years after diagnosis. We constructed sex-stratified, generalized linear models with a log population offset to compare rates of health, social services, and justice contacts between those with an AUD and their matches. Models adjusted for time-varying mental health status and residence.

Results: We identified 52,991 individuals with an AUD: 64% male and 36% female. AUDs followed a socioeconomic gradient. Across all social indicators, individuals with an AUD had a significant spike in social service contacts the year prior to diagnosis followed by continued elevated use for 20 years following diagnosis. The same pattern was observed in ED visit rates with a significant spike in ED visits the year before diagnosis followed by elevated use for 20 years. Among the other health service use indicators, there was a spike in service use corresponding with the year of diagnosis followed by 20 years of elevated healthcare use.

Conclusion: Individuals with an AUD use the greatest amount of social services the year prior to receiving an AUD diagnosis; coordinating mental health strategies with social service providers may offer a means to identify individuals with an AUD earlier. Upstream efforts are required to mitigate the long-lasting outcomes associated with AUDs.

PP44 | Return to work in individuals with common mental illness: A systematic review and meta-analysis of prognostic factors and interventions

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Introduction: Mental illness in the workplace is an emerging challenge across the globe. Work disability due to common mental disorders (CMDs) including depression and anxiety disorders is increasingly challenging in many countries. In Canada, CMDs accounted for 30% of short and long-term disability claims. Primarily, return to work (RTW) is a goal for these beneficiaries to avoid negative consequences. However, there is little evidence regarding the effectiveness of the available interventions for RTW and modifiable factors for RTW in mental health field. Hence, the objectives of this review were to identify prognostic factors for RTW and examine the effectiveness of existing interventions for RTW in workers with CMDs.

Methods: A systematic review and meta-analysis was performed using data from 16 published randomized controlled trials (RCTs) and 18 cohort studies. The studies were identified from MEDLINE/PubMed, PsycINFO, EMBASE, SocINDEX, and Human resource management databases from January 1995 to January 2016. Two authors independently screened selected studies and assessed the quality of the studies. The main outcomes were proportion of full and partial RTW, and sick leave duration until RTW.

Results: The pooled results from 16 RCTs suggested that the available interventions did not lead to improved RTW rates over the control group [pooled risk ratio 1.05 (95% confidence interval (CI): 0.97, 1.12], but reduced the

number of sick leave by 13 days in the intervention group compared to the control group, with a mean difference of -13.38 days (95%CI: -24.07 to -2.69). Moreover, the meta-analysis of 18 cohort studies revealed that age, contact with medical specialists, RTW self-efficacy (SE), and work ability were found to be significant prognostic factors for RTW in workers with CMDs.

Conclusions: Although the RTW interventions reduced the number of days of sick leave to RTW, there is no evidence supporting the effectiveness of the interventions on RTW rates in workers with CMDs. Interventions should focus on improving RTW-related SE and enhancing work ability to facilitate RTW in workers with CMDs. As mental health problems are affecting a large proportion of the working population, the results of this review may have public health and economic implications.

PP45 | The age- and sex-specific trends in the prevalence of psychological distress and the use of mental health services in Japan

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Introduction: The primary aim of this study was to examine the age- and sex-specific trends in the prevalence of psychological distress and the use of mental health services in Japan by using the Comprehensive Survey of Living Conditions in 2016.

Methods: The data were drawn from the Comprehensive Survey of Living Conditions (CSLC) in Japan. The CSLC is a repeated national cross-sectional survey, which is conducted annually by the Ministry of Health, Labor, and Welfare (MHLW) of Japan. This study used the CSLC data sets of 2016. The sample of the CSLC participants is randomly selected from 5410 National Census districts of Japan, covering approximately 290,000 households. The outcome measures of this study were self-reported general psychological distress and current use of mental health services for depressive symptoms. Psychological distress was measured by the Japanese version of the Kessler Psychological Distress Scale (K6). Following the previous studies, we defined a score of ≥13 on K6 as psychological distress with serious mental disorder. Current use of mental health services for depression and other psychological problems measured whether study participants were seeing mental health providers for their depression and other psychological problems at the time of the CSLC survey. Age- and sex-specific percentages of those with a score of ≥13 on K6 and those using mental health services for depression and other psychological problems were estimated.

Results: The proportion of those who scored 13 or higher on K6 was highest among women aged 25-29 years old (7.3%), followed by women aged 30-34 years old (6.7%) as of 2016. The proportion of those with K6 of score ≥13 seeking treatment was highest among women aged 40-44 years old, followed by women aged 35-39 years old as of 2016.

Conclusion: There is a need for strategies to narrow treatment gap particularly focused on younger women.

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PP46 | Depression among long-term unemployed people screened for disability pensions

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Introduction: The interaction between unemployment and ill-health is accounted for though both selection and causation mechanisms[1]. Among mental health problems, depression has been shown to be especially closely linked with unemployment[2]. Research on the clinical assessment of work ability of the long-term unemployed is scarce[3]. The present study explores if a project specifically targeted at work disabilities was able to detect cases with permanent work disability among long-term unemployed people in particular with respect to identification of depression.

Methods: The data consists of the medical histories of long-term (>1 year) unemployed people (n=364) who were referred to a screening project. The goal of the project was to identify those who might actually be unable to work. Those diagnosed at that point as clinically depressed were classified into previously diagnosed and not previously so diagnosed. Binary logistic regression models were used to explore the effect of previous depression diagnosis on being granted a disability pension.

Results: Depression was diagnosed in 52% (N=188) of subjects and 64% of them were granted disability pensions. Among these 188 people, depression had been previously diagnosed in 45%. The disability pension was significantly more likely to be granted to those without earlier diagnosis of depression (odds ratio 2.2, p=0.012) than to those whose depression had already been diagnosed in health care. The difference remained statistically significant after adjusting for the set of background factors.

Conclusion: Among the long-term unemployed, there are many people with depression and such severely impaired working capacity that they are eligible for a disability

pension. This, however, tends to go unnoticed in health care. Furthermore, one reason for unidentified depression seems to be marginalization from healthcare services. Of the long-term unemployed who suffered from depression and who were granted a disability pension through the screening project nearly a quarter had visited health care at maximum of three times in the preceding three years and nearly a tenth had not visited health care at all in the three years prior to the project. Clinical screening of the long-term unemployed in terms of work disability seems to be worthwhile.

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References:

Kaspersen SL, Pape K, Vie GÅ, Ose SO, Krokstad S, Gunnell D, et al. Health and unemployment: 14 years of follow-up on job loss in the Norwegian HUNT Study. Eur J Public Health. 2016;26(2):312-317.

Comino EJ, Harris E, Silove D, Manicavasagar V, Harris MF. Prevalence, detection and management of anxiety and depressive symptoms in unemployed patients attending general practitioners. Aust N Z J Psychiatry. 2000;34(1):107-13.

Kerätär R, Taanila A, Jokelainen J, Soukainen J, Ala-Mursula L. Work disabilities and unmet needs for health care and rehabilitation among jobseekers: a community-level investigation using multidimensional work ability assessments. Scand J Prim Health Care. 2016;34(4):343-51.

PP47 | Family dysfunctions: Implications for psychoactive substance use among offenders in a Nigerian prison

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Introduction: The study was set out to examine the impact of family dysfunctions on psychoactive substance use among offenders newly brought to custody in a Nigerian prison.

Methodology: The study was a cross-sectional design; and, a convenient sampling technique was used to select 342 new inmates entering prison custody in a Maximum Security Prison Enugu, Nigeria. Data on family dysfunction were obtained using the 5 household dysfunctions questions of the ACE (adverse childhood experience) questionnaire.

The World Health Organization (WHO) Model Core Questionnaire was used to collect data on psychoactive substance use. Chi square test was used to test the association between family dysfunctions and psychoactive substance use, while binary logistic regression was used to ascertain the strength of the association.

Results: Three hundred and forty-two (86.1%) of the 397 prison inmates newly brought to custody over a 4-month period (August 2017 - January 2018) participated in the study. Significant relationship was found between psychoactive substance use and parental separation/divorce, parental drug use, household member with mental illness, and imprisonment of a household member. No significant relationship was found between domestic violence and drug use.

One hundred and seventy-six (51.5%) of the participants reported using drug 30 days prior to arrest, while the remaining 166 (48.5%) did not. Pattern of drug use identified cannabis as the commonest drug used 74 (21.6%); this was followed by tobacco (cigarette) at 27 (7.9%), and alcohol at 26 (7.6%). Volatile inhalant was the least used drug 2 (0.6%). Lifetime and 12 months prevalence of psychoactive substance use were 66.4%, and 56.1%, respectively.

Conclusion: offenders who experienced household dysfunction in the family are more likely to use psychoactive substance. Interesting but worrisome is the use of volatile inhalant and opioid, which hitherto were not popular in Nigeria. Program aimed at prevention and treatment of drug use and problems associated with drug use should be designed in such a way that family members are included.

Keywords: crime, drug, prison, family.

PP48 | Gabapentin abuse: Prevalence and all-cause or drug-related medical events with and without concomitant opioid abuse

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Background: Despite international calls to make gabapentin a controlled substance, studies of gabapentin use/abuse patterns are limited to small/high-risk samples and adverse event reports. As such, gabapentin may be abused to potentiate opioid effects, though studies of medical events resulting from co-abused gabapentin/opioids are lacking. The primary objectives were to conduct a systematic assessment of the abuse

potential/prevalence of gabapentin in a large sample, and assess patient harm, defined as use of inpatient hospital (IPH) or emergency department (ED) services, associated with overuse of gabapentin with or without concomitant overuse of opioids.
Methods: Data were from the Truven Health MarketScan(r) Commercial Claims and Encounters database, for the years 2013-2015. For prevalence assessment, patients with >2 claims for >1 abusable drugs and >12 months' continuous enrollment were sampled for Lorenz curve analysis. Prevalence analysis was limited to those with >120 days of therapy. Abuse potential was measured as Lorenz-1 (consumption of drug supply by top 1% of users) of >15%. Dose thresholds were morphine milligram equivalent (MME) standards for opioids, and maximum labeled doses in milligrams (mg) for other drugs. For medical events assessment, patients with >2 claims (billed encounters) and >120 days of treatment with gabapentin and/or opioids were included. Cohort identification was based on daily-dosage thresholds of 50 MME and 3,600 mg of gabapentin in a 12-month follow-up: (1) no overuse; (2) mild overuse (>2 claims or <2 calendar quarters over threshold); and (3) sustained overuse (>3 over-threshold calendar quarters). IPH and ED use were measured for 6 months after the first overuse date (cohorts 2 and 3) or a randomly assigned date (cohort 1). Logistic regression analyses controlled for pretreatment IPH/ED utilization, indication, addiction diagnosis, concomitant sedative/hypnotic use, and demographics.
Results: Lorenz-1 values were 37% opioids, 19% gabapentin, 15% pregabalin, 14% alprazolam, and 13% zolpidem. The top 1% gabapentin users filled prescriptions for a mean (median) 11,274 (9,534) mg/day, >3 times the recommended maximum (3,600 mg). Of these, one-quarter used or diverted >12,822 mg/day. The top 1% opioid and pregabalin users filled prescriptions for a mean (median) 180 (127) MMEs and 2,474 (2,219) mg/day, respectively. Of patients using opioids + gabapentin simultaneously, 24% had >3 claims exceeding the dose threshold within 12 months. All-cause and drug-related IPH/ED utilization increased monotonically with degree of overuse, particularly of more than one medication. Sustained overuse of gabapentin multiplied odds of all-cause IPH by 1.366 [95% confidence interval (CI) 1.055-1.769], drug-related IPH by 1.440 (95% CI 1.010-2.053), and IPH/ED for altered mental status (e.g., euphoria, anxiety) by 1.864 (95% CI 1.324-2.624). Sustained overuse of both medications quadrupled odds of all-cause IPH, drug-related IPH, and IPH/ED for altered mental status or respiratory depression.
Conclusion: Gabapentin use patterns are similar to those of other abusable medications. Despite modest effects of gabapentin overuse alone, overuse of gabapentin with opioids may increase risk of harm and health-service utilization, supporting calls to make gabapentin a controlled substance in the USA. This study was not funded.

PP49 | Mental demands at work as protection against dementia? Results from longitudinal Cohort studies

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Background: Previous studies have shown that people who work in intellectually stimulating jobs have a lower risk for developing dementia. Aim of the study was to determine what aspects of those jobs are the driving factors that actually reduce dementia risk.
Methods: Using longitudinal population-based studies (LEILA75+, AgeCoDe), a concept-based and a data-driven approach was used to analyse the relevance of mental demands at work on dementia risk.
Results: Multivariate logistic and cox regression models suggest that activities at work that come with high demands on information processing (e.g., use of knowledge, developing strategies, solving problems) are consistently associated with a reduced dementia risk, in the concept-based as well as the data-driven approach.
Conclusions: The lower dementia risk observed in connection with having worked in intellectually stimulating jobs could be explained by a more proficient use of information processing skills throughout working life. Further studies may evaluate how information processing skills make cognitive functioning more resistant to neuropathological damage in old age.

PP50 | The role of education and income on cognitive functioning in old age: A cross-country comparison

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Introduction: People with low socioeconomic status have a higher risk for age-related cognitive impairments and dementia. It is not known to what extent education and to what extent income is driving the observed effects. Aim of the study was to disentangle the role of education and income on cognitive functioning in old age by conducting cross-country analyses.
Methods: Using data from the Health and Retirement study (HRS, USA), the Survey of Health, Ageing and Retirement in Europe (SHARE, European countries), and the WHO's study on global Ageing and adult health (SAGE,

China, Ghana, India, Mexico, Russia, South Africa), we analysed the role of income and education on performance in the word list learning test in individuals aged 55 years and older.
Results: Education largely predicts cognitive performance in old age. Income has only a marginal effect whereby the absolute value of income seems to be more relevant than relative income. Cross-country analyses emphasize that the effect of education and income is larger in the United States compared to Sweden and Germany. Further, higher education or income was associated with much smaller gains in Ghana than in other countries.
Discussion: The findings suggest that, even when taking income in consideration, education has a strong effect on cognitive functioning in old age. Increasing access to higher education should therefore be a major objective of public policy in aging societies. Yet, there are considerable differences in effect size between countries that should be addressed in further studies.

PP51 | The bidirectional relationship between alcohol use and insomnia symptoms: Results from the Tromsø Study

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Introduction: Alcohol use disorders and insomnia are common afflictions. Every year approximately 10% of the adult Norwegian population meet the requirements for alcohol abuse/dependence, whereas about 11% meet the requirements for insomnia. Insomnia is particularly prevalent among people struggling with alcohol use disorders. The relationship between alcohol use and sleep problems has been extensively, and the results of the studies leave no doubt; alcohol use and sleep problems are related. However, there is great variability in the results of the existing research, and the methodology and models tested also varies to a great extent. Additionally, practically all of the studies have investigated alcohol use/misuse or insomnia as a predictor of the other, rather than investigating the bidirectionality of the relationship. This warrants further examination of the longitudinal relationship between alcohol use and insomnia symptoms.
Method: The present study is based on data from two waves (T1: 1994-1995, and T2: 2007-2008) of the Tromso Study, a population-based health study of the adult population of Tromso, Norway. In total, 10,325 (79.5% of the T2 participants) participated at T1 and T2. Alcohol use and symptoms of insomnia were measured using self-report questionnaires. A variable incorporating change and stability in alcohol use and symptoms of insomnia from T1 to T2 was created. Logistic regression analyses, stratified by gender, were used to analyze the data.
Results: Men experiencing stable high alcohol use or developing high alcohol use between T1 and T2 had significantly higher odds of experiencing symptoms of insomnia at T2, compared to men with a stable low alcohol use at T1 and T2. Likewise, men experiencing stable symptoms of insomnia or developing symptoms of insomnia between T1 and T2, had significantly higher odds of experiencing high alcohol use at T2, compared to men with no insomnia symptoms at T1 or T2. No significant effects were detected among women.
Conclusion: The results of our study indicate that there is a bidirectional relationship among alcohol use and symptoms of insomnia among men. Among women, no longitudinal relationship was detected, which may suggest that the relationship between alcohol use and insomnia may depend upon gender.
The project is funded by the Northern Norway Regional Health Authority (Helse Nord).

PP52 | Knowledge, attitudes and behavior towards mental illness among adult college students

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Introduction: Stigma is a barrier for students who seek help. It leads to under-treatment, poverty, and marginalization. It is expressed differently in different cultures. Stigma encompasses problems of knowledge, attitudes and behavior. Knowledge refers to literacy regarding mental health disorders and treatment. Attitudes refers to benevolence, community mental health ideology, authoritarianism and social restrictiveness, Behavior refers to discrimination. The objective of this study is to describe and correlate the knowledge, attitudes and behaviors towards mental illness among adult college students using the Mental Health Knowledge Schedule (MAKS), Community Attitude towards the Mental Illness III (CAMI-III) scale and Reported and Intended Behavior Scale (RIBS).
Methodology: The study was approved by the university's research ethics board. Questionnaires were content and face validated by experts from the hospital's department of Psychiatry. Questionnaires were administered to 260 college students through stratified random sampling. Data were analyzed using mean, frequencies, item analysis and correlation coefficient.
Results: Students have high mental literacy but were confused about the concepts of stress and grief. They were

tolerant, respectful and inclusive of the mentally ill's roles and rights in society but half of them still viewed mental hospital as indispensable and were guarded in the mentally ill's role in caring for young children, while a quarter had misconceptions about mental illness recognition and etiology. Knowledge positively correlated with benevolence (r=0.3; P-value=<0.0001) and negatively correlated with social restrictiveness (r= -0.35; P-value=<0.0001). Knowledge had insignificant correlation with behavior. Nondiscriminatory behavior positively correlated with benevolence (r=0.34; P-value=<0.0001) and community mental health ideology (r=0.45; P-value=<0.0001). Nondiscriminatory behavior negatively correlated with authoritarianism (r= -0.34; P-value=<0.0001) and social restrictiveness (r= -0.39; P-value=<0.0001).

Conclusion: Students have high knowledge, benevolence, community mental health ideology and intended nondiscriminatory behavior. While, they have low authoritarianism and social restrictiveness. Behavioral and attitudinal interventions are preferable to educational interventions in reducing discrimination. Results contradict the 1981 WHO study which included the Philippines. Compared with previous generations, the challenge in reducing discrimination is to improve attitudes. Hence, stigma may not only vary by culture, but may also vary by generation.

PP53 | Estimating the need for mental health and addictions treatment as a population health pyramid

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Introduction: International research has drawn attention to the size and importance of the treatment gap for mental health and addictions treatment systems. However, defining and measuring the need for treatment in accordance with increasingly accepted stepped-care or "tiered models" of treatment systems, is challenging. Going beyond diagnostic approaches, we developed a model of treatment need based on population-level data on levels of severity and complexity.

Methods: We used the 2012 Canadian Community Health Survey - Mental Health to define five severity tiers of need for the Canadian population aged 15 and over. Tier membership was based on an algorithm that purposefully allocated cases based on survey responses about quantity and frequency of alcohol and other drug use, CIDI-based mental health and substance use disorders, chronic health conditions, suicidal ideation, severity of disability and other indicators. Logistic regression predicted severity tier membership based on a small number of predictors: age, sex, immigrant status, and a meso-level measure of social deprivation. Severity tier membership probabilities were calculated for Canadian health planning regions and applied to the regions' age-sex distribution of 2016.

Results: The following prevalences were obtained: Tier 1 = 43.3%, Tier 2 = 26.5%, Tier 3 = 17.7%, Tier 4 = 11.2%, and Tier 5-the most severe and complex-1.3%. Including immigrant status in regressions increased variance explained by six percent.

Conclusion: Our algorithm and model can be used to allocate populations to different severity tiers based on a small number of predictors usually available in community surveys. Pilot work is underway in several Canadian provinces and sub-regions, comparing projected need to current system capacity. Stakeholders value the availability of regional-level data expressed quantitatively as a health pyramid and corresponding to levels of required intervention (e.g. acute psychiatric care or medical detoxification; community treatment, screening and brief intervention). Limitations identified include the need for a similar approach to child and adolescent populations; challenges with survey exclusions such as Indigenous people living on reserve and people who are homeless; and challenges with current treatment information systems required for measuring treatment capacity (e.g., lack of integrated systems across mental health and addictions). Funding support from Health Canada Anti-Drug Strategy Initiatives (ADSI).

PP54 | Comprehensive assessment of cardiorespiratory and physical fitness in patients with depression and schizophrenia

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Introduction: Mental disorders are the leading cause of ill health and disability worldwide. The life expectancy of patients with depression and schizophrenia is approximately 10 - 15 years shorter than in the general population, which is caused by co-existing somatic diseases such as cardiovascular and metabolic illnesses. About 75% of psychiatric patients lead an inactive lifestyle and do not meet the World Health Organization (WHO) criteria for physical activity. Recently, American Heart

Association recommended measuring cardiorespiratory fitness (VO_2max) as a clinical vital sign, based on the evidence that lower fitness levels are associated with high risk of cardiovascular disease, cancer, and all-cause mortality.

Methods: The study aimed to compare physical fitness (cardiorespiratory fitness, strength, and flexibility, agility and balance) of hospitalized patients with depression (D, n=37), schizophrenia (S, n=16) and control group (C, n=39). Maximal oxygen uptake (VO_2max) was estimated using the Astrand-Rhyming gender-sensitive nomogram. The physical efficiency was assessed using a 6-task Fullerton test. One-way ANOVA with post-hoc HSD Tukey test was used to determine the differences between groups.

Results: Patients with schizophrenia, depression and controls were matched with regard to age: 34.1±8.5, 37.6±12.7 and 32.8±11.4 years respectively (p=0.19), but not BMI 28.0±6.8, 26.4±5.5, 23.9±3.2 kg/m2, (p=0.01). Both clinical groups showed lower circulatory and respiratory capacity than the control group- VO2max, S: 27.9±5.9, D: 29.3±7.7 and C: 38.1±10.5 mL/(kg·min); p<0.001. They also achieve lower results in all subtests of Fullerton fitness test; Chair stand: 15.3±4.9, 16.8±6.0 and 22.0±6.0 (p<0.001) S,D (p=0.003) S,D±120.7, 565.2±119.7 and 611.9±137.6 (p<0.001) S,DC.

Conclusion: Patients with schizophrenia and depression show reduced levels of cardiorespiratory and physical fitness. Insufficient physical activity and sedentary lifestyle probably contribute to the increasing mortality gap between psychiatric patients and the general population. Our results may suggest that physical training should become an integral element of treatment for schizophrenia, depression and other severe mental disorders.

PP55 | Decision-making skills as mediator of the #Tamojunto school-based prevention program for drug use and violence: A counterfactual mediation model

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Introduction: The European school drug prevention program *Unplugged*, in Brazil named #*Tamojunto*, is based on the Comprehensive Social Influence approach, expected to improve adolescents' personal and interpersonal skills through interactive techniques and normative education. The aim of the present study was to evaluate the mediator effect of adolescents' decision-making skill on the effect of the #*Tamojunto* program on drug use and the practice of violent behavior in schools after 21 months.

Methods: A two-arm three-wave cluster randomized controlled trial, with schools as the unit for randomization, was conducted in 72 public schools in 6 Brazilian cities. Surveys to assess the effectiveness of the program were conducted among 6,391 students in 7th and 8th grades prior to intervention implementation, then 9 and 21 months after baseline. The intervention group attended 12 weekly classes of the #*Tamojunto* drug prevention program, and the control group did not attend any prevention program during the study. Analysis were conducted under the counterfactual mediation approach to evaluate the indirect effects of the program #*Tamojunto* on prevalence of drug use and violence via decision-making skills. The outcomes investigated at the third wave were 1) any past year drug use (alcohol, tobacco, marijuana, inhalants, and binge drinking) and 2) episodes of any bullying, physical, verbal and sexual aggression. Covariates were gender, age, socioeconomic status and baseline measures of drug use, violence and decision-making skills. Missing data were imputed using Bayes estimation of an unrestricted variance-covariance model. Direct and indirect effects were calculated in Mplus 8.0, with a confidence interval of 95%, being the standard error adjusted for the cluster design.

Results: The students were 12.5 (SD 0.7) years-old at the baseline and 51.2% were girls. The proportion of mediated effect of on drug use via decision-making skills was 59.25%. The total natural indirect effect (TNIE) was significant for quantity of drugs used (TNIE= 0.016, 95%CI= 0.005-0.027) and violent behaviors (TNIE= -0.005, 95%CI= -0.010; -0.001). The total natural direct effect was not significant for both outcomes.

Conclusions: #*Tamojunto* program increases the drug use and reduces the practice of violent behavior due to the increasing in the decision-making skills.

Funding: Brazilian Ministry of Health, TED 89-2014

PP56 | Mortality by violent causes among adolescents 10 to 24 years old in Argentina 2001 to 2010

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Death by violent causes in adolescents constitutes nearly half of the total deaths for this age, representing a challenge to Public Health, although they are totally preventable.

Objective: To study the causes of mortality rates in subjects of 10 to 24 years old in Argentina between 2001 to 2010.
Material and methods: Using the data of the Ministry of Health for deaths, we studied the causes of death in the age groups 10 to 14, 15 to 19 and 20 to 24 years old, for both sexes, determining the deaths, percentages and rates. We followed the International Clasification of Diseases.
Results: Between 2001 and 2010 the quantities of death remained constant at between 8.600 and 8.900 per year. Traffic accidents represented the most frequent cause, follow by other accidents, suicides and homicides. All these causes are more frequent amongst males.
Discussion: The rates found are similar to those of other Latinamerican countries and of the World Health Organization. This highlights the importance of implementing plans of prevention and diagnoses, as soon as possible in order that the causes are preventable. To investigate psychopathology problems such as alcohol and drug consumption in adolescents could be a way to avoid these mortality causes, like suicide.
Key words: adolescence, mortality, violence

PP57 | Lay beliefs about psychiatric medications in a nationally representative sample of the general population of Greece

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Background: Lay beliefs about psychiatric drugs are important because they may increase the stigma attached to mental disorders and reduce compliance to treatment. The aim of the present research is to describe the beliefs of the general public in Greece about psychiatric medications and to investigate their associations with sociodemographic associations and psychiatric morbidity.
Methods: We used a nationally representative sample of 4984 participants aged 18-74 years old and living in private households. We assessed psychiatric disorders using the revised Clinical Interview Schedule (CIS-R). We used the "Beliefs about medicines Questionnaire (BMQ)" to assess lay beliefs about psychiatric medications.
Results: 19.8% of the participants had extremely negative beliefs about psychiatric medications ("stigmatized" beliefs) and 9.3% had positive beliefs (less stigmatized). In the univariate analysis, a higher prevalence of stigmatized beliefs was reported by the unemployed, participants living in rural - semi-rural locations, and those with chronic medical conditions. More positive beliefs (less stigmatized) were associated with a higher educational level and increased psychiatric morbidity. In the multivariate analysis, statistically significant associations for the presence of stigmatized beliefs remained for non-urban type of location and presence of chronic medical diseases, while for more positive beliefs for economically inactive persons and increased psychiatric morbidity.
Conclusion: A large proportion of the general population have negative beliefs about psychiatric medications. This is reduced in participants who experience a common mental disorder. Psychoeducational programs could be designed with the aim to reduce negative stereotypes about psychiatric medications.

PP58 | Depression and panic disorder among a community sample in Haiti

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In one study among rural Haitian adults, 42% had moderate and 23% were assessed to have severe symptoms of depression. Lifetime history of panic attacks has not been measured in Haiti among community samples.
A study of the prevalence of non-communicable diseases (hypertension, diabetes, chronic renal insufficiency, major depressive disorder (MDD), panic disorder (PD) and substance use disorders) among a sample of 2,133 door-to-door recruited Haitians 25 to 65 years of age was conducted by the Haiti Health Study. The study was approved by the University of Florida IRB and the Haitian Ethics Board. Among this community sample, here we report lifetime rates of MDD and PD.
Trained Haitian Community Health Workers (CHWs) enumerated homes and assessed one randomly selected family member for health and mental health, social determinants of health, height and weight, and blood pressure, and tested blood glucose, creatinine and lipids. The Diagnostic Interview Schedule for DSM-IV, a structured diagnostic interview, was used to capture MDD and PD symptoms and disorder diagnosis among rural (n=706) and urban (n=1427) participants. SAS 9.4 was used for data analysis.
Among the 2133 adults, 39% were male, mean age was 40.8 (SD 11.8) years of age and 26.1% said they had good to excellent health. Lifetime depression prevalence using a diagnostic algorithm was calculated to be 45.9%; lifetime panic disorder prevalence was calculated to be 46.7%, while 32.7% met criteria for both.

Depression and panic disorder prevalence calculated using a structured diagnostic interview show that these problems are common among community dwelling Haitians, with almost 1 out of 2 assessed positive for one or the other, and 1 out of 3 assessed positive for both over the lifetime. Given the importance of both to physical health and functioning, low-cost and low-resource interventions to treat these problems are needed.

PP59 | Help-seeking behaviours of people with psychotic experiences: Results from the 2013 Thai National Mental Health Survey

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Introduction: Psychotic experiences have emerged as an enticing medium for understanding the development and severity of many psychopathologies including psychosis, common mental disorders and suicidality. Recent research suggests these experiences are common in general population; however, there is still a lack of information on those who report them, especially their help-seeking behaviours. Using the data from the 2013 Thai National Mental Health Survey, we sought to study help-seeking patterns among those who report psychotic experiences in the Thai population.

Methods: The 2013 Thai National Mental Health Survey fully utilised the approach of the World Mental Health Survey to collect data from eligible participants aged 18 and above in the community. The Thai version of WHO-CIDI 3.0 was used and contains the psychosis screen (PS) section that assesses the prevalence, number, and types of psychotic experiences. It also asks whether the respondents had sought help for any of the experiences.

Results: Of the 4727 participants who completed the interview, 269 (5.9%) reported any psychotic experience in their lifetime. Of these, 88 (32.7%) were men and 181 (67.3%) were women, the majority (59.5%) were married, most (61.0%) only attained primary-level education or less, and most were employed or self-employed (70.1%). However, just 36 (12.7%) had ever sought help from any health professional. Of this group of participants, only 6 (36.5%) were hospitalised from a psychotic diagnosis. No socio-economic variables were associated with help-seeking behaviours.

Conclusion: Although psychotic experiences are common in Thailand, apparently only a few of the people reporting them seek help. Knowing that psychotic experience could be a window of opportunity to the prevention of the more serious mental illnesses, a better understanding of this behaviour is essential. Better psycho-education or mental health promotion could aid in the early detection and intervention for this group of people.

PP60 | Depression, anxiety, and pain: Understanding subgroups of newly admitted nursing home residents

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Background: Pain, as experienced by nursing home residents, is a global health problem. Pain also commonly co-occurs with psychiatric disorders such as depression and anxiety. Despite the burden of these often multimorbid conditions, knowledge about the multidimensional presentation of pain among nursing home residents is lacking. The goals of this study were to: 1) identify subgroups of pain and related symptoms among newly admitted nursing home residents in the U.S.; 2) examine correlates of belonging to these subgroups.

Methods: National data on adults 50 years and older residing in U.S. nursing homes from 2011-2012 was obtained from the Minimum Data Set (MDS) 3.0. The MDS 3.0 assessment contains items on active clinical diagnoses, treatments, physical functioning, and cognitive impairment. We identified 119,379 residents reporting nonmalignant pain at admission. A latent class analysis was conducted using 12 pain and mood indicators. Associations between covariates and latent subgroup membership were examined with multinomial logistic models (adjusted odds ratios (aOR); 95% confidence intervals (CI)).

Results: Four latent subgroups were identified: Severe Pain (15.2% of residents), Moderate Frequent Pain (26.4%), Moderate Occasional Pain with (26.4%) and without (32.0%) Depressive Symptoms. Depressed mood, sleep disturbances, and fatigue distinguished subgroups. Age ≥75 years and severe cognitive impairment were inversely associated with membership in the Severe and Moderate Frequent subgroups while racial/ethnic minority status was inversely associated with membership all the subgroups. Having an active depression diagnosis was associated with increased odds of belonging to the Severe (aOR: 1.68; 95% CI: 1.60-1.76) and Moderate Occasional

with Depressive Symptoms (aOR: 1.55; 95% CI: 1.48-1.62) subgroups. Residents with an active anxiety disorder had increased odds of membership in the Severe (aOR: 1.75; 95% CI: 1.66-1.85), Moderate Occasional with Depressive Symptoms (aOR: 1.40; 95% CI: 1.33-1.48), and Moderate Frequent (aOR: 1.16; 95% CI: 1.09-1.23).
Conclusion: We identified four subgroups of pain symptoms among newly admitted nursing homes, indicating that pain is a multifaceted physical and psychological syndrome. A more comprehensive understanding of non-malignant pain may lead to more effective management of pain and pain-related symptoms than if each symptom in isolation were treated.

PP61 | Seasonality of suicide incidence and the protective effect of Christmas. A national longitudinal population-based study in the Netherlands

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Background: Time trends in suicide incidence have gained growing scientific attention. Insight into time trends can contribute to the development of effective suicide prevention strategies.
Methods: Time trends in national daily and monthly data of 33,224 suicide events that occurred in the Netherlands from 1995 to 2015 were examined, as well as the influence of age, gender and province, in a longitudinal population-based design with Poison Regression Analysis and Bayesian Change Point Analysis.
Results: Suicide incidence among Dutch residents increased from 2007 until 2015 by 38%. Suicide rates peak in spring, up to 8% higher than in summer (p<.001). Suicide incidence was 42% lower at Christmas, compared to the December-average (IRR=0.580, p<.001). After Christmas, a substantive increase occurred on January 1, which remained high during the first weeks of the New Year. Suicide occurred more than twice as often in men than in women. For both genders the results indicated a spring time peak in suicide incidence and a trough at Christmas. Suicide rates were highest in the elderly (age group 80+) and an effect by season was found among people aged 40 to 79 years. The Christmas effect was found in the provinces Utrecht (IRR=0.264, p=.022), Noord-Brabant (IRR=0.383, p=.002), Noord-Holland (IRR=0.551, p=.023) and Zuid-Holland (IRR=0.589, p=.028).
Conclusion: Evidence was found for time trends in suicide incidence in the Netherlands. It is recommended to plan (mental) health care services to be available especially at high risk moments; at spring time and in the beginning of January. Further research is needed to explore the protective effect of Christmas in suicide incidence.

PP62 | The mental-health crisis among migrants and refugees: The value of an integrated existential treatment approach

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Introduction: There is a modern day diaspora of migrants and refugees as these desperate people flee into developed countries. Initial studies in Germany determined that these refugees and migrants are suffering very high levels of psychiatric disorders due to their experiences — violence, loss, uprooted lives—leaving them particularly vulnerable to developing depression, anxiety and PTSD. Researchers and therapists are struggling to help. Preliminary findings indicate that the stress and trauma of upheaval is creating far more strain than previously recognized. Three windows of extreme stress for refugees are recognized: the often violent traumas in their home countries that led to their flight; the journey itself; and the arrival, when people are thrust into a foreign country. According to psychiatrist Malek Bajbouj, who has performed groundbreaking work with this population in Germany, "The latter 'post-migration' phase is becoming increasingly important. Suddenly they realize they have lost everything, have no control over aspects of their lives and no social standing. Refugees may arrive in Germany with great hope, but then find themselves stuck for months in camps with no apparent prospects."
Methods: The newly developed treatment model, developed by this researcher and his colleague, the Integrated Person-Centered and Existential (IPCE) model, aimed at addressing the underlying existential issues of trauma such as violence, displacement, loss of meaning and purpose, will be utilized in the treatment of a cross-section of the refugee population in the Los Angeles area. Existential therapy, with its emphasis on helping people find meaning in their changing world, naturally lends itself to address the unique issues of refugees and migrants including trauma and the loss of purpose and meaning.
Results: Initial results utilizing this newly developed model treating people with trauma specifically with loss of meaning and purpose has been promising. The results of previous implementation cannot at this stage be generalized to other populations. However, initial implementation indicated that the newly developed treatment model has promise for the future treatment of the

refugee and migrant population in the post-migration phase, where they realize they have lost everything and suffers from loss of purpose and meaning.
Conclusion: Society is facing a unique new crisis dealing with mental health issues among the migrant and refugee population, many coming from areas where psychological treatment did not exist. This new model, which effectively translates the tenets of Existential Theory and Person-Centered therapy into a counseling process that is more readily accessible to practitioners in a five-phase model and also provides measurable and replicable data suitable for qualitative research, is easily understandable and can prove to become an evidence-based treatment modality for the growing refugee population suffering trauma-related mental illness and other symptoms following their plight. The newly developed IPCE treatment model can also be easily replicated by other researchers.

PP63 | Does a school-based anti-stigma intervention help improve perceptions of mental health problems in symptomatic adolescents?

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Introduction: Perceptions of having a mental (MH) problem are vital to the initiation of help-seeking among adolescents. Although dependent on adults for entry into formal services, the perception of having a MH problem may be important for adolescents to seek and pursue mental health support and services. However, not all youth perceive their symptoms as problematic. This study assessed the longitudinal impact of a school-based anti-stigma intervention on perceived MH in symptomatic adolescents.
Methods: A diverse sample of symptomatic sixth-graders (n=303) were analyzed using two-year longitudinal data from a randomized school-based anti-stigma intervention study. The following intervention groups were compared to a control group: (a) an anti-stigma *curriculum*, (b) *contact* with a young adult who described their experiences with mental illness, and (c) combined *curriculum/contact* interventions. Adolescents reported their self-perceived MH status during six assessment periods. Adolescents also reported on their MH perceptions of vignette characters described as adolescents experiencing bipolar and social anxiety disorders, respectively.
Results: At baseline, half of symptomatic adolescents perceived having a MH problem, with more adolescents in the curriculum only group self-perceiving a problem than control. Although adolescents had declining self-perceptions over time, those who received the curriculum had a sustained advantage in the long-term versus control, adjusting for baseline self-perceptions, type of symptoms, and other factors. Among symptomatic adolescents who did not perceive a problem at baseline, the curriculum significantly improved self-perceptions relative to control. Adolescents in the contact only and curriculum/contact groups versus control improved their perceptions that the character with social anxiety disorder had a MH problem. These perceptions increased among those in the contact only and curriculum/contact interventions until the 12- and 18-month follow-up assessments, respectively. No intervention effects were observed for the character experiencing bipolar disorder.
Conclusion: Although the interventions did not specifically address strategies for evaluating MH, the curriculum improved self-perceptions of MH problems among symptomatic adolescents who did not perceive a problem at baseline. Likewise, the contact intervention improved perceptions that the character with social anxiety had a problem. These interventions may be useful for enhancing perceptions of mental illness among adolescents in need of treatment.

PP64 | Bayesian prediction intervals for assessing P-value variability in prospective replication studies

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Introduction: Independent replication of published effects is at the heart of any scientific research. Low replicability of positive results in psychology has lead to a crisis of confidence in psychological science. In the wake of the current replicability controversy, there is a realization that a reported "statistically significant" claim may be spurious. The aim of this work is to provide a simple method to calculate future P-value variability, thus avoiding overinterpretation of very significant, but highly variable statistics.
Methods: We describe theoretical derivation and provide a link to software of our Mixture Bayes approach, that allows one to construct a Bayesian prediction interval to assess variability of a future replication P-value based on a P-value from the initial study. A major advantage of Bayesian intervals is that their endpoints have interpretation as probabilistic bounds for a P-value they

were constructed for. In contrast, classical confidence interval bounds lack that interpretation.
Results: We considered recent finding from Psychiatric Genomic Consortium (PGS) that reported association between a single nucleotide polymorphism (SNP), rs2535629, and attention deficit-hyperactivity disorder (ADHD), autism spectrum disorder (ASD), bipolar disorder (BPD), major depression disorder (MDD), and schizophrenia. Based on the originally published P-values, we constructed 95% prediction intervals for replication P-values using prior effect size distribution reported by Chen et al. (2013). Our results suggest that a replication of original findings in a study with the same sample size is likely to yield P-values well above 0.05, however the upper 95% bound for the overall P-value that includes all conditions is 1.5e-05, suggesting that the SNP is associated with psychiatric disorders.
Conclusion: Since some proportion of findings in psychiatric literature may be spurious, in this work, we focused on variability of P-values in replication studies to develop a better appreciation of their potential range. We hope that our method for construction of a P-value prediction interval, along with the corresponding software, will promote the use of Bayesian modeling in psychological science.

PP65 | Suicide method and specific types of fatal accidents and poisonings among people discharged from inpatient psychiatric services

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Background: Patients discharged from inpatient psychiatric care are at elevated risk for premature unnatural death. We investigated multiple specific causes of unnatural death in a large national cohort with sufficient power to examine these rare outcomes comprehensively.
Methods: We followed up a national cohort of 1,683,645 persons born in Denmark during 1967-1996 from 15th birthday until death, emigration or December 31, 2011, whichever came first. Using survival analysis techniques, we estimated incidence rate ratios (IRRs) to compare risks among discharged psychiatric patients versus persons not admitted, in relation to: (a) suicide methods; (b) types of accidental death; (c) types of fatal poisoning.
Results: Suicide risk was 32 times higher among discharged patients compared to individuals without psychiatric admission history (IRR 32.3; 95% CI 29.2-35.8) and was even higher during the first-year post-discharge (IRR 70.4; 95% CI 59.7-83.0). Among persons who died by suicide, risks of jumping from height and of intentional self-poisoning by prescribed or illicit drugs were particularly elevated. Relative risk for intentional self-poisoning (IRR 40.8, 95% CI 33.9-49.1) was significantly greater than for all 'violent' suicide methods (IRR 29.4, 95% CI 26.1-33.2). Risk was markedly elevated for fatal self-poisoning whether classified as intentional, accidental or of undetermined intent. Risk of fatal self-poisoning by psychotropic medication was especially raised (IRR 93.7; 95% CI 62.5-140.5). Although incidence was higher among men for each mortality outcome examined, the relative risk versus individuals not admitted was higher for women.
Conclusion: The huge elevation in risk for fatal poisoning indicates that enhanced post-discharge care and more vigilant monitoring of prescribed medication are needed. Closer liaison between inpatient services and community care could potentially decrease mortality risk following discharge. Understanding why persons discharged from inpatient psychiatric units are at such elevated risk for intentionally jumping to their deaths from high places requires further investigation.

PP66 | Economic rationality in adolescents with emerging mood disorders

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Anxious and depressed people are commonly characterized as irrational. However, in mental healthcare a clear definition of what constitutes being irrational is missing. In this paper we used the definition of irrationality from economic theory and investigated in incentive-compatible experiments involving choices over consumer products whether indeed anxiety and depression are associated with irrational decision-making. At two-time points, separated by six to eight weeks, we measured thirty adolescent participants' irrationalities (as violations of the Generalized Axiom of Revealed Preference) and their anxiety and depression levels (via widely used psychological self-report scales for youth disorders —

Kessler Psychological Distress (K10), Quick Inventory of Depressive Symptomology (QIDS-A17) and SPHERE-12). We then tested whether differences in mood scores between participants and changes in mood within participants correlate with economic rationality. We found that in comparison with previously studied reference groups that did not report suffering from mood disorders; the degree of economic irrationality was higher in our sample. Moreover, adolescents whose mood was worse as assessed by K10 were more irrational. Our results may have implications for both diagnosis and treatment of mood disorders.

Decision-making | rationality | depression | anxiety | emotion

PP67 | Screening fathers in Sweden for postpartum depression is cost-effective

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Introduction: Postpartum depression begins after childbirth and is associated with negative outcomes for the family, as well as increased societal costs. Postpartum depression prevalence in Sweden ranges between 6-10 percent for fathers and 13-16 percent for mothers. However, only mothers in Sweden are currently routinely screened. The aim of this study was to determine if a postpartum depression screening for fathers in Stockholm County could be cost effective.

Methods: National Swedish databases were used to find registry data and a literature review was undertaken to identify the model data inputs associated with postpartum depression in Sweden. Carlberg et al.'s (In Press) study was used for its robust sample size (n = 3656), and because they offered different treatment options. The Edinburgh Postnatal Depression Scale was used to measure depression symptoms, using a cut-off score of 12 or more in the base case scenario. Different societal costs were accounted for, such as inpatient and outpatient costs, antidepressant costs, productivity losses, and costs of screening. The costs for both the intervention and control group were identical, except the costs of screening those in the intervention group. The generated evidence was used to build a Markov model in TreeAge. One-way and probabilistic sensitivity analyses were performed to account for parameter uncertainties. Alternative scenario analyses were further undertaken to test the assumptions in the base case analysis.

Results: A postpartum screening for depression in fathers is cost-effective in the base case scenario. Alternative scenarios were further examined, using different prevalent rates from the literature, as well as different cut-off scores for depression. All alternative scenarios were also cost-effective. The results were sensitive to variables of quality adjusted life years for the depressed fathers, probabilities of remission in treatment and no treatment groups and start age and productivity losses. The probabilistic sensitivity analysis resulted in a 70 percent probability of the postnatal depression screening intervention being cost-effective.

Conclusion: The postpartum screening intervention for fathers could be cost-effective compared to no screening. Further research should be undertaken to confirm the current findings and create stronger evidence for decision makers and health care institutions.

PP68 | Mental health support Swedish child health nurses provide to mothers and fathers: Is it equal?

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Introduction: The mental health status of a parent affects child and family, and personal outcomes. Since nearly all families in Sweden visit the child health centers, screening and supporting both parents could positively impact multiple child and family outcomes. The aim of the current study is to explore the extent to which nurses supported mothers' and fathers' mental health.

Methods: A total of 363 Stockholm County child health nurses completed a 23-item questionnaire focusing on the support they provide to mothers and fathers regarding their mental health. The current study compared the extent to which nurses were aware of mental health problems in new mothers and fathers, if they acknowledged those problems, and if they provided supportive counseling for that mental health problem. All items were scored on a Likert scale of 1 (never) to 5 (always). Descriptive and chi-square tests were used to assess the data.

Results: Nurses ranged in years of experience from 0 to 40, with a mean of 11.4 years of experience. All but two nurses were female, and about half were 50 years or older. Around 86% of nurses stated that they were always or almost always aware of a mental health problem in mothers, while 13% were always or almost always aware in fathers. When nurses were aware of mental health problems in new parents, 93% stated that they acknowledged maternal mental issues, while only 63% acknowledged paternal mental health issues. Furthermore, 73% of nurses provided additional mental health support to mothers, while 38% of nurses provided additional mental health support to fathers. Therefore, on

all items measured, nurses were aware of, acknowledged, and provided support significantly more to mothers than to fathers ($p < .001$).

Conclusion: Nurses provided significantly more mental health support to mothers than fathers. According to the equity sensitivity construct, since mothers continue to receive more mental health support than fathers, fathers are more likely to not visit, resulting in receiving less support for their mental health problems, which can negatively impact child and family outcomes. In the child's best interest, nurses should consider screening fathers for mental health problems.

PP69 | Screening fathers for postnatal depression: Both the Edinburgh postnatal depression scale and Gotland male depression are needed

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Introduction: Around 10% of fathers have major depressive symptoms during the infants' first year of life. The Edinburgh Postnatal Depression Scale (EPDS) is widely used to screen fathers for symptoms of postnatal depression. However, the EPDS may be limited in its ability to detect depressive symptoms in fathers. The Gotland Male Depression Scale (GMDS) has been used on fathers, but little research has compared these two screening tools. This study aims to compare the results of using the EPDS and GMDS when screening new Swedish fathers.

Methods: When their infant was 3-6 months old, 3,656 fathers completed the EPDS and GMDS questionnaires via mail. The study compared EPDS scores ≥10, and ≥12, in relation to GMDS score ≥13.

Results: The EPDS found a prevalence of 13.3% at score ≥10 and 8.1% at score ≥12, while the GMDS' prevalence rate was 8.6% at a score of ≥13. Associations with possible risk factors found: low income was associated with depressive symptoms in all groups, while those with three more children, with a lower education, born outside of Sweden were more likely to have depressive symptoms via EPDS, while the GMDS detected a higher risk for fathers who are single, living apart or widowed.

Conclusions: While there is overlap in detecting depressive symptoms in fathers, the EPDS and GMDS also independently detect additional fathers with symptoms. Therefore, using only one scale risks missing detecting some fathers with depressive symptoms.

PP70 | Inter-relationships of mood, motor activity, and sleep using mobile technologies

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There is increasing evidence regarding the complex daily interplay between regulatory systems like sleep, mood, and motor activity. However, traditional clinical ratings of these systems that are retrospective and subjective oftentimes lack the complexity and external validity needed to comprehensively assess these systems in real time. The use of mobile technology that employs real-time tracking devices offers a powerful method to begin examining these relationships. The goal of this study is 1) to examine the patterns of inter-relationships between motor activity, mood, and sleep based on mobile tracking; and 2) to evaluate whether these patterns differ among people with a history of mood disorders.

Data came from a nested community-based sample of 242 adults and their first-degree relatives. DSM-IV mood disorders were assessed via structured diagnostic interviews and mobile technology captured information daily for two weeks via two methods: (1) Minute-by-minute behavioral data from wrist actigraphy monitors and (2) Electronic interviews 4x/day on a mobile device assessing activities, context, mood, and energy. The data was transformed and centered by group mean and then modeled using generalized estimating equation models. Findings indicate that: (1) sleep duration had a bi-directional, inverse association with motor activity; (2) Motor activity was inversely associated with mood, such that increased motor activity at one assessment was associated with a decrease in sad mood in the subsequent assessment; and (3) there was no direct association between mood with either sleep duration nor disruption. These findings were more pronounced among people with Bipolar Disorder.

This data suggests that there are specific directional associations between sleep, activity, and mood. Interventions targeted to increasing motor activity may be more effective in elevating mood than either modifying sleep or direct treatment of mood. This work also demonstrates the power of dynamic phenotypes derived from mobile technology in characterizing the inter-relationships of regulatory systems.

PP71 | Individual and municipal factors associated with alcoholism in Brazil

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Introduction and Methods: This study uses data from LENAD-II (nationally representative). Between November 2011 and March 2012, multistage cluster sampling was used to select 4,607 individuals (≥ 14 years old) in 174 municipalities. Although LENAD-II predates the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5), it has a question about craving, which allowed assessment of alcohol use disorder (AUD) that matched DSM-5 criteria. A missing data category was created for all individual level variables with missing values. The number of Family Health Strategy teams (public primary health care) per 10,000 inhabitants, and of Psychosocial Care Centers (PSCCs, public secondary mental health care) per 10,000 inhabitants in 2011 were obtained from the Ministry of Health. Gross Domestic Product per capta for 2011, Gini Index for 2010, and municipal population for 2011 were obtained from the Brazilian Institute of Geography and Statistics. Municipal level variables were dichotomized in above/below state average. Four multilevel logistic regression models were built in Stata v.13, with municipality as group variable.
Results: Table 1 shows the results of all models. The missing data categories for ethnicity and migratory status were omitted in models 2 and 4 because they predict failure perfectly (22 observations were dropped). Also, the missing data category for family income in models 2 and 4, and for urbanicity in model 4 show significant association with AUD, indicating bias. Regardless of the model formulation, being male, younger, migrant, LGBT or having children were associated with higher odds of alcohol consumption, while more education, religious affiliation, being older or housewife with lower.
Conclusion: Results converge to current discussions about the link between economic growth and expansion of the alcohol industry in developing countries, leading to increased alcohol availability[1]. They also suggest that the effect of municipal inequality on AUD translates through individual-level sociodemographic variables. In addition, results underscore the importance of the PSCCs and point to specific groups that are at higher risk for AUD and, therefore, can be the target of preventive measures.

[1] Caetano R, Laranjeira R. A 'perfect storm' in developing countries: economic growth and the alcohol industry. Addiction. 2006;101(2):149-52.

PP72 | Population level impact of a systems-based approach to reducing mental health-related emergency department visits among New York City children and adolescents

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Introduction: Mental health related emergency department (ED) visits among children and adolescents have been increasing nationally since the 1990s, many of which originate from schools and are considered to be nonurgent. Beginning in 2013, New York City (NYC) took a systems-based approach to reduce the numbers of nonurgent ED visits. This approach included programs that increase schools' capacities to respond to mental health problems and programs that serve boroughs to reduce inappropriate ED presentations. We assessed the impact of this approach in reducing the number of NYC mental health-related ED visits among children and adolescents, 5 to 17 years, from 2006 to 2016.
Methods: Mental health ED use from 2006 to 2016 was based on data collected from the NYC ED Syndromic Surveillance System, a near-real time dataset of anonymized patient-level chief complaint and demographic data for nearly every NYC ED visit. The Joinpoint Regression Analysis Program, version 4.0.4, was used to calculate trends by proportion of ED visits that were mental health-related for children (5 to 12 years) and adolescents (13 to 17 years).
Results: Between 2006 and 2014, the annual proportion of NYC ED visits that were mental health related increased significantly (Annual Percent Change = 3.69%) among children 5 to 12 years, followed by a decreasing, non-significant trend from 2014 to 2016. A similar pattern was observed among adolescents 13 to 17 years; the proportion of mental health-related ED visits increased significantly between 2006 and 2013 (Annual Percent Change = 8.66%), followed by a decreasing, non-significant trend from 2013 to 2016.
Conclusion: We explored the use of syndromic surveillance data to evaluate the population-level impact of a systems-based response to mental health-related ED visits in NYC. We found a nonsignificant decrease in the proportion of mental health-related ED visits in NYC after 2014 for children, approximately a year after implementation of various programs aimed at decreasing youth mental health-related ED visits. Although we cannot

evaluate specific programs and/or policies that may have influenced findings, timing of the change in increasing trend provides preliminary support for the effectiveness of system-based efforts.

PP73 | Longitudinal analysis of ambient air pollution and increased anxious/depressive symptoms of adolescents in Southern California

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Introduction: Air pollution is the leading environmental threat to global public health. Experimental studies have shown prenatal and/or early-life exposures to ambient air pollutants result in long-term changes in anxious/depressed symptoms in adolescent and adult mice. Although evidence suggests early-life exposure to ambient air pollution may increase anxious/depressed symptoms of school-age children, epidemiologic findings were inconsistent and primarily based on cross-sectional analyses with no data on adolescents.
Methods: We conducted a longitudinal study to examine whether the trajectories of anxious/depressed symptoms in adolescents were affected by ambient air pollution in Southern California. Participants (n=500) of the Risk Factors for Antisocial Behavior study were examined in 2000-2012 (aged 9-18 years) with repeated measures of anxious/depressed symptoms every ~2-3 years (up to 4 behavioral assessments) using the parent-reported Child Behavior Checklist. Based on prospectively-collected residential addresses, we estimated individual-level monthly averages of 24-hour $PM_{2.5}$ and ozone using generalized additive models, weekly NO_2 using land-use regression (LUR) models, and yearly freeway and non-freeway NO_x/NO_2 using the CALINE4 dispersion model. These estimates were aggregated to represent long-term (1-, 2-, 3-year) exposures preceding the baseline assessment. Multilevel mixed-effects models were used to examine the association between ambient air pollution exposure and individual trajectories of anxious/depressed symptoms, adjusting for within-family/within-individual correlations and potential confounders (e.g., sociodemographics; self-perceived quality and contextual socioeconomic characteristics of neighborhood; greenspace; unban vs. non-urban; other spatial covariates; maternal and early-life risk factors)
Results: Ozone exposure at baseline was significantly associated ($p<0.05$) with increased anxious/depressive symptoms, adjusting for multiple potential confounders and other air pollutants. The estimated effect sizes (per interquartile increase of ozone by 5.40-5.60 ppb) were equivalent to the difference in anxious/depressed symptoms between adolescents who are 1.5 years apart in age. These associations were primarily driven by between-area differences, and to a less extent by changes in ozone exposure estimates across time. No statistically significant associations were observed with the other pollutants.
Conclusion: Our study provides the first longitudinal evidence suggesting that long-term ozone exposure may increase anxious/depressive symptoms in adolescents. Future studies need to investigate the prenatal/early-childhood ozone exposure effect and whether the long-term neurotoxicity extends to late life.
Funding Sources: This research was supported by the National Institute of Environmental Health Sciences (NIEHS R21 ES022369 and F31 ES025080). Younan was partly supported by NIEHS R01 ES025888, and her work was also supported by the Southern California Environmental Health Sciences Center (5P30ES007048). The USC Twin Cohort Study is funded by the National Institute of Mental Health (NIMH R01 MH058354).

PP74 | The risk of antidiabetic drug prescriptions among antipsychotic drug users in Poland

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Numerous studies have investigated the relationship between antipsychotic drug use and the incidence of diabetes, but their results were not entirely consistent. Our study aimed to elucidate the association between antipsychotic drug use and the risk of antidiabetic drug use within healthcare database.
Methods: We conducted a retrospective longitudinal analysis involving 88 431 patients who were receiving an antipsychotic medication between 2008 and 2012. We identified all patients who were prescribed any antidiabetic drug. The study was based on the 2008-2012 prescription drug reimbursement data from the Polish National Health Fund in Gdansk. Cox proportional hazard was used to analyse time to first antidiabetic drug among those patients who were without antidiabetic medication at least three months after first antipsychotic drug.
Results: There were 1 095 518 neuroleptic prescriptions during analysed period. Antidiabetic drugs were prescribed in 15% of patients receiving antipsychotics and this

corresponds to 333 005 prescriptions for antidiabetic drugs. There were 79 660 patients who were without antidiabetic drugs for at least 3 months after first antipsychotic drug prescription. The incidence rate for antidiabetic medication use was 0.018 per patient-year.
Conclusions: These results suggest that antipsychotic medications use is associated with increased risk and prevalence of antidiabetic medication use compared to general population. Although the study was based on administrative record linkage and therefore could not be adjusted for potential confounders, its results suggest that greater attention should be paid to patients with antipsychotics to prevent the occurrence of cardiovascular diseases associated with diabetes and metabolic syndrome.

PP75 | Prevalence and sociocultural risk factors of postpartum depression in Astana, Kazakhstan

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Introduction: Postpartum depression (PPD) is recognized as the major public psychological health issue that affects 13% of women at postnatal period worldwide (O'Hara and Swain, 1996). Currently, there is a lack of information about the state of PPD in Kazakhstan, Central Asian country with population of 17.8 million. To bridge this gap, PPD prevalence and risk factors among women in Astana, the capital of Kazakhstan, are evaluated.
Methods: A consecutive sample of women who gave birth within past 12 months were recruited in two major outpatient clinics of Astana, Republican Diagnostic Center and National Research Center for Maternal and Child Health. Participants of this ongoing cross-sectional study completed an anonymous self-reported questionnaire collecting sociodemographic and medical data. Maternal depression was assessed using the translated and adapted Kazakh and Russian versions of Edinburgh Postnatal Depression Scale (EPDS). EPDS score ≥13 was considered as PPD indicator. Potential risk-factors were identified using bivariate tests and multivariate logistic regression.
Results: 25% of 104 participants had EPDS score ≥13 (μ=9.48, σ=4.58). Women with PPD were more likely to have more than one child (p=0.029), insufficient relatives' support in child care (p=0.013), inadequate partner's assistance in household duties (p=0.044) and support in solving problems (p=0.031), poor relationships with mother-in-law (p=0.004), poor relationships with parents during own childhood (p=0.023). Depressed women had higher frequency of cesarean section (p=0.002), previously diagnosed depression (p=0.007) and employment outside of home (p=0.020). Notably, poor relationships with mother-in-law and lack of partner's support in household duties remained significant predictors of PPD after adjusting for confounders (OR 2.04, 95% CI 1.019-4.097 and OR 2.24, 95% CI 1.108-4.526, respectively).
Conclusion: The estimated prevalence of PPD among women exceeds the reported average PPD prevalence in Western countries. Frequently unreported family risk-factors, that are attributable to the Kazakh culture are discovered, including relationships with partner and in-laws. Effective intervention strategies are necessary to strengthen the psychological health of mothers in Astana and Kazakhstan as a whole, targeting not only mothers, but also social family relationship norms.
References: O'Hara, M. W., & Swain, A. M. (1996). Rates and risk of postpartum depression-a meta-analysis. International Review of Psychiatry, 8(1), 7-54. https://doi.org/10.3109/09540269609037816

PP76 | Disrupting the 'Othering' of the mentally ill: The psychology of neocolonialism and psychological liberation of the mentally ill through biopolitical frameworks in Ghana

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Mental health services, with my research focus on the most prevalent disorders: schizophrenia and depression, are incredibly under-resourced. Ghana has just 18 practicing psychiatrists and only three psychiatric hospitals for the entire country. Mental health services funding is often disregarded compared to funding concerning infectious diseases or reproductive health. There are many misconceptions about mental illness; for example, the idea that children of mental health staff often acquire mental illness discourages providers from going into mental health care. Due to resource constraints and the stigma attached to mental illness, the majority of the population suffering from psychiatric conditions are not treated with modern medicine like psychotherapy or medication; instead, they are sent to spiritual churches or prayer camps where they are sometimes severely mistreated by being chained up (sometimes outside in poor weather conditions) or prevented from using adequate medical care. Furthermore, the dearth of research in mental health

contributes to insufficient understanding of how the Ghanaian mental health system (comprised primarily of psychiatric hospitals, the government, nonprofits, and faith-based healing in prayer camps and religious centers) may influence the social differentiation, or 'othering,' of the Ghanaian mentally ill and impact Ghanaian mental health care-seeking behavior or utilization of the Ghana mental hospital system. These 'othered' mentally ill are not 'normal' and are ostracized from the rest of their community. This research study will accomplish an analysis of how these institutions may influence the 'othering' of the Ghanaian mentally ill in the past and present. The focus will be on the following research questions: "How do Ghanaian mental health institutions and their strategies influence the social 'othering' of the Ghanaian mentally ill? How does this not only impact the vulnerable population but also impact voluntary mental health care utilization and mental health care seeking behaviors in Ghanaian society? Are the mental health and asylum systems technological instruments for social and political control?" Through extensive interviewing, a nuanced perspective concerning orthodox and traditional medical systems and how they impact the Ghanaian population's use of mental health services was gained. The top 8 major issues identified that impact the use of mental health services are: Societal Stigma, Economic and Political Factors, Education, Transportation and Infrastructure, Health System and Resources, Type of Healthcare, Quantity of Mental Health Professionals, and Culture and Spirituality. Ideas for improvements to these barriers are a decentralized mental health system, a partnership between medical and traditional healing system, and awareness and education through the media.

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