Edinburgh Mental Health
Interdisciplinary Research Network

Edinburgh Mental Health Autumn Showcase

14.00 – 14.05	**Welcome**
14.05– 14.20	**Prof Matthias Schwannauer,** *Prof of Clinical Psychology* **TBD**
14.20 – 14.35	**Dr Sohan Seth,** *Lead Data Scientist* **Modeling Mental Health Trajectories During the COVID-19 Pandemic Using UK-Wide Data in the Presence of Sociodemographic Variables**
14.35 – 14.50	**Prof Charlotte Hanlon,** *Chair of Global Mental Health* **Homelessness and Mental Health in 3 African Countries: Co-Producing Interventions**
14.50 – 15.05	**Dr Christina Thurston,** *Research Fellow Social Work* **Contextually Sensitive Patterns of Adverse Childhood Experiences and Adult Mental Health in South Africa**
15.05 – 15.20	**Dr Samuel Leighton,** *Research Fellow, University of Glasgow* **Causal Actionable Prediction for Early Cardiometabolic Intervention in Psychosis – Targeting Obesity**
15.20 – 15.30	**Closing**

Title TBD

Prof Matthias Schwannauer

TBD

Matthias Schwannauer *is the Head of School and Professor of Clinical Psychology at the University of Edinburgh.*

Modeling Mental Health Trajectories During the COVID-19 Pandemic Using UK-Wide Data in the Presence of Sociodemographic Variables

Dr Sohan Seth

The negative effects of the COVID-19 pandemic on the mental health and well-being of populations are an important public health issue. Although several studies have reported on these effects in the UK, less is known about temporal trends and how different demographic groups were affected. Our study aims to determine the underlying factors shaping mental health trajectories during the COVID-19 pandemic in the UK. Data from the Understanding Society COVID-19 Study, from April 2020 to September 2021 were utilized. The core analysis included 17, 961 individuals (aged 16 and over) with a total of 179, 610 observations, at 9 time points, focusing on the General Health Questionnaire (GHQ36) scores for mental health outcomes. We used Generalized Additive Models to evaluate trends over time and the role of sociodemographic variables, i.e., age, sex, ethnicity, country of residence (in UK), job status (employment), household income, living with a partner, living with children under age 16, and living with a long-term illness, on the variation of mental health during the study period. Statistically significant differences in mental health were observed for age, sex, ethnicity, country of residence (in UK), job status (employment), household income, living with a partner, living with children under age 16, and living with a long-term illness. The study identified key demographic determinants shaping mental health trajectories during the COVID-19 pandemic in the UK. Policies aiming to reduce mental health inequalities should target women, youth, individuals living without a partner, individuals living with children under 16, individuals with a long-term illness, and lower-income families.

Sohan Seth *is the Lead Data Scientist at UoE's School of Informatics with a background in Machine Learning and Data Science. His research focuses primarily on building interpretable models for extracting information from data to address societal challeges around Science, Health, People and Environment (SHaPE). He leads the Data Science Unit to raise Data Science awareness at the University, and to assess and meet AI and Data Science requirements on various research areas including Social Sciences, Health Informatics, and GeoSciences.*

Homelessness and Mental Health in 3 African Countries: Co-Producing Interventions

Prof Charlotte Hanlon

The NIHR Global Health Research Group on Homelessness and Mental Health in Africa (HOPE) brings together, researchers, implementers, policy makers and people with lived experience of mental illness working in Ethiopia, Ghana and Kenya. We are seeking to build on contextual understanding to develop and test feasible, rights-based interventions that address outcomes which are valued by people with severe mental illness who are homeless. In the presentation, I will tell you about our approach, the contribution of ethnography and surveys, and our proposed interventions.

Charlotte Hanlon *is Chair of Global Mental Health at the University of Edinburgh, UK, and an adjunct staff member of the Department of Psychiatry in Addis Ababa University, Ethiopia. Professor Hanlon works on interventions, services and systems to support recovery of people with severe mental health conditions in low- and middle-income countries. Her focus is on integrated primary mental health care and multi-sectoral community-based approaches. She currently leads the NIHR global health group on homelessness and mental health in Ethiopia, Ghana and Kenya (HOPE) (with Professor Atalay Alem) and the Wellcome-funded SCOPE project, aiming to achieve earlier and better care for people with severe mental illness.*

Contextually Sensitive Patterns of Adverse Childhood Experiences and Adult Mental Health in South Africa

Dr Christina Thurston

Using longitudinal data from South Africa, this study applied latent class analysis with the Bolck-Croon-Hagenaars approach to identify how contextually sensitive adverse childhood experiences (ACEs)- such as parental AIDS-affectedness, food insecurity, and community violence- co-occur and relate to adult mental health outcomes. Four distinct, context-specific ACE classes were identified; each associated with differing mean symptom severity of depression, anxiety, PTSD, suicidality, and psychosis. Findings highlight the complexity and intersectionality of childhood adversity in low-resource settings and challenge the universality of conventional ACE frameworks, which often overlook structural, community, and health-related forms of adversity prevalent in low-and middle-income countries. By demonstrating that context sensitive ACE patterns shape long-term mental health in distinct ways, this research supports the need for person-centred, locally grounded approaches to prevention, intervention, and policy design within global mental health.

Christina Thurston *is a Research Fellow at the University of Edinburgh, working on the ERC-funded INTERRUPT_VIOLENCE project- a three-generational longitudinal study in South Africa. Her research applies quantitative methods to large, longitudinal datasets to explore risk and protective pathways linking contextually sensitive childhood adversity to later-life psychopathology. Before entering academia, Christina worked for a national children's charity, where she supported children and families experiencing adversity, trauma, and complex developmental needs. She also worked alongside adults with lived experience of complex trauma in community and secure residential settings, experiences that continue to inform her commitment to research on prevention, resilience,*

and recovery across the life course. Christina recently submitted her PhD in Social Work at the University of Edinburgh. She also holds an MSc in the Psychology of Childhood Adversity from Queen's University Belfast and an MA (Hons) in Psychology from the University of Dundee. Her work bridges practice and research, generating evidence to inform interventions and policies that reduce the long-term mental health impacts of childhood adversity, particularly in low-resource settings.

Causal Actionable Prediction for Early Cardiometabolic Intervention in Psychosis – Targeting Obesity

Dr Samuel Leighton

Psychosis is a mental illness where individuals interpret or perceive reality differently, experiencing muddled thoughts or seeing/hearing things others do not. People with psychosis die up to 15 years before those without it, mainly due to preventable health issues like heart disease, stroke, and diabetes. Obesity is a major factor in these health issues and is more common in people with psychosis, partly because of antipsychotic medications. Weight gain starts early in treatment. My research aims to understand and address early weight gain to prevent long-term obesity and related health issues. Currently, people with psychosis are offered the same standard treatments for managing obesity, if any are offered at all. Precision medicine could offer a solution by tailoring treatments for individuals using prediction models. A prediction model is a set of rules that forecasts an individual's risk of something happening in the future based on a set of risk factors. However, current models do not focus on including risk factors that are causes of what they predict. Just because two things often happen together, like more people wearing sunglasses and increased ice-cream sales, does not mean one causes the other; they may share a common cause, like sunny weather. Additionally, currently treatments are recommended based on how they work on average across the population. However, we know that every individual responds to treatment differently. I will work with people with real-life experience to creating prediction models based on causes, which can account for individual differences in treatment responses. I aim to improve how healthcare professionals help people with psychosis choose their treatments for obesity, including testing new treatment options, and to advance the prediction modelling field.

Samuel Leighton *is a consultant general adult psychiatrist working in the NHS Greater Glasgow and Clyde. He is also a postdoctoral clinical academic currently at the University of Glasgow. His research career to date has focussed on advancing clinical prediction and machine learning in psychiatry. In 2019, he was awarded a Scottish Government Chief Scientist Office clinical academic PhD fellowship based at the University of Glasgow, on prognosis and prediction research in mental illness. His PhD findings influenced Scottish Government policy on outcome measures chosen for Early Intervention in Psychosis pathfinder sites across Scotland. Since passing his PhD viva in May 2024, his focus has been on incorporating causal inference into prediction using machine learning. His current research is focussed on early intervention for antipsychotic induced obesity in psychosis using causal machine learning. He has been collaborating with Prof Sotirios Tsaftaris and the Causality in Healthcare AI Hub (CHAI) Hub at the University of Edinburgh for this work. He aims to continue this work as a clinical postdoctoral fellow based at the University of Edinburgh working with Prof Daniel Smith at the Metabolic Psychiatry Hub at the University of Edinburgh.*