

occurrences using digital technologies and therapeutics. This will be contextualised around novel public health approaches.

Results: We will describe 11 prototypes as part of a £5 million UK initiative. The themes will include:

- Use of discrete digital technology for easy use by people who use drugs in clinical and non-clinical settings
- Simple alert / responder pathways that created effective responses to potentially fatal overdose events
- Enhance innovative therapeutics as antidotes to overdose episodes
- Novel public health approaches

Conclusion: The use of remote monitoring devices like wearables and smartphone applications, paired with artificial intelligence and innovative therapeutics is an emerging field of research. This needs to be balanced around novel public health approaches.

Disclosure of Interest: None Declared

SP0012

A study exploring regional level predictors of suicide rates across time in Sweden

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Abstract

Introduction: In Sweden, four lives are lost to suicide each day. Hence, identifying relevant risk factors to inform effective prevention strategies is key. Such strategies can range from individual ('micro') -level prevention methods, to broader national suicide prevention policies.

Objectives: Whilst a range of studies have explored individual-level risk factors, highlighting municipal, regional, or national-level predictors can be valuable to identify broader social and contextual determinants. This study will therefore aim to go beyond proximal predictors of suicide by looking through a wider national- and regional-level lens in Sweden.

Methods: This project will be conducted utilizing routinely collected and publicly available data and applying longitudinal modelling to investigate potential predictors of changes in suicide rates across time in Sweden. More specifically, the study will explore whether regional data on economic (e.g. proportion of state benefit recipients), socio-demographic (e.g. educational level) and health-care related variables (e.g. trust in the healthcare system) are associated with suicide rates over time.

Results: This is an ongoing project and results will be available and presented at the time of the conference.

Conclusions: Utilizing publicly available data to explore potential predictors of suicide rates is not only cost-effective, but adding such findings to existing knowledge of individual-level risk factors can also be important when targeting wider policy and ensuring effective coordination and implementation of regional suicide prevention strategies.

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SP0013

How good is the clinical diagnosis in schizophrenia? Reliability and validity

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Abstract: Several changes to the classification of mental disorders have been made during the past half century to increase the reliability, clinical use and validity of the diagnostic classification. Despite the high expansion of knowledge about mental disorders, understanding of their components and processes still requires fine-tuning. This symposium identifies key issues on different classification systems with different purposes relevant to understanding and classifying mental disorders. We discuss how key issues such as ICD-11, RDoC or Biomarkers correspond or diverge because of their different purposes, and constituencies. Although these approaches have varying degrees of overlap and distinguishing features, they share the goal of reducing the burden of suffering due to mental disorder.

Disclosure of Interest: None Declared

SP0014

A Case of Electroencephalography and Machine Learning in Early Diagnosis of Psychotic and Affective Disorders

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Abstract: Electroencephalography (EEG) serves as a non-invasive, cost-effective, and robust tool, directly measuring in-vivo neuronal mass activity with high temporal resolution. Using state-of-the-art machine learning techniques, EEG recordings have the potential to generate in silico biomarkers for severe mental disorders. In this study, we developed EEG-based classification models for schizophrenia and depression taking into account physiological and pathological aging processes.

From a cohort (N=735, 51.6% male) that is acquired in LMU Hospital, Department of Psychiatry and Psychotherapy, comprising healthy control individuals (HC, N=245) and patients with schizophrenia (SCZ, N=250) or major depressive disorder (MDD, N=240), we extracted power spectrum density and connectivity measures based on 60 second resting-state EEG recordings with 19 channels. The support vector machine models were trained to 1) classify patients with SCZ or MDD and HC individuals, and 2) predict age in HC individuals using ten-by-ten repeated nested-cross validation. The age-predicting model was applied to patient groups to calculate EphysAGE (Electrophysiological Age Gap Estimation) by subtracting chronological age from chronological age. The links between diagnosis, medication, and EphysAGE,

i.e., accelerated aging, were then further explored with univariate analyses.

The EphysAGE Model had an explained variance of 46% (MAE=8.7 years, $T=14.31$, $P_{1000}<0.001$). The patients with SCZ had a significantly higher EphysAGE (mean[SD]=0.61[10.32]) than the patients with MDD (mean[SD]=-1.10[10.49], $p=0.04$). The classification models discriminated SCZ from HC (Balanced Accuracy, BAC=72.7%, $p<0.001$), MDD from HC (BAC=67.0%, $p<0.001$), and SCZ from MDD individuals (BAC=63.2%, $p<0.001$). Higher EphysAGE was associated with an increased likelihood of being misclassified as SCZ in HC and MDD ($\rho_{HC}=0.23$, $p<0.001$; $\rho_{MDD}=0.17$, $p=0.01$) based on percentile rank scores from the SCZ Model. Moreover, in the Differential Diagnostic Model, higher EphysAGE is positively correlated with being misclassified as SCZ in patients with MDD ($\rho_{MDD}=0.14$, $p=0.03$).

Machine learning models can extract electrophysiological signatures of MDD and SCZ for potential clinical use. However, the impact of aging processes on diagnostic separability calls for timely application of such models, possibly in early recognition settings.

Disclosure of Interest: None Declared

SP0015

The clinical role of rTMS in difficult-to-treat depression

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Abstract: Several meta-analyses demonstrated the efficacy of unilateral High-Frequency Left-sided (HFL) repetitive Transcranial Magnetic Stimulation (rTMS) for individuals with Major Depressive Disorder (MDD); however, results are contradictory due to heterogeneity of the included studies. Empirical evidence on the relative efficacy of rTMS treatment compared with standard pharmacotherapy in Treatment-Resistant Depression (TRD) is presented. Random effects models were used to assess the effects of rTMS on response and remission rates. In 19 randomized double-blinded sham-controlled studies were included for quantitative analysis for response ($n = 854$ patients) and 9 studies for remission ($n = 551$ patients), the risk ratio (RR) for response and remission are 2.25 and 2.78, respectively for patients after two treatment failures using rTMS as add-on treatment compared to standard pharmacotherapy. The presentation will conclude, that rTMS is significantly more effective than sham rTMS in TRD in response and remission outcomes and may be beneficial as an adjunctive treatment in patients with MDD after two treatment failures. This finding is consistent with previous meta-analyses; however, the effect size was smaller than in the formerly published literature.

Disclosure of Interest: None Declared

SP0016

Recovery in schizophrenia: conceptualization and factors implicated

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Abstract: Schizophrenia has a heterogeneous range of possible outcomes. A portion of patients with schizophrenia significantly improves over the long term, with both clinical and functional remission. Recovery has been differently conceptualized by clinicians and service users, the former focusing on clinical and functional outcomes, the latter more underlying issues as the building a trail of personal meaning and subjective well-being. Besides the “clinical” and “personal” recovery, attention is now put on a wider perspective of “societal” recovery. The frequency of recovery achievement depends on which of these perspectives is considered. Many factors, demographic, clinical, contextual and treatment-related are involved in modulating the probability to meet these objectives. Both pharmacological and psychosocial interventions, and their integration, and attention to environmental and social circumstances could substantially improve the outcome of schizophrenia and achievement of specific recovery goals.

Disclosure of Interest: None Declared

SP0017

Recovery in schizophrenia: the role of antipsychotic treatment

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Abstract

Introduction: Comprehensive care programs, which include individually planned pharmacotherapy are associated with higher rates of recovery¹ and better long-term prognosis². However, there are barriers to individually optimised antipsychotic treatment both from both the patients and treatment teams perspectives.

Objectives: To summarize the potential contribution of adequate long-term antipsychotic treatment to recovery or better outcomes in schizophrenia.

Method: Review of research data.

Results A shorter duration of untreated psychosis, a lower number of relapses, and the absence of a chronic course of psychosis are associated with higher rates of recovery and a better prognosis. The OPUS early intervention program was associated with better outcomes for up to 10 years, but not for more than 20-years³. Second generation antipsychotics are associated with