

UKRI Mental Health Platform: A Cross-Hub Approach to Integrative Mechanistic Insights in Severe Mental Illness



Indrani Manoharan¹, Sophie Quick¹, Vaughn Feuer¹, Susannah Strong¹, Lynne Hocking^{1,2}, Andrew McIntosh¹ and The UKRI Mental Health Platform (MHP)
Brain & Genomics, Complex Emotions, DATAMIND, ImmunoMIND, Metabolic Psychiatry, Social Health Hubs and Lived Experience Partners
1. University of Edinburgh 2. DATAMIND

Background

Severe mental illness (SMI), including schizophrenia, bipolar disorder, and severe depression may severely impair a person's ability to carry out daily tasks, and impact employment and/or relationships.

Traditional siloed research has limited progress in identifying mechanisms that can be translated into effective diagnostics, prevention, and interventions.

The UKRI Mental Health Platform (MHP) was established to overcome these barriers by uniting six interdisciplinary hubs that integrate biological, psychological, social, and data-driven perspectives on SMI.

Aims

- ❖ Identify multilevel mechanistic signatures of SMI by combining genetic, neurobiological, immunometabolic, behavioural, social, and large-scale data using advanced analytic approaches.
- ❖ Develop clinically meaningful outcomes together with people with lived experience.

Method: Cross-Hub Framework

Coordinating Centre



Biological & Genetic Profiling

Integrative analysis of genetic and neurobiological markers (Brain & Genomics).



Immunometabolic Markers

Characterisation of immune and metabolic biomarkers (ImmunoMIND; Metabolic Psychiatry).



Behavioural & Emotional Phenotyping

Detailed assessments of behavioural and emotional dimensions related to SMI (Complex Emotions).



Social Determinants

Life-course social context and determinants influencing outcomes (Social Health).



Harmonised Data & Analytics

Use of large-scale harmonised datasets & advanced computational models, including machine learning, network modelling, and causal inference (DATAMIND).



Lived Experience

Working with people with lived experience of SMI to ensure research reflects the priorities of the community and to align findings with real-world needs.

Outputs & Expected Impact

Multi-level mechanistic signatures of SMI

FAIR Data resources & reproducible analytics

Translational pathways & inform future trials

Outcomes meaningful to people with SMI

Conclusion

SMI reflects interacting biological, behavioural, and social processes. MHP brings these domains together within a single cross-hub framework to generate mechanistic insight with translational potential.

This integrative approach is designed to create collaborative work which will improve the diagnosis and treatment of people with SMI.

Visit our website to learn more

