

ePreventPsych

New Digital Strategies for Prevention of Psychosis and its Consequences

ABSTRACT

Psychotic disorders such as schizophrenia cause an immense disease burden at both the individual and societal levels. In Europe, the cost for these disorders has been estimated at €94 billion/year, on par with all cardiovascular diseases. This disease burden stems from early onset, prolonged occupational impairment and comorbid somatic disorders (cardiovascular diseases and diabetes), which, together with high suicide rates, account for a reduced life expectancy of 10-15 years. Early identification and intervention have the potential to avert progression and improve recovery; however, engaging individuals in very early disease stages poses significant challenges. In response, a suite of digital screening tools for psychosis risk and comorbid cardiometabolic risk has been developed by partners of this proposal, which have yet to be validated and implemented in EU countries.

This proposal aims to implement a suite of digital screening tools across community, primary, and secondary healthcare settings in five countries: Sweden, Italy, the Netherlands, Denmark and Spain.

1. A community web-based screening tool which uses digital outreach to engage individuals by combining self-administered questionnaires for statistical risk factors as well as symptoms. This strategy has previously demonstrated high sensitivity and specificity to identify individuals at clinical high risk for psychosis.
2. P Risk, which is a screening tool for primary care applied to electronic health records (EHRs). Predictors include consultations, diagnoses and prescribed medications for nonpsychotic mental health problems and behaviours as well as social deprivation, geographical location, and ethnicity.
3. A transdiagnostic risk calculator based on local secondary care EHR systems. The risk calculator has good prognostic accuracy, as determined in the UK, where its initial implementation in healthcare has also been tested. The risk calculator has been refined using natural language processing-based predictors based on clinical notes, including various behavioural symptoms, increasing its discrimination performance.
4. The Psychosis Metabolic Risk Calculator (PsyMetRiC), which estimates the risk of developing metabolic syndrome in early psychosis, based on predictors such as body mass index, smoking as well as biomarkers. It has been internationally validated, showing transportability to EU countries. The model can be applied to clinical or EHR data.

For all the screening tools, we will:

- Validate them on local settings and data
- Identify legal, technological and educational barriers and facilitators
- Explore user perspectives to assess preferences and unmet needs
- Pilot real-world implementation in healthcare settings
- Estimate the cost-effectiveness

This project aligns with the call to implement existing person-centred, preventive health models via digital

tools in Europe. These validated digital tools, spanning community and healthcare settings, will aid the early detection of individuals at risk of psychosis and increase provision of gold-standard, cost-effective care to prevent disorder onset. This proposal aims not just to extend validation work across different European settings but also to ensure their seamless integration into healthcare systems, navigating technical, legal, and economic hurdles to improve preventive psychiatry. By engaging a wide range of end-users—including patients, healthcare providers, and policymakers—we tackle crucial cultural and ethical considerations. This initiative enables precise stratification for tailored interventions within a stepped-care model, reflecting the call's emphasis on diverse, scalable prevention, aiming to improve life quality and reduce care burden.

KEYWORDS

- Psychotic disorders
- CHR
- Early detection
- Prevention
- Healthcare systems
- Digital screening
- EHR

DURATION

36 months

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