



## **TITLE:**

SAR-PEP: A rapid learning healthcare system for early intervention for psychosis programs

## **Background**

Although the literature highlights essential elements for EIS (eg. easy and rapid access to reduce DUP), an important heterogeneity remains in the extent to which they are implemented. A learning healthcare system can improve the uptake of clinical guidelines and evidence-based medicine in clinical settings and the translation of knowledge into practice and therefore improve the quality of health care.

## **Method**

Grounded in the Integrated Knowledge Translation (iKT) approach that actively involves knowledge users throughout the design and implementation of the entire research process, with the overarching goal to improve the quality of care for patients with first-episode psychosis, this project aims to determine the feasibility of implementing a rapid learning health system (RLHS). Built in collaboration with all stakeholders (clinicians, user and family representatives, researchers, decision makers, the National center of excellence in mental health (CNESM), and the Quebec association of first episode programs (AQPPEP) this RLHS draws on real-time, user-and program centered indicators and capacity-building activities across 11 EIS in diverse settings of the Quebec province (Canada). Other aims are to determine its acceptability and impact on user outcomes (i.e., patient and family satisfaction); compliance to essential EI components, and decision-making at local and provincial levels.

## **Results**

The implementation of the RLHS proved to be feasible, despite different challenges linked to 1) involvement of many stakeholders from different cultures and backgrounds, 2) the lack of existing systematic, reliable, and clinically appropriate data collection procedures, 3) the lack of required resources (exacerbated during COVID-19 pandemic) paired to willingness to change and 4) accurate understanding of the model that may not be shared by all decisionors and/or clinicians. The RLHS was deployed on multiple phases over 2 years and regular meetings were held to receive and give feedbacks on the RLHS and adapt it regularly with all stakeholders comments. The implementation steps were: 1) The identification and prioritisation of indicators in collaboration with all stakeholders including service users and families, through surveys and both in person and virtual meetings. 2) The development of a health technology platform to allow real-time clinical data (indicators) to be routinely collected and entered by clinical teams 3-monthly, and continuously by users and family members. 3) Data collection implementation on all sites from early in 2020 every 3 months. 4) Diffusion to individual programs of personalized feedback on fidelity to indicators, electronically produced showing each program progression over time and comparing it to the mean of all programs, with comments to suggest improvement targets, 5) Capacity-building activities (eg. webinars, development and training on new tools, and individual mentoring) tailored to evolving needs of individual programs as identified by RLHS, are offered partly through an electronic platform embedded in the RLHS. 6) And the cycle goes on measuring again the same indicators to determine areas of achievements and those who need further efforts.

## **Discussion**

The RLHS can increase capacity for providing evidence-based care, monitoring performance, setting targets for improvement, using data to make program-level decisions, for collaborative learning and multi-stakeholder interactions so that patient-centered care in EIS can be achieved. The next implementation step involves the scale-up of the RLHS model across the whole province of Quebec or in other provinces and its implementation in other complex mental health services (e.g., ACT teams).

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