Original Research

The Canadian Journal of Psychiatry /
La Revue Canadienne de Psychiatrie
2020, Vol. 65(8) 536-547

DOI: 10.1177/0706743719895193
TheCJP.ca | LaRCP.ca

Où en sommes-nous? An Overview of Successes and Challenges after 30 Years of Early Intervention Services for Psychosis in Quebec

Où en sommes-nous? Un aperçu des réussites et des problèmes après 30 ans de services d'intervention précoce pour la psychose au Québec

Bastian Bertulies-Esposito, MD[1,2], Marie Nolin, MD, FRCPC[3], Srividya N. Iyer, PhD[4,5], Ashok Malla, MD, FRCPC[4,5], Phil Tibbo, MD, FRCPC[6], Nicola Otter, BSc[7], Manuela Ferrari, PhD[5,8], and Amal Abdel-Baki, MD, FRCPC, MSc[1,2,9]

Abstract

Introduction: Over the last 30 years, early intervention services (EIS) for first-episode psychosis (FEP) were gradually implemented in the province of Quebec. Such implementation occurred without provincial standards/guidelines and policy commitment to EIS until 2017. Although the literature highlights essential elements for EIS, studies conducted elsewhere reveal that important EIS components are often missing. No thorough review of Quebec EIS practices has ever been conducted, a gap we sought to address.

Methods: Adopting a cross-sectional descriptive study design, an online survey was distributed to 18 EIS that existed in Quebec in 2016 to collect data on clinical, administrative, training, and research variables. Survey responses were compared with existing EIS service delivery recommendations.

Results: Half of Quebec's population had access to EIS, with some regions having no programs. Most programs adhered to essential components of EIS. However, divergence from expert recommendations occurred with respect to variables such as open referral processes and patient–clinician ratio. Nonurban EIS encountered additional challenges related to their geography and lower population densities, which impacted their team size/composition and intensity of follow-up.

Conclusions: Most Quebec EIS offer adequate services but lack resources and organizational support to adhere to some core components. Recently, the provincial government has created EIS guidelines, invested in the development of new programs and offered implementation support from the National Centre of Excellence in Mental Health. These changes, along with continued mentoring and networking of clinicians and researchers, can help all Quebec EIS to attain and maintain recommended quality standards.

---

[1] Department of Psychiatry, Université de Montréal, Montreal, Quebec, Canada
[2] Centre de recherche du Centre hospitalier de l'Université de Montréal, Montreal, Quebec, Canada
[3] Hôpital Pierre-Le Gardeur, Terrbonne, Quebec, Canada
[4] Prevention and Early Intervention Program for Psychosis (PEPP), Douglas Mental Health University Institute, Montreal, Quebec, Canada
[5] Department of Psychiatry, McGill University, Montreal, Quebec, Canada
[6] Dalhousie University, Halifax, Nova Scotia, Canada
[7] Canadian Consortium for Early Intervention in Psychosis, Hamilton, Ontario, Canada
[8] Douglas Mental Health University Institute, Montreal, Quebec, Canada
[9] Clinique Jeunes adultes psychotiques, Centre hospitalier de l'Université de Montréal, Montreal, Quebec, Canada

Corresponding Author:
Amal Abdel-Baki, Centre de recherche du Centre hospitalier de l'Université de Montréal, 900 rue Saint-Denis, Montreal, Quebec H2X 0A9, Canada.
Email: amal.abdel-baki@umontreal.ca

Abrégé

Introduction : Au cours des 30 dernières années, les programmes d'interventions pour premiers épisodes psychotiques (PIPEP) ont été graduellement implantés dans la province de Québec. Jusqu'en 2017, cette implantation a eu lieu sans lignes directrices/normes provinciales ni engagement politique. Bien que la littérature fait état de composantes essentielles des PIPEP, des études menées ailleurs révèlent que des composantes importantes des PIPEP sont souvent omises. Aucune recension exhaustive des pratiques des PIPEP du Québec n'a été menée auparavant, lacune que nous avons tenté de combler.

Méthodes : Suivant un devis d'étude transversal et descriptif, un sondage en ligne a été distribué aux 18 PIPEP en fonction au Québec en 2016 pour recueillir des données sur les variables cliniques, administratives, de formation et de recherche. Les réponses au sondage ont été comparées avec les recommandations sur la prestation des PIPEP.

Résultats : La moitié de la population du Québec avait accès aux PIPEP, mais certaines régions n'avaient pas de programme. La plupart des programmes adhéraient aux composantes essentielles des PIPEP. Toutefois, il y avait des écarts avec les recommandations d'experts quant à certaines composantes tels les processus de référence et les ratios patients/clinicien. Les PIPEP non urbains éprouvaient des difficultés additionnelles en lien avec la géographie et la densité de population plus faible de leur territoire, qui avaient des répercussions sur la taille/composition de leur équipe et sur l'intensité du suivi.

Conclusions : La plupart des PIPEP du Québec offrent des services adéquats, mais manquent de ressources et de soutien administratif pour adhérer à des composantes fondamentales. Récemment, le gouvernement a créé des lignes directrices pour les PIPEP, investi dans l'élaboration de nouveaux programmes et offert du soutien à l'implantation avec le Centre national d'excellence en santé mentale. Ces changements, parallèlement au mentorat et au réseautage entre cliniciens et chercheurs pourraient aider tous les PIPEP du Québec à atteindre et à maintenir les standards de qualité recommandés.

Keywords

first-episode psychosis, mental health services, early intervention, schizophrenia, government mental health policy, clinical practice guidelines, evidence-based medicine

Introduction

Multiple studies reveal that the implementation of essential components of EIS remains heterogeneous.[1-3] A 2016 Canadian survey of 11 academic EIS found that while they generally followed existing standards and guidelines, there was significant variance in the extent to which essential care components were offered.[4] The availability of guidelines alone may not be sufficient, and specific funding, mentoring, and auditing of fidelity to standards may be required to ensure consistency in the quality of programs.[1,4-6]

In Quebec, over a 30-year period, clinicians developed EIS without provincial standards/guidelines or policy commitments which only emerged in 2017. A provincial association of EI programs, the *Association québécoise des programmes pour premiers épisodes psychotiques* (AQPPEP), formed in 2004, has supported EIS through continuing education, training, and networking around the use of clinical guidelines. No thorough review of Quebec EIS practices has ever been conducted.

The Quebec government's latest 5-year mental health plan[7] envisaged the development of EIS in all regions by 2020. In 2017, the ministry of health and social services committed funding to develop 15 new EIS[8], appointed an advisor at the *Centre national d'excellence en santé mentale* (CNESM) to support program implementation and published provincial EIS standards.[9,10] Our aim was to investigate the extent to which Quebec EIS established before 2016 (i.e., before these policy changes occurred) adhered to internationally recognized standards and thereby establish a baseline against which Quebec EIS can be measured in the future.

Methods

Adopting a cross-sectional descriptive study design, an online survey assessing clinical and administrative variables was distributed to 18 Quebec EIS that existed in 2016. All programs consented to their data being published as reported here. Responses were reviewed in relation to existing EIS recommendations, which are summarized in previous work.[4]

These recommendations were extracted from national and international guidelines on EIS for psychosis or articles on essential components of EIS. Clinical guidelines from the United Kingdom,[11-14] Australia,[15] New Zealand,[16] Italy,[17] and from four Canadian provinces (British Columbia,[3] Ontario,[18,19] New Brunswick,[20] and Nova Scotia[21,22]) identified through PubMed, PsycINFO, and Google Scholar search were studied.

Half the surveyed EIS were in small cities (<150,000 inhabitants), semirural or rural areas, and the rest were attached to urban academic programs. These two sets of EIS were compared to elucidate additional challenges that smaller rural services may face and their impacts on service functioning.

Results

Seventeen of the 18 EIS responded to the survey. Two were excluded from the analysis of specific survey sections for which they had provided incomplete data. Table 1 presents the results of the survey regarding the implementation of the recommended core components of EIS.

Detailed program and patient characteristics are reported in Table 2. Figure 1 shows the differences in access to mental

Table 1. Expert Recommendations Regarding Core Elements of EIS for FEP, Their Rationale, and Survey Results Describing Actual Practices around Those Core Elements for Quebec Programs.

Core element	Expert Recommendation	Rationale	Survey Results Regarding Actual Practices
Inclusion diagnostic criteria	– Accept patients with all types of psychosis: schizophrenia spectrum, affective psychosis, substance-induced psychosis[3,11,13,15,20,23]	– To ensure that all patients who might benefit from early intervention (EI) have access to EI – Diagnoses can change over time and waiting for a precise diagnosis delays access to treatment – Substance-induced psychoses are associated with high conversion rates to primary psychoses[24,25]	– Schizophrenia and schizoaffective disorder ($n = 17/17$) – Bipolar disorder with psychotic features ($n = 12/17$) – Psychotic depression ($n = 11/17$) – Substance-induced psychosis ($n = 11/17$)

Exclusion criteria	– Limit exclusion criteria as much as possible
	– The following criteria should not exclude patients from EIS: current legal proceedings, substance use, comorbid medical conditions (which are not the cause of psychosis)[11,15]
		– To ensure that high-needs patients with psychosis have access to EI
		– If needed, follow the patient concurrently with experts from other fields (e.g., forensic psychiatry, other medical specialties)
			– Some programs have the following exclusion criteria:
			  – Comorbid personality disorders ($n = 1/17$)
			  – Intellectual disability ($n = 12/17$)
			  – Acquired brain injury or developmental disorders ($n = 9/17$)
			  – Epilepsy ($n = 3/17$)
			  – No exclusion criteria ($n = 4/17$)

Accessibility	– EIS should adopt an open referral policy[3,10,15,22,26]
	– Programs should intervene in the community to educate the population and potential referral sources[15,17,19,22,26-30]
	– Rapid assessment of new referrals[3,10,26]
		– To reduce duration of untreated psychosis (DUP), which has been associated with worse outcomes[31-34]
		– Delays in the pathway to care, importantly those intrinsic to the health-care system,[31-39] contribute to DUP
		– The first contact with psychiatric services can be traumatic for FEP patients, especially when it involves emergency rooms, being brought to the hospital by police, and so on.[35,38,39] This can impact future alliance with psychiatric services and engagement in treatment.
		– Diminish stigma associated with FEP
			– Open referral policy ($n = 10/15$)
			– Referral from a mental health professional required ($n = 5/15$)
			  – Community mental health agencies ($n = 3/15$)
			  – Psychiatrist referral required (usually through the emergency services; $n = 2/15$)
			– Regularly receive referrals from schools ($n = 9/15$)
			– Education of potential referral sources ($n = 11/15$) and of the general population ($n = 8/15$)
			– Programs have established maximal delays for:
			  – initial screening ($n = 12/15$),
			  – full assessment ($n = 11/15$)
			  – entry to program ($n = 7/15$)
			– Maximum delays set by programs
			  – 72-hr limit to make initial contact ($n = 5/15$)
			  – Full assessment within 1–2 weeks after referral ($n = 11/15$)
			  – Entry in program within 1 month ($n = 11/15$)
			– Average time between referral and intake
			  – 1 week ($n = 7/15$)
			  – Between 1 week and 1 month ($n = 3/15$)
			  – 1 month ($n = 4/15$)
			  – More than 1 month ($n = 1/15$)
			  – Range: 3–4 days to 1.5 months

Maximize engagement	– Outreach[16,17,19,20,27,29]
	– Services adapted to youth needs and reality[27]
	– Missed appointments or nonadherence to treatment should not constitute a basis for exclusion from the EIS[14]
		– Engagement is a great challenge in FEP; >30% of patients do not engage with services when only regular psychiatric services are offered[40]	– Community outreach interventions by staff ($n = 13/15$) for an average of 28% of their time (range: 1–80%)
			– Discharge from program due to noncompliance to follow-up or treatment
			  – Patients refusing treatment ($n = 5/17$)
			  – Noncompliance to treatment ($n = 3/17$)
			– Community treatment orders are used to avoid treatment cessation and disengagement, when relevant ($n = 11/15$)

Access to specific EIS ward/beds	– EIS should have access to reserved hospital beds[15] – There should be a ward specifically adapted to needs of FEP youth[27]	– Hospitalizations can be traumatic for FEP youth[35,38,39] – First contact with services has significant implications for future engagement and adherence to treatment	– Access to beds for FEP patients in a psychiatric unit, with EIS psychiatrist caring for the patients ($n = 7/17$) – Patients are hospitalized in any psychiatric unit but EIS psychiatrist do not manage the hospitalization “beds” ($n = 4/17$) – No direct access to specific hospital beds ($n = 6/17$)

(continued)

Table 1. (continued)

Core element	Expert Recommendation	Rationale	Survey Results Regarding Actual Practices

Age at intake	– Services should be offered continuously, to those between 12 and 35 years of age[10-13]	– To prevent disruption in care when transitioning to adulthood and maximize patients' engagement in care
		– To reach as many patients as possible
			– Programs in a child psychiatric setting ($n = 3/15$)
			  – Minimal age at intake: 6, 12, or no minimum
			  – Maximal age of patients at intake: 17
			– Adult programs ($n = 14/15$)
			  – Minimal age at intake $\leq$ 16 years old ($n = 6$), 17 years old ($n = 3$), 18 years old ($n = 4$)
			  – Maximal age at intake: 35 years old ($n = 7$), 30 years old ($n = 4$), and 28 years old ($n = 2$)

Youth at ultrahigh risk for psychosis (UHR-P)	– EIS should offer follow-up and psychosocial interventions, addressing comorbidities[3,11,13,15,23,41]	– Psychosocial and pharmacological interventions might delay or prevent transition to psychosis[42-49] – To reduce DUP for those who will develop psychosis – UHR have high rates of psychiatric comorbidities and cognitive deficits, poor functioning, suicidality[44,50-52]	– Specific services for UHR-P ($n = 6/17$) – Follow-up of UHR-P without specific interventions ($n = 10/17$)
Biopsychosocial interventions	– EIS should offer various biopsychosocial interventions including psychopharmacology (low dose antipsychotics), case management, family interventions, CBT, substance abuse interventions, assertive outreach, and so on.[3,10,15,17,19,26,29,30,53-57]	– These interventions have been shown to improve treatment outcomes	– All programs offer an array of the main evidence-based interventions – Figure 1 details these interventions – 13/15 programs also had formal agreements with external services (e.g., employment support, addiction specialists or housing support)
Case management	– Use of a case management approach[58-60] – Low ratios: $\leq$ 15:1[3,14,26,27,29,30,55]	– A clinician (e.g., social worker, occupational therapist, or nurse) plays a pivotal role in coordinating various aspects of the patient's care – To avoid the patient experiencing care as fragmented and maximize engagement – To allow case managers to offer services at an adequate intensity level	– Patients to case manager ratios $\leq$ 15:1 ($n = 2/15$) – Ratio > 15:1 ($n = 8/15$; maximum ratio of 30:1) – No case management, but patient to clinician ratio of 20:1 (for nurses and social workers) + Assertive Community Treatment[61] for difficult-to-engage FEP patients with an 8:1 ratio ($n = 1/15$) – No case management ($n = 3/15$)
Team composition	– EIS teams should be multidisciplinary, and include a psychiatrist – Regular team meetings[10,60] – Psychiatrist devotes at least 50% of his practice to the EIS (ideally, 100%)[10] – Psychiatrists' caseload is 10–20 patients per half-day of availability to the EIS[10]	– Young people with FEP have frequent crises related to both relapses and psychosocial concerns, and need a range of services – Need for flexibility – Complementary expertise further facilitates continuity of care	– All programs have multidisciplinary teams with psychiatrists – Figure 1 details team composition

Training and continuing education	– EIS team members should engage in continuing education activities[3,15,16,20,23]	– To maintain and improve team members' competency in caring for youth with FEP	– Continuing education activities via AQPPEP or locally organized (e.g., lectures, journal clubs; $n = 11/15$; 5 academic and 6 non-academic programs)
			– Multiple training opportunities offered
			  – Psychiatry residents ($n = 9/15$)
			  – Clinical fellowships ($n = 2/15$)
			  – Medical students ($n = 11/15$)
			  – Social work ($n = 9/15$)
			  – Occupational therapy ($n = 10/15$)
			  – Nursing ($n = 8/15$)
			  – Psychology ($n = 6/15$)
			  – Other graduate students ($n = 4/15$)

(continued)

Table 1. (continued)

Core element	Expert Recommendation	Rationale	Survey Results Regarding Actual Practices

Program duration and discharge orientation	– 3–5 years[3,10,19,22,26,27]	– 2- and 3-year EIS might be of insufficient duration to result in long-standing clinical and functional improvement since clinical benefits reported after 2 years of EIS may not be sustained at a 5-year follow-up[53,62]	– Program duration
			  – 2-year programs (n = 2/17)
			  – 3-year programs (n = 5/17)
			  – 5-year programs (n = 7/17)
			  – > 5-year programs (n = 3/17)
			– Discharge orientation
			  – 10% referred to primary care physician (range: 0–29%)
			  – 16% referred to a first-line or primary care-level community mental health clinic (range: 0–85%)
			  – 59% referred to a psychotic disorders service (34% within the same hospital [range: 0–80%]; 25% in another hospital [range: 0–89%])
			  – 11% (range: 0–40%) referred to a tertiary care-level specialized service (e.g., assertive community treatment, specialized treatment for dual disorders)

Clinical and research evaluation	– Thorough initial assessment[3,12-17,19,29]
	– Use of clinical tools and formal assessment protocols[3,12,17,19]
		– Appropriate assessments of multiple pertinent domains (e.g. symptoms, physical health, quality of life) inform treatment planning and evaluation of progress	– Screening assessment (n = 14/15, of which 4 have a formal protocol)
			– There is variable use of scales during follow-up (monthly to yearly)
			  – Structured Clinical Interview for *DSM-IV* (n = 2/15)
			  – Scales to monitor symptoms (e.g., Positive and Negative Syndrome Scale, Scale for the Assessment of Negative Symptoms, Scale for the Assessment of Positive Symptoms, Calgary Depression Scale; n = 7/15)
			  – Functional assessment (Global Assessment of Functioning, Social and Occupational Functioning Assessment Scale, Quality of Life; n = 6/15)
			  – Substance use (e.g., Drug Abuse Screening Test, Alcohol Use Scale, Drug Use Scale, Timeline Follow-back, Alcohol Use Disorders Identification Test; n = 5/15)

Program evaluation	– Formal processes in place to assess service quality and patient outcomes[3]	– Program evaluation is an essential component of every health-care service:
		  – Allows programs to measure objectively how they progress to reach goals
		  – Constitutes a tool to ensure consistent quality of service provision
			– Formal process for the evaluation of patient and treatment outcomes (n = 4/15; all in academic settings)
			– Quality assurance evaluation (n = 5/15; 3 academic and 2 non-academic)

Research activities	– Programs should participate in research projects[3]	– Research activities are conducted to improve knowledge in the field of early intervention, and its results disseminated to a range of audiences for impact on practice and policy[63]	– Research activities (n = 6/15; all academic) – Production of peer-reviewed publications in the 5 years preceding the survey (n = 4/15, with 4–88 publications; mean: 31.25, median: 16.5) – Collaboration on research projects (n = 7/15; all academic) – Various research topics: early psychosis outcome, epidemiology, psychopharmacology, neurobiology, psychosocial, service-related research, etc.

Note. N = 17. EIS = early intervention services; AQPPEP = *Association québécoise des programmes pour premiers épisodes psychotiques*; FEP: first-episode psychosis; CBT: cognitive behavioural therapy.

Table 2. Characteristics of the Surveyed EIS for FEP in Quebec, as of 2016.

	Program Name	1	2	3	4	5	6	7	8	9
Program characteristics	Implementation year	1999	1988	2002–2003	2010	1999	1994	2009	2014	2014
	Location	Large city	Large city	Large city	Large city	Large city	Large city	Large city	Small city/ rural area	Small city/ rural area
	Population covered	225,000	370,000	400,000	150,000	600,000	600,000	125,000	100,000	85,000
Program statistics	Referrals per year	90	155	156	30	50	70		32	28
	Accepted new cases per year	67	140	55	25	45	55		24	17
	Accepted new cases per year per 100,000 population	30	38	14	17	8	9		24	20
Services	Program duration	5 years	5 years	2 years	2 years	3 years	> 5 years	5 years	5 years	5 years
	Services for UHR patients	No	No	Yes	No	No	No	No	No	Yes
	Specific hospital beds	6	12	10	Yes	10	No	No	No	No
	Patient to case manager ratio	30:1	No case management	19–23:1	15–20:1	8–20:1	No case management		20:1	17:1
Admission criteria	Age range	17–30	18–35	14–35	16–35	18–30	18–30		13–30	14–28
	Maximum length of psychosis prior to treatment	No maximum	No maximum	No maximum	No maximum	No maximum	No maximum	No maximum	No maximum	No maximum
	Maximum length of prior treatment with ATP medication	1 year	5 years	1 month	1 month	6 months	No maximum	1 month	No maximum	2 years
	Inclusion of affective psychosis	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes
	Inclusion of substance-induced psychosis	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
	Inclusion of concurrent of acquired brain injury/developmental disorders	No	No	No	No	No	Yes	No	Yes	Yes
	Inclusion of concurrent epilepsy	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
	Inclusion of concurrent mental retardation	Yes	No	No	No	Yes, if mild	No	Yes	Yes	No
	Inclusion despite legal problems	No	No	No	No	No	No		No	No
Accessibility/ early detection	School, community clinic or self-referral are accepted	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
	Targeted maximum delay after between referral and first contact with patient	24 hr	2 weeks	3 days	4 days	1 month	No maximum		1 week	3 days
	Targeted maximum delay after between referral and face-to-face full assessment	2 weeks	2 weeks	1 week	2 weeks	No maximum	No maximum		1 week	2 weeks
	Targeted maximum delay after between referral and entry into program	2 weeks	2 months	2 weeks	No maximum	No maximum	No maximum		1 week	No maximum
	Average time for entry into program	1 week	1 month	1 week	1 week	1,5 month	1 month		2 days	1 month
	Public education	No	Yes	Yes	No	Yes	No	No	Yes	Yes
	Direct education of sources of referral	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Standardized processes	Use of clinical practice guidelines	Yes	Yes		Yes	Yes	No	No	Yes	Yes
	Formal protocol for initial assessment	No	No	Yes	No	Yes	No		No	Yes
	Regular use of standardized evaluation tools	Yes	No	Yes	Yes	Yes	No		No	No
	Formal process for evaluation of patient and treatment outcome	Yes	No	Yes	No	Yes	No		No	No
	Evaluation for quality assurance	Yes	No	Yes	No	Yes	No		No	Yes
Education and research	Continuing education within program	Yes	No	Yes	No	Yes	Yes		Yes	Yes
	Research within program	Yes	Yes	Yes	Yes	Yes	Yes		No	No
Patient characteristics	Average age at admission	23	24,5		23	22	21		18	20
	% studying at admission	25			50	15	22		25	20
	% working at admission	45			20	15	20		25	50
	% living with their family at admission	40			60	80	70		60	67
	% living independently at admission	55			40	20	30		40	33
	First Nation (%)	0		1	2	2			0	0
	Visible minorities (%)	33	60	35	15	15			1	0
	First-generation immigrants (%)	25	40	18	35	15			0	0
	Second-generation immigrants (%)	20	15	48	25	5			0	0
	Use of antipsychotics < 1 month prior to admission	35	N/A	3	95	40			99	
	Use of antipsychotics 1–3 months	35	N/A	1	5	40				
	Use of antipsychotics 3–6 months	20	N/A	0	0	15				
	Use of antipsychotics > 6 months	10	N/A	0	0	5				

(continued)

Table 2. (continued)

	Program Name	10	11	12	13	14	15	16	17
Program characteristics	Implementation year	2004	2009	2001	2014	2014	2009	2005	2005
	Location	Small city/ rural area	Small city/ rural area	Small city/ rural area	Suburban area	Suburban area	Large city	Large city	Large city
	Population covered	77,000	192,000	200,000	120,200	160,000	59,000	Québec, supra-regional	300,000
Program statistics	Referrals per year	15	30	20	35	53	50	50	
	Accepted new cases per year	12	25	12	32		25	50	
	Accepted new cases per year per 100,000 population	16	13	6	27		42		
Services	Program duration	3 years	5 years	5 years	3 years	3 years	3 years	No maximum	No maximum
	Services for UHR patients	No	No	Yes	Yes	No	No	Yes	Yes
	Specific hospital beds	3	No	No	No	No	8	Yes	Yes
	Patient to case manager ratio	25:1	15:1	NA	24:1	16–18:1	10:1	NA	
Admission criteria	Age range	16–35	15–28	18–35	17–35	17–35	12–17	< 17	6–17
	Maximum length of psychosis prior to treatment	No maximum	2 years	2 years	No maximum	No maximum	No maximum	No maximum	No maximum
	Maximum length of prior treatment with ATP medication	No maximum	No maximum	No maximum	6 months	6 months	1month	No maximum	No maximum
	Inclusion of affective psychosis	No	Yes	Yes	Yes	Yes	Yes	Yes	No
	Inclusion of substance-induced psychosis	Yes	Yes	No	Yes	No	No	Yes	No
	Inclusion of concurrent of acquired brain injury/developmental disorders	No	No	No	No	Yes	Yes	Yes	Yes
	Inclusion of concurrent epilepsy	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
	Inclusion of concurrent mental retardation	No	No	No	Yes	Yes, if mild	No	Yes	No
	Inclusion despite legal problems	No	No	No	No	No	No	Yes	No
Accessibility/ early detection	School, community clinic or self-referral are accepted	Yes	Yes	No	Yes	Yes	Yes	No	
	Targeted maximum delay after between referral and first contact with patient	3 days	3 days	1 week	1 week	1 week	No maximum	No maximum	
	Targeted maximum delay after between referral and face-to-face full assessment	1 week	1 week	1 week	1 week	1 week	No maximum	No maximum	
	Targeted maximum delay after between referral and entry into program	1 week	3 months	3 weeks	No maximum	1 week	No maximum	No maximum	
	Average time for entry into program	3–4 days	1 month	3 weeks	5 days	24 hours	1–2 weeks	2–3 weeks	
	Public education	Yes	Yes	No	No	Yes	No	No	
	Direct education of sources of referral	No	Yes	Yes	Yes	No	No	Yes	
Standardized processes	Use of clinical practice guidelines	Yes	Yes	Yes	No	No	Yes	Yes	Yes
	Formal protocol for initial assessment	No	No	No	No	No	Yes	No	
	Regular use of standardized evaluation tools	No	Yes	Yes	Yes	No	Yes	Yes	
	Formal process for evaluation of patient and treatment outcome	No	No	No	No	No	Yes	No	
	Evaluation for quality assurance	No	Yes	No	No	No	No	No	
Education and research	Continuing education within program	Yes	No	Yes	Yes	Yes	Yes	No	
	Research within program	No	No	No	No	No	Yes	No	
Patient characteristics	Average age at admission		19	23	22	22	15	15,5	16
	% studying at admission		25	60	50		98	95	95
	% working at admission		25	20	50		0	3	0
	% living with their family at admission		50	60	80		95	95	95
	% living independently at admission		50	40	20		1	0	0
	First Nation (%)	10	0	0	0	0	25	2	0
	Visible minorities (%)	5	1	0	10		25	5	80
	First-generation immigrants (%)		0	0	5		10	2	10
	Second-generation immigrants (%)		0	0	10		15	4	70
	Use of antipsychotics < 1 month prior to admission		90	20	70	N/A	95	70	
	Use of antipsychotics 1–3 months		10	30	15	N/A	5	15	
	Use of antipsychotics 3–6 months		0	20	10	N/A	0	3	
	Use of antipsychotics > 6 months		0	20	5	N/A	0	2	

Note. EIS = early intervention services; UHR = ultrahigh risk.

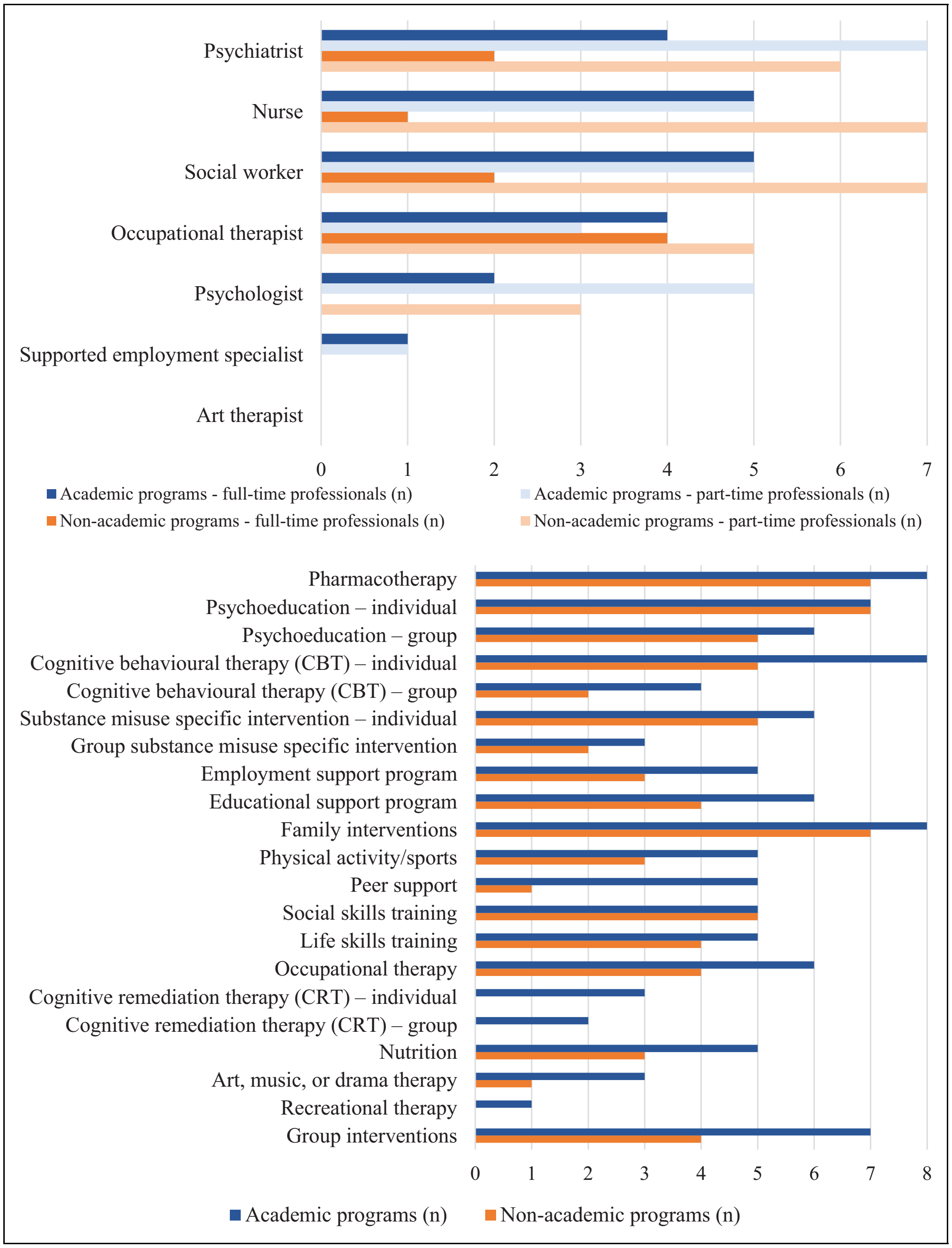

Figure 1. Team composition of Quebec early intervention services and offered psychosocial interventions.

health professionals in surveyed EIS and the variety of psychosocial interventions they offered.

Discussion

Access, Treatment Delay, and Care Continuity

At the time of the survey, about 3.75 million people (less than half of Quebec's population) lived in catchment areas served by EIS.[64] To reduce the duration of untreated psychosis (DUP) and traumatic pathways to care, 10 programs had an open referral policy and most accepted self-referrals and referrals from schools, family, and friends. Several programs specified maximum acceptable delays between referral and initial screening, assessment and entry to program. The average time between referral and intake varied greatly (3–90 days). To promote early case identification (community capacity to recognize early signs of psychosis and refer without undue delay), 8 programs engaged in public education, and 11 offered education to potential referral sources (e.g., schools). The reasonable delays between referral, assessments, and the beginning of treatment reported by 11 programs could be attributed to service reorganizations that bypassed traditional pathways to care. Although these efforts sought to reduce DUP, most programs did not specifically estimate DUP. Our results are similar to those of an Ontarian EIS survey.[65]

Some programs' restrictive intake criteria may have excluded some patients who might have benefited from EI. To ensure continuity of care, EIS should serve people from adolescence past the age of majority (18 years in Quebec) instead of having hard age-based cut-offs. Several surveyed adult programs admitted patients under 18, but child and adolescent programs did not continue follow-up once patients turned 18.

High-Quality Interventions

Similar to the Ontario survey's results,[65] most Quebec programs offered various evidence-based services, namely, pharmacotherapy, patient and family psychoeducation, cognitive-behavior therapy, and substance misuse interventions.

Four of the 15 programs did not offer intensive case management and one offered it only to patients considered difficult to engage. Furthermore, as in the Ontario study,[66] most programs did not adhere to recommended low patient-to-case manager ratios. This could lead to staff burnout[65,67] and impede the provision of services of appropriate intensity. Given that case management is a pillar of EI,[58,59] lack of selective and inadequately resourced case management is disconcerting.

High-Fidelity Implementation

Quebec's EIS struggle with integrating administrative or organizational elements that could improve the implementation of standards and guidelines, likely due to their widely reported lack of adequate administrative, financial, and political support. Few programs had formal protocols for patient assessment, outcomes monitoring, and quality assurance. Such heterogeneity has been observed in implementing other high-intensity mental health programs on large scales.[68]

To address the lack of continuing education opportunities especially in French, that most programs reported, AQPPEP organizes conferences and mentoring on-site and online. These are often the main or only continuing education opportunities available.

Contextual Influences

Unlike academic programs with dense urban catchment populations (range: 125,000–600,000; median: 370,000), non-academic programs face challenges attributable to the vastness (up to 10 times larger) and sparse populations of their catchments (range: 77,000–200,000; median: 120,000). Their smaller, less professionally diverse teams often dedicate part of their time to non-EIS activities and offer fewer types of psychosocial interventions. Some remote programs offer outreach services so that patients need not travel long distances to receive care. They combine several types of group interventions to serve more patients simultaneously and hold groups (e.g., family psychoeducation) in collaboration with local community organizations (often not restricted to first-episode psychosis [FEP] patients). The scarcity of employment support personnel and adapted employment options could result in patients in rural programs having poorer social and functional recovery. To enhance EI service provision and training/supervision opportunities for remote areas, alternative service models like flexible assertive community treatment,[69] specialist outreach[70] or hub-and-spoke,[70] and technological options should be considered. Training and supervising mental health-care providers, especially for interventions like cognitive behavioural therapy (CBT) for psychosis, remains challenging for all EIS.[70]

It is known that fidelity to service models is attainable rapidly after implementation.[71,72] We found that how long programs had been in operation had little bearing on their fidelity to core EI components. British Columbia and Ontario, where provincial EIS standards exist,[3,19] have reported heterogeneous implementation and called for close and continuous monitoring.[65,73] Fidelity scales have been proposed and used in program audits to facilitate homogenization and adherence to standards among EIS.[29,60,74,75] Dedicated resources to support programs in continuous quality improvement (like the implementation advisor appointed by CNESM in 2017) may also help improve and evaluate fidelity.

Our findings also highlight the need to support EIS programs as they are being created in Quebec to ensure their alignment with standards and their collection of data on key performance indicators[71] from the outset.

Limitations

Data collected through a survey completed by program directors is subject to desirability bias. Although the data were 90% complete, two small programs did not complete most of the survey. EIS engaging in research activities may have been able to provide more accurate data-informed answers than non-academic programs. How programs were evaluated by patients and their families was not addressed.

Although most services reported offering many psychosocial interventions, the survey did not query what proportion of patients received them. We also did not enquire whether clinicians offering specialized interventions were properly trained and supervised.

Conclusion

Quebec EIS offer quality services to persons with FEP and adhere to several of the model's essential components, despite lacking dedicated funding and policy support until recently. There is some heterogeneity in programs' clinical and administrative components. Similar to studies of EI implementation, we found that smaller (rural) programs offered several essential components in adherence to standards, despite having a limited number of clinicians.[65] Some of the variance in services offered may be attributed to specific clinical or geographical realities. Most programs reported difficulties in implementing some essential components, even though clinical guidelines are widely available to clinicians and administrators.

Our survey represents an initial step in the monitoring of EIS implementation prior to the establishment of provincial guidelines and wider funding commitments. The survey allowed us to evaluate programs' perceptions of their own performance. The next step would be to use scales to measure the quality of services and their fidelity to the EI model, as was recently done in Ontario[66] and in other countries.[76,77] Comparing the results of this survey with scale-based assessments in the future will help develop interventions to improve the quality of care and enhance programs' and clinicians' awareness of their strengths and weaknesses.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Bastian Bertulies-Esposito https://orcid.org/0000-0002-7285-0181

References

1. Cocchi A, Cavicchini A, Collavo M, et al., Implementation and development of early intervention in psychosis services in Italy: A national survey promoted by the Associazione italiana interventi precoci nelle psicosi. Early Interv Psychiatry. 2018; 12(1):37-44.
2. Catts SV, Evans RW, O'Toole BI, et al. Is a national framework for implementing early psychosis services necessary? results of a survey of Australian mental health service directors. Early Interv Psychiatry. 2010;4(1):25-30.
3. Ehmann T, Hanson L, Yager J, et al. Standards and guidelines for early psychosis intervention (EPI) programs. Victoria: British Columbia Ministry of Health Services; 2010.
4. Nolin M, Malla A, Tibbo P, et al. Early intervention for psychosis in Canada: what is the state of affairs? Can J Psychiatry. 2016;61(3):186-194.
5. Csillag C, Nordentoft M, Mizuno M, et al. Early intervention services in psychosis: from evidence to wide implementation. Early Interv Psychiatry. 2016;10(6):540-546.
6. Csillag C, Nordentoft M, Mizuno M, et al. Early intervention in psychosis: from clinical intervention to health system implementation. Early Interv Psychiatry. 2018;12(4):757-764.
7. Ministère de la santé et des services sociaux, Plan d'action en santé mentale 2015-2020. Québec, Canada: Gouvernement du Québec; 2015.
8. La Presse Canadienne. Québec investit 26,5 millions en santé mentale. Le Devoir, April 29, 2017. Available from https://www.ledevoir.com/societe/sante/497541/quebec-investit-26-5-millions-en-sante-mentale [accessed 2017 Jun 15].
9. Ministère de la santé et des services sociaux. Cadre de référence: programmes d'interventions pour premiers épisodes psychotiques (PIPEP). Québec, Canada: Gouvernement du Québec; 2017.
10. Centre national d'excellence en santé mentale. Proposition de guide à l'implantation dses équipes de premier épisode psychotique. Montréal, Canada: Ministère de la Santé et des Services sociaux; 2014.
11. NIMHE National Early Intervention Programme. Early intervention (ei) acceptance criteria guidance. 2008.
12. National Collaborating Centre for Mental Health. Psychosis and schizophrenia in children and young people: the NICE guideline on recognition and management. Leicester, UK: The British Psychological Society and the Royal College of Psychiatrists; 2013.
13. Initiative to Reduce the Impact of Schizophrenia. IRIS guidelines update September 2012. IRIS Initiative Ltd; 2012.
14. Early Intervention in Psychosis Network (EIPN). Standards for early intervention in psychosis services. London, UK: Royal College of Psychiatrists; 2016.
15. Early Psychosis Guidelines Writing Group and EPPIC National Support Program. Australian clinical guidelines for early psychosis. Orygen: The National Centre of Excellence; 2016.
16. Disley B. Early intervention in psychosis guidance note. Wellington, New Zealand: Mental Health Commission; 1999.
17. The Italian national guidelines system (SNLG). Early intervention in schizophrenia—Guidelines. Milan, Italy: The Italian National Guidelines System; 2009.
18. Ontario Ministry of Health and Long-Term Care. Program policy framework for early intervention in psychosis. 2004.
19. Ontario Ministry of Health and Long-Term Care. Early psychosis intervention program standards. 2011.
20. Early Psychosis Services N.B., Administrative guidelines. Addiction, Mental Health and Primary Health Care Services. Fredericton, New Brunswick: Addiction, Mental Health and Primary Health Care Services; 2011.
21. Nova Scotia Department of Health. Nova Scotia provincial service standards for early psychosis. Halifax, Nova Scotia; 2004.
22. Nova Scotia Department of Health. Standards for mental health services in Nova Scotia. Halifax, Nova Scotia; 2009.
23. Addington DE, McKenzie E, Norman R, et al. Essential evidence-based components of first-episode psychosis services. Psychiatr Serv. 2013;64(5):452-457.
24. Arendt M, PB M, Rosenberg R, et al. Familial predisposition for psychiatric disorder: comparison of subjects treated for cannabis-induced psychosis and schizophrenia. Arch Gen Psychiatry. 2008;65(11):1269-1274.
25. Niemi-Pynttäri JA, Sund R, Putkonen H, et al. Substance-induced psychoses converting into schizophrenia: a register-

based study of 18,478 Finnish inpatient cases. J Clin Psychiatry. 2013;74(1):e94-e99.

26. National Institute for Health and Care Excellence. Implementing the early intervention in psychosis access and waiting time standard. Guidance; 2016.
27. Hughes F, Stavely H, Simpson R, et al. At the heart of an early psychosis centre: the core components of the 2014 early psychosis prevention and intervention centre model for Australian communities. Australas Psychiatry. 2014;22(3):228-234.
28. Larsen TK, Joa I, Langeveld J, et al., Optimizing health-care systems to promote early detection of psychosis. Early Interv Psychiatry. 2009;3(Suppl 1):S13-S16.
29. Melton R, Blea P, Hayden-Lewis KA, et al. Practice guidelines for Oregon early assessment and support alliance (EASA). 2013.
30. Turner M, Nightingale S, Mulder R, et al. Evaluation of early intervention for psychosis services in New Zealand: What works? Auckland: Health Research Council of New Zealand; 2002.
31. Harris MG, Henry LP, Harrigan SM, et al. The relationship between duration of untreated psychosis and outcome: an eight-year prospective study. Schizophr Res. 2005;79(1): 85-93.
32. Marshall M, Lewis S, Lockwood A, et al. Association between duration of untreated psychosis and outcome in cohorts of first-episode patient: a systematic review. Arch Gen Psychiatry. 2005;62(9):975-983.
33. Norman RMG, Malla AK, Duration of untreated psychosis: a critical examination of the concept and its importance. Psychol Med. 2001;31(3):381-400.
34. Perkins DO, Gu H, Boteva K, et al. Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: a critical review and meta-analysis. Am J Psychiatry. 2005;162(10):1785-1804.
35. Berry K, Ford S, Jellicoe-Jones L, et al. PTSD symptoms associated with the experiences of psychosis and hospitalisation: a review of the literature. Clin Psychol Rev. 2013;33(4): 526-538.
36. Insel TR. Raise-ing our expectations for first-episode psychosis. Am J Psychiatry. 2016;173(4):311-312.
37. MacDonald K, Fainman-Adelman N, Anderson KK, et al. Pathways to mental health services for young people: a systematic review. Soc Psychiatry Psychiatr Epidemiol. 2018; 53(10):1005-1038.
38. McGorry PD. Posttraumatic stress disorder following recent-onset psychosis. an unrecognized postpsychotic syndrome. J Nerv Ment Dis. 1991;179(5):253-258.
39. Tarrier N, Khan S, Cater J, et al., The subjective consequences of suffering a first episode psychosis: trauma and suicide behaviour. Soc Psychiatry Psychiatr Epidemiol. 2007;42(1):29-35.
40. Doyle R, Turner N, Fanning F, et al., First-episode psychosis and disengagement from treatment: a systematic review. Psych Serv. 2014;65(5):603-611.
41. Bertolote J, McGorry P. Early intervention and recovery for young people with early psychosis: consensus statement. Br J Psychiatry. 2005;187(Suppl. 48):s116-s119.
42. Marshall M, Rathbone J. Early intervention for psychosis. Cochr Database Syst Rev. 2011;(6):171.
43. McGorry PD, Yung AR, Phillips LJ, et al. Randomized controlled trial of interventions designed to reduce the risk of progression to first-episode psychosis in a clinical sample with subthreshold symptoms. Arch Gen Psychiatry. 2002;59(10): 921-928.
44. Fusar-Poli P, Borgwardt S, Bechdolf A, et al. The psychosis high-risk state: a comprehensive state-of-the-art review. JAMA Psychiatry. 2013;70(1):107-120.
45. Fusar-Poli P, Diaz-Caneja CM, Patel R, et al. Services for people at high risk improve outcomes in patients with first episode psychosis. Acta Psychiatr Scand. 2016;133(1):76-85.
46. McGlashan TH, Zipursky RB, Perkins D, et al. Randomized, double-blind trial of olanzapine versus placebo in patients prodromally symptomatic for psychosis. Am J Psychiatry. 2006; 163(5):790-799.
47. Morrison AP, French P, Walford L, et al. Cognitive therapy for the prevention of psychosis in people at ultra-high risk: randomised controlled trial. Br J Psychiatry. 2004;185(4):291-297.
48. Nordentoft M, Thorup A, Petersen L, et al. Transition rates from schizotypal disorder to psychotic disorder for first-contact patients included in the OPUS trial. a randomized clinical trial of integrated treatment and standard treatment. Schizophr Res. 2006;83(1):29-40.
49. van der Gaag M, Smit F, Bechdolf A, et al. Preventing a first episode of psychosis: meta-analysis of randomized controlled prevention trials of 12 month and longer-term follow-ups. Schizophr Res. 2013;149(1-3):56-62.
50. Cotter J, Drake RJ, Bucci S, et al. What drives poor functioning in the at-risk mental state? a systematic review. Schizophr Res. 2014;159(2-3):267-277.
51. Hui C, Morcillo C, Russo DA, et al. Psychiatric morbidity, functioning and quality of life in young people at clinical high risk for psychosis. Schizophr Res. 2013;148(1-3):175-180.
52. Simon AE, Gradel M, Cattapan-Ludewig K, et al. Cognitive functioning in at-risk mental states for psychosis and 2-year clinical outcome. Schizophr Res. 2012;142(1-3):108-115.
53. Bertelsen M, Jeppesen P, Petersen L, et al. Five-year follow-up of a randomized multicenter trial of intensive early intervention vs standard treatment for patients with a first episode of psychotic illness: the OPUS trial. Arch Gen Psychiatry. 2008; 65(7):762-771.
54. Craig TK, Garety P, Power P, et al. The Lambeth early onset (LEO) team: randomised controlled trial of the effectiveness of specialised care for early psychosis. BMJ. 2004;329(1067): 1-15.
55. Melau M. OPUS fidelity rapport 2016. København, Denmark: Psykiatrisk Center København; 2016.
56. Petersen L, Jeppesen P, Thorup A, et al. A randomised multicentre trial of integrated versus standard treatment for patients with a first episode of psychotic illness. BMJ. 2005;331(602): 1-7.
57. Petersen L, Thorup A, Øqhlenschlæger J, et al. Predictors of remission and recovery in a first-episode schizophrenia

spectrum disorder sample: 2-year follow-up of the OPUS trial. Can J Psychiatry. 2008;53(10):660-670.

58. Fowler D, Hodgekins J, Howells L, et al. Can targeted early intervention improve functional recovery in psychosis? a historical control evaluation of the effectiveness of different models of early intervention service provision in Norfolk 1998-2007. Early Interv Psychiatry. 2009;3(4): 282-288.
59. Dieterich M, Irving CB, Bergman H, et al., Intensive case management for severe mental illness. Cochrane Database Syst Rev. 2017;1:1-327.
60. Addington DE, Norman R, Bond GR, et al., Development and testing of the first-episode psychosis services fidelity scale. Psychiatr Serv. 2016;67(9):1023-1025.
61. Gold PB, Meisler N, Santos AB, et al., The program of assertive community treatment: implementation and dissemination of an evidence-based model of community-based care for persons with severe and persistent mental illness. Cogn Behav Prac. 2003;10(4):290-303.
62. Nordentoft M, Rasmussen JØ, Melau M, et al. How successful are first episode programs? a review of the evidence for specialized assertive early intervention. Curr Opin Psychiatry. 2014;27(3):167-172.
63. Iyer S, Jordan G, Macdonald K, et al. Early intervention for psychosis: a Canadian perspective. J Nerv Ment Dis. 2015; 203(5):356-364.
64. Statistics Canada. Quebec [province] and Canada [country] (table). Census Profile, 2016. Available from http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm? [accessed 2018 Jan 1]
65. Durbin J, Selick A, Hierlihy D, et al. A first step in system improvement: a survey of early psychosis intervention programmes in Ontario. Early Interv Psychiatry. 2016;10(6): 485-493.
66. Durbin J, Selick A, Langill G, et al., Using fidelity measurement to assess quality of early psychosis intervention services in Ontario. Psychiatr Serv. 2019;70(9):840-844.
67. Woltmann EM, Whitley R, McHugo GJ, et al. The role of staff turnover in the implementation of evidence-based practices in mental health care. Psychiatr Serv. 2008;59(5):732-737.
68. Phillips SD, Burns BJ, Edgar ER, et al. Moving assertive community treatment into standard practice. Psychiatr Serv. 2001; 52(6):771-779.
69. Drukker M, Sytema S, Driessen G, et al. Function assertive community treatment (FACT) and psychiatric service use in patients diagnosed with severe mental illness. Epidemiol Psychiatr Sci. 2011;20(3):273-278.
70. Cheng C, deRuiter WK, Howlett A, et al. Psychosis 101: evaluating a training programme for northern and remote youth mental health service providers. Early Interv Psychiatry. 2013;7(4):442-450.
71. Salyers MP, Godfrey JL, McGuire AB, et al. Implementing the illness management and recovery program for consumers with severe mental illness. Psychiatr Serv. 2009;60(4):483-490.
72. McHugo GJ, Drake RE, Whitley R, et al. Fidelity outcomes in the national implementing evidence-based practices project. Psychiatr Serv. 2007;58(10):1279-1284.
73. Ehmann T. A quiet evolution: early psychosis services in British Columbia a survey of hospital and community resources 2003-2004. Richmond: British Columbia Schizophrenia Society; 2004.
74. Hetrick SE, Bailey AP, Smith KE, et al. Integrated (one-stop shop) youth health care: best available evidence and future directions. Med J Aust. 2017;207(10):S5-S18.
75. Melau M, Albert N, Nordentoft M, Development of a fidelity scale for Danish specialized early interventions service. Early Interv Psychiatry. 2017;13(3):568-573.
76. Melau M, Albert N, Nordentoft M, Programme fidelity of specialized early intervention in Denmark. Early Interv Psychiatry. 2019;13(3):627-632.
77. Mueser KT, Meyer-Kalos PS, Glynn SM, et al. Implementation and fidelity assessment of the navigate treatment program for first episode psychosis in a multi-site study. Schizophr Res. 2019;204:271-281.