Using the Ontario Common Assessment of Need to inform quality improvement in community mental health and addictions programs:

Learning from Early Psychosis Intervention Programs

MARCH 9, 2020

camh
mental health is health

EPION
EARLY PSYCHOSIS INTERVENTION ONTARIO NETWORK

PROJECT TEAM

Janet Durbin, MSc, PhD
Provincial System Support Program, Centre for Addiction and Mental Health
Toronto

Avra Selick, MA, PhD(c)
Provincial System Support Program, Centre for Addiction and Mental Health
Toronto

Gordon Langill, MSW
Canadian Mental Health Association, Haliburton, Kawartha, Pine Ridge Branch
Peterborough

Frank Sirotich, MSW, PhD
Canadian Mental Health Association, Toronto Branch
Toronto

Anna Durbin, MSc, PhD
Center for Urban Health Solutions, St Michael's Hospital
Toronto

Elizabeth Lin, MSc, PhD
Education Research, Office of Education, Centre for Addiction and Mental Health
Toronto

PROJECT SPONSORS & PARTNERS

This project was a collaboration between the Provincial System Support Program at CAMH and the Early Psychosis Intervention Network of Ontario (EPION). It was funded by PSSP.

The team gratefully acknowledges the support of the Community Care Information Management (CCIM) program who operate the provincial data repository for the Ontario Common Assessment of Need data.

Suggested citation: Durbin, J., Selick, A., Langill, G., Sirotich, F., Durbin, A., & Lin, E. (2020). Using the Ontario Common Assessment of Need to inform quality improvement in community mental health and addictions programs: Learning from Early Psychosis Intervention Programs. Centre for Addiction and Mental Health: Toronto, Ontario.

CONTENTS

EXECUTIVE SUMMARY

Background

- The Ontario Common Assessment of Need (OCAN) is a standardized measure of client health and functioning implemented in the Ontario community mental health sector since 2009. A unique feature of the OCAN is the inclusion of both staff and client ratings of need.
- In addition to supporting a client-centered approach to care delivery, programs are expected to upload assessments to a central repository for system level use. However, current use of the OCAN for system-level planning/ policy purposes is minimal.
- Early Psychosis intervention (EPI) is a core service of the Ontario mental health system. EPI Program Standards were released by the Ontario government in 2011. The Standards included a recommendation that performance measurement be conducted using existing data if available. The OCAN provides a potential tool for addressing this need.

Purpose

- The purpose of this project was to assess the value of the OCAN for informing system monitoring and improvement work, focusing on EPI services. Specifically we:
    1. Examined how OCAN data can inform understanding of EPI program delivery in relation to provincial EPI program standards.
    2. Assessed the quality of OCAN data uploaded to the central repository by EPI programs.
- The report is not an attempt to create system quality indicators or show all of the potential uses of the OCAN. Results may inform future indicator development efforts.

What we did

- We obtained all OCAN assessments uploaded to the central repository during 2010-16 for individuals receiving service from an EPI program.
- To assess program adherence to the EPI Program Standards, we created a cohort of recent admission assessments and identified five relevant quality statements within the Standards that could be examined with available OCAN data.
- The sample for this component included admission assessments for 693 clients uploaded to the repository during 2014-16.

- To assess data quality, we examined EPI program adherence to the data collection protocol and the completeness of submitted data. The sample for this component included 9528 assessments representing 4211 EPI clients uploaded to the repository during 2010 to 2016.

What we found

1. Understanding EPI service delivery in relation to the Standards

The OCAN data were helpful for understanding EPI service delivery in relation to the five quality statements reviewed.

1. *Programs serve adolescent/young adults*: Age and sex profiles showed that most EPI programs are serving the targeted age range. A small number of programs are serving older clients. This raises questions about how individuals with later age onset of psychosis are supported. This is a particular concern for women.
2. *Programs reflect the diversity of the community:* Our sample was mostly male and English speaking, and included few clients who identified as Aboriginal. This raises questions about how well EPI programs are able to engage all youth in their communities and whether additional supports are needed to ensure equitable access to services. The recent refresh of the OCAN (Version 3.0) includes 8 items recommended by Health Equity Data Collection Research Project which should strengthen the value of the OCAN for measuring access.
3. *Programs develop community networks to assist with early referral*: Over half of clients were referred to the EPI program from hospital and many had experienced an inpatient admission for mental health prior to EPI program admission. This raises questions about the need for more outreach to develop community referral networks and support the early intervention mandate.
4. *Programs conduct a comprehensive holistic assessment:* The need ratings reported by both staff and clients in the OCAN span clinical, community functioning and social domains, in alignment with the assessment requirements. About one-quarter of staff rated needs related to intimate relations and sexual expression as unknown. More training may be needed to support meaningful conversations between staff and clients on this topic.
5. *The client, family and team negotiate a comprehensive recovery plan:* The paired client and staff need ratings showed many areas of agreement and some differences, such as related to physical health and drug use. This feedback can inform collaborative, needs based care planning. Over time, as relationships strengthen, agreement would be expected to increase.

2. Assessing OCAN data quality

Despite its potential value, the quality of the OCAN data is a concern.

1. *Adherence to the protocol:* A significant portion of EPI programs (about 40%) do not upload OCAN data to the central repository and, among programs who do upload, assessments often are not submitted as specified in the protocol (every six months and at discharge). Only about half of assessments included the client ratings.
2. *Data completeness:* Completion of non-mandatory items is variable. Of particular importance, key service use data such as service initiation and discharge dates are missing in about 20% of assessments. These data are important for tracking client use of community mental health services. A recent refresh (Version 3.0) of the OCAN has increased the number of mandatory items but non mandatory items remain.

Going Forward

OCAN data have potential to inform understanding of practice in relation to the EPI program standards. However, higher submission rates and better quality are needed to support broader use of the data and more confidence in findings.

To improve quality and relevance of OCAN data for EPI programs and more broadly within the Ontario community mental health sector, we make the following recommendations:

- Submissions of OCAN data to the central repository should be made mandatory.
- Work should continue to link items within the OCAN to quality statements in EPI Standards, to support the use of OCAN data for system and program level quality improvement work, and for monitoring client progress.
- Program capacity to use OCAN data for client care and program improvement should be strengthened. Initiatives already implemented through Community Care Information Management (CCIM), Excellence through Quality Improvement Project (E-QIP), and the Provincial System Support Program could be scaled.
- Reasons for non-completion of the client self-assessment should be explored and strategies implemented to encourage completion.
- Frequency of assessments should be reviewed, considering the minimum required to provide clinical utility while respecting burden for clients and staff.
- A mandatory minimum dataset should be considered for uploading to the central repository that supports system monitoring and reduces burden on clients and staff to complete.

- Processes should be developed for ongoing monitoring of quality of uploaded assessments, with mechanisms for feedback and correction (such as used by the Canadian Institute for Health Information for other administrative databases).
- Efforts should continue to clarify variable definitions and instructions for data collection. Processes to assess data reliability and validity should be developed.
- A working group should be convened to progress these recommendations. The group should also review how OCAN data complement other system data sources and could be integrated to meet system monitoring needs.

BACKGROUND AND PURPOSE

The Ontario Common Assessment of Need (OCAN) is a standardized comprehensive measure of client health and functioning that was introduced in the Ontario community mental health sector in 2009. While not mandatory, the OCAN has been widely implemented among eligible programs in the province. Assessments are intended to enhance client centered care delivery in programs and provide feedback to improve outcomes. Additionally, they are uploaded to a central data repository, offering a potential resource for system improvement work. A recent Health Quality Ontario report on the quality of mental health care in Ontario[1] noted a lack of system-wide data for monitoring use of community mental health services, a key limitation if we are to fully understand the care experience and outcomes of people with mental health problems.

Early Psychosis Intervention (EPI) is a comprehensive, team-based model of care that combines pharmacologic and psychosocial interventions to support client recovery from a first episode of psychosis. EPI services target adolescents and young adults. Rapid admission to reduce the duration of untreated psychosis is a key feature of the model. There are currently about 50 EPI programs in Ontario, located throughout the province. Most participate in a funded community of practice called the Early Psychosis Intervention Network of Ontario (EPION).[a]

In 2011, the Ontario government released EPI Program Standards to guide more consistent EPI delivery. The Standards included a recommendation that performance measurement be conducted using existing data if available.[2] The OCAN provides a potential tool for addressing this need.

The purpose of the present project is **to assess how OCAN data can inform understanding of EPI service delivery in relation to the EPI Program Standards and guide improvement work**. Since system planning requires good quality data, a second aim is **to assess quality of OCAN data submitted by EPI programs to the provincial data repository**.

This project was funded by the Provincial System Support Program (PSSP) at the Centre for Addiction and Mental Health[b] and conducted by a PSSP-based research team in partnership with EPION and Canadian Mental Health Association Toronto.

[a] The Early Psychosis Intervention Ontario Network (EPION) is a province-wide volunteer network of service providers, persons with lived experience, and families. The network facilitates collaboration, training, resource sharing, and quality improvement efforts. EPION is funded by the Ministry of Health and Long-Term Care. For more information, visit epion.ca.

[b] The Provincial System Support Program helps build capacity in the mental health and addiction system to implement evidence based practices with quality. For more information, visit improvingsystems.ca

THE ONTARIO COMMON ASSESSMENT OF NEED

The OCAN is a standardized client assessment that collects data on: client socio-demographic characteristics; clinical status; use of community mental health services; and service and support needs. Needs are rated across 24 health and social domains using a validated measure called the Camberwell Assessment of Need.[3] Need is rated using one of the following options: no need; met need (due to help provided); unmet need (serious problem); or not known/do not want to answer. Both the staff and client rate needs, providing the opportunity for both perspectives to inform development of the care plan. This feature of the OCAN aligns with the provincial health policy aim of including service users as participants in their own health care.[4] Some OCAN items are mandatory, some are optional.

Most community mental health programs, including EPI programs, are expected to collect the full OCAN, which includes all of the components listed above. A very smaller number of programs who have brief interactions with clients (e.g., crisis intervention) collect the Core OCAN which does not include the staff or client need assessments. The OCAN is intended to be completed when a client enters a program, then every six months, and at discharge.

Provincial OCAN implementation is managed by Community Care Information Management (CCIM),[c] a program within the provincial government. CCIM provided province-wide training when the OCAN was first introduced, and has continued to support implementation through coaching, a community of practice, webinars and think tanks. A detailed manual outlines the assessment protocol, including assessment frequency, item definitions and response options (for the link to resources click Here). Until recently, OCAN Version 2.0 was in use. In 2017, CCIM led an OCAN refresh to improve its clinical value, align with current standards and terminology, and clarify definitions. Version 3.0 was released in 2018.[5]

Programs are expected to upload OCAN assessments to a provincial repository called the *Integrated Assessment Record (IAR)*, managed by CCIM. If clients give permission, their assessments can be viewed by providers in other organizations who are part of their care team. If clients do not give permission, their assessments are used only for system level planning and monitoring.

[c] Community Care Information Management (CCIM) supports the delivery of business and technology solutions to the community care health sectors under the strategic and operational direction of the Ministry of Health and Long-Term Care (MOHLTC), https://ccim.blob.core.windows.net/courseresources/e9352a1b-3467-4444-aaae-e46910fb61b9/dc999827-7708-4813-af16-7ce234c63d96.pdf; OCAN Version 3.0 Summary Report February, 2018.

APPROACH

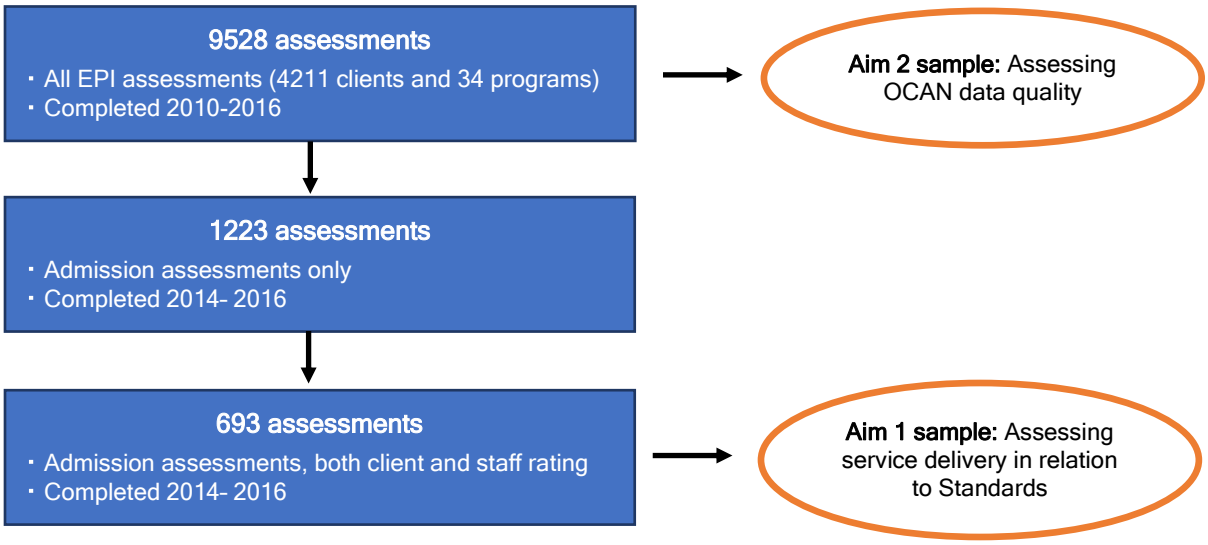
Our team obtained a dataset from CCIM of all OCAN assessments (Version 2.0) uploaded by EPI programs to the central repository (IAR) during 2010 - 2016.[d] This dataset included 9528 assessments, representing 4211 clients and 34 programs. Of the 4211 clients, 44% had only one OCAN submitted. Where a subsequent assessment was completed, the follow-up period was variable. Discharge assessments were rarely completed.

Thus, to address the first aim of this project (assess value of OCAN), we focused on admission assessments, which is the client's first assessment when entering the program. This provided a sample with a known exposure to the program. Additionally, because the client view is important in EPI service delivery, only assessments with both client and staff ratings were included. Finally, to be current, we only included assessments completed since 2014. During 2014-16, 1223 OCAN admission assessments were uploaded by EPI programs to the repository, of which 693 (57%) included client ratings. These 693 paired assessments constituted our analytic sample for the demonstration analysis.

To address the second aim of assessing data quality, we reviewed all OCAN assessments uploaded by EPI programs to the central repository during 2010 -2016. Our analytic sample included 9528 assessments representing 4211 individuals (see figure 1).

[d] The dataset also included a small number of assessments from early 2017.

Figure 1: Assessment samples



See Appendix A1 for more details on how the cohorts were created.

AIM 1: UNDERSTANDING EPI SERVICE DELIVERY IN RELATION TO THE STANDARDS

This section examines the value of the OCAN for learning about service delivery and improvement opportunities in relation to the provincial EPI program standards. The EPI Program Standards define client eligibility for service and outline service delivery expectations through multiple quality statements grouped within 13 Standards.[2] For this demonstration project, quality statements with relevance to program practice and client care at/ after admission were drawn from four Standards:

- Standard 1: Facilitating Access and Early Identification
- Standard 2: Comprehensive Client Assessment
- Standard 3: Treatment
- Standard 11: Barrier-Free Service

We identified five quality statements within these Standards that could be examined with OCAN data in our current dataset (see Table 1). These variables provide examples of how OCAN data could be used for to learn about current practice and for quality monitoring. If the quality of OCAN data were improved (see section 2 of this report), the variables available for this task would expand.

Table 1: Quality statement, OCAN element and EPI Program Standard

Quality Statement	OCAN data elements*	EPI Program Standard
1. Programs serve adolescent/young adults (14-35 years of age)	Age	Introduction: Eligibility
2. Programs reflect the diversity of the communities they serve	Gender, Preferred language, Aboriginal origin	Standard 11: Barrier-free service
3. Programs develop network of providers and organizations to assist with early identification and make timely referrals	Referral source Prior hospital admission	Standard 1: Facilitating access and early identification
4. Programs conduct a comprehensive assessment that covers psychiatric and physical exam, risk assessment, psycho-social assessment.	Need ratings for 24 clinical, functional and social domains (staff & client report)	Standard 2: Comprehensive Client Assessment
5. The client, family and team negotiate and document a comprehensive, individualized, client-centered wellness/ recovery plan.	Staff-client agreement on need	Standard 3: Treatment

* See Appendix A2 for item definitions

Programs serve adolescents/young adults

Overview

Internationally, EPI has been endorsed as an evidence-based model of care to support adolescents and young adults early in their experience of psychosis. Psychosis often has an adolescent/ young adult age of onset and decreasing the duration of untreated psychosis is associated with better health and social outcomes.[6,7] The Ontario EPI Program Standards have defined people between the ages of 14 and 35 as the target age group for EPI services **(Standards Introduction: Eligibility criteria).** Outside of this age range, the Standards suggest that clients be assessed for eligibility on an individual basis.

OCAN elements

For this analysis, we report the mean age and age distribution of clients at admission, including the percentage of clients who fall outside of the 14-35 age range. We also report selected socio-demographic variables (e.g., working or in school, living with, income source) by age group to learn more about how clients who fall outside the recommended age range differ from clients in the recommended age range.

Results (see Figure 2 and Table 2)

- Mean age of program clients at admission was 23.8 years and most (91%) fell within the targeted age range for EPI programs. 9% of the sample was over age 35.
- The older group was more likely to be female and living with a spouse, and less likely to report family as primary income source and be working or in school.

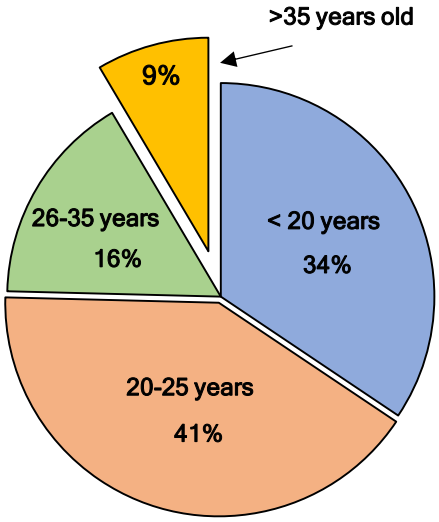


Figure 2: Client age at admission

Table 2: Client socio-demographic characteristics at admission by age (n=693)*

	Within target age			Outside targeted age
Client characteristic	< 20 years	20-25 years	26-35 years	>35 years
Sex				
% male	68	71	74	31
Living with				
% Self	3	7	7	19
% Spouse/partner/children	2	3	16	69
% Parents/relatives	87	75	68	13
% Non-relatives	9	15	9	0
Primary income source				
% Employment	8	22	25	24
% ODSP	8	16	28	19
% Social assistance	9	14	14	5
% Family	65	35	16	20
% Other/unknown	9	13	16	32**
Employment/ Education				
% working	21	35	37	30
% in school	63	31	14	4
% not working or in school	31	45	54	59

* 0.3-9.8% missing across reported variables
**unknown = 19%; unknown for other age categories is 1-2%

Discussion

- While most clients in our sample fell in the target age range set out by the EPI Standards, a small portion are over 35 years of age. These clients are concentrated in a very small number of programs. It is possible that a subset of EPI programs have a policy of accepting older clients.
- Evidence is growing on the rate of later age occurrence of first episodes of psychosis.[8] Internationally, the age range targeted by EPI programs varies and sometimes extends beyond 35 years.[9,10] In 2016, the National Health Service of England recommended that the age criterion for admission to EPI programs be expanded from 14-35 to 14-65, which has been adopted by many EPI programs in England.[11]
- However, older clients generally have different socio-demographic and health profiles than younger clients and hence have different support needs. This raises questions about whether youth-focused EPI programs should be serving older clients or whether another service might be more appropriate. Also important from a capacity perspective is that raising the age of eligibility increases service demand.

- Feedback from our prior sector surveys indicated that some programs admit clients without a first episode of psychosis due to lack of other system options. This raises broader questions about how EPI resources are being used and mental health care capacity in our system.

Limitations

- Because this is an administrative data source, we were not able to confirm that outlier ages were accurately entered.
- We do not know whether the older clients are truly experiencing a first episode of psychosis which requires knowledge of duration of untreated psychosis and diagnosis. Diagnosis is collected in the OCAN but clients can be admitted to EPI without a definitive diagnosis and, in our sample, diagnosis was unknown for some clients. Duration of untreated psychosis is complex to define and measure[12] and is not available in the OCAN.

Implications for system use

- OCAN data could be used to monitor whether EPI programs are serving the target population and consider implications for service planning if programs are serving other age groups.

Programs reflect the diversity of the community

Overview

Promoting equity of access to health care is a priority in the Ontario health care system.[4,13,14] The Ontario EPI Program Standards indicate that programs should reflect the diversity of the community they serve (**Standard #11 - Barrier-free Service**). Our prior work with the EPI sector showed that programs are committed to equity of access but lack data and strategies to optimize it.[15] A recent study in Southwest Ontario[16] showed that, over a 15 year period, only 50% of individuals experiencing a first episode psychosis accessed EPI services. Access was lower for individuals living in low income neighbourhoods and for females. The study noted that different patterns of illness in females (later onset and more benign course) may affect identification of need and access to care.[16]

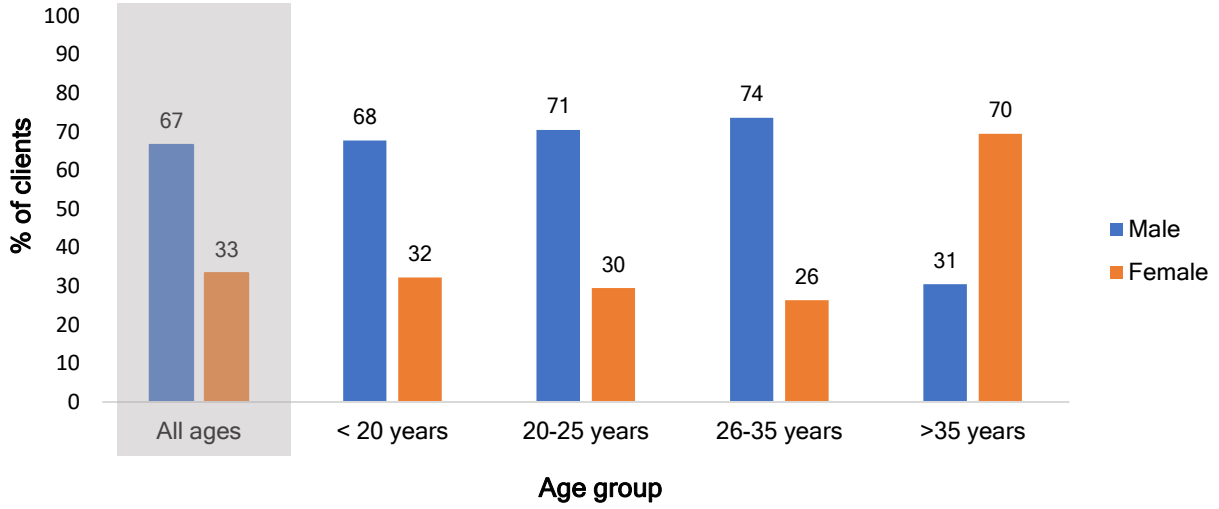
OCAN elements

For this analysis, we report the portion of clients who were female at admission for the whole sample and by age subgroup. We also report whole sample results for Aboriginal origin and preferred language.

Results (see Figure 3)

- Overall, the portion of female clients admitted to EPI services was 33%.
- This rate was consistent across age groups except in the >35 age group where portion of females increased to 70%.
- 3% of clients identified as Aboriginal (not shown in figure).
- Most clients indicated English as their preferred language (90%); 9% identified Cantonese or Mandarin as their preferred language (not shown in figure).

Figure 3: Client gender by age group*



*For 12 cases, gender was reported as either unknown or other.

Discussion

- Our sample showed fewer females than males being admitted to Ontario EPI programs. This pattern has also been reported for programs in other jurisdictions.[7,10,17]
- The age limit of Ontario EPI programs may be a barrier to females accessing service. As already noted, there is growing evidence of later onset of psychosis for women.[16,18,19] Our data similarly showed higher rates of females among clients over the age of 35.
- Whether more outreach is needed to engage women in EPI services is an important issue that requires further investigation. One consideration is whether EPI or another type of support might be most appropriate for this group.
- In our sample, the majority of clients identified as English speaking and few identified as Aboriginal. It is unknown whether this pattern is reflective of the local communities of the programs who submitted these data. However, in a prior EPI sector survey, 38% of programs identified First Nations, Inuit and Métis, and 21% identified linguistic minorities, as populations for whom additional support was needed to engage and appropriately meet their needs.[15]

Limitations

- Gender, language and Aboriginal origin are only a few of the variables that should be reviewed to inform understanding about equity and barrier-free program access.
- OCAN Version 3.0 has added equity related variables and refined definitions in line with the recommendations of the Health Equity Data Collection Research Project[20] and completion is mandatory. There are more options for reporting Aboriginal origin

including First Nations, Indigenous/Aboriginal or Métis. Gender also has more response options. These changes should strengthen the value of the OCAN for examining equity of access issues.

Implications for system use

- OCAN data could be used to monitor access to care for marginalized populations and identify if specific regions or programs require support to engage their local communities in care.

Programs develop community networks to assist with early referral

Overview

EPI programs are intended to reduce the duration of untreated psychosis through early detection and response. Early detection by community providers or family may reduce likelihood of clients experiencing more adverse pathways to care (e.g., after an inpatient admission, emergency room visit or police contact). The Ontario EPI Program Standards emphasize that programs should work with community health and social service providers to create an early identification/ rapid response system and should regularly assess the effectiveness of referral pathways (**Standard #1: Facilitating access and early identification**).

OCAN elements

For this analysis, we report client source of referral and hospitalization in the past 2 years. These data are reported for the full sample and across age subgroups.

Results (see Figures 4 and 5)

- Overall, the most common referral source was hospital, accounting for 54% of client referrals; 2% were referred from the justice system.
- Overall, 66% of clients had an inpatient admission for mental health during the two years prior to EPI program entry.
- The older client group (>35 years) showed a different access path, with most referred by family physicians or other community mental health and addiction services. Few had a prior hospital admission.

Figure 4: Client referral source by age group

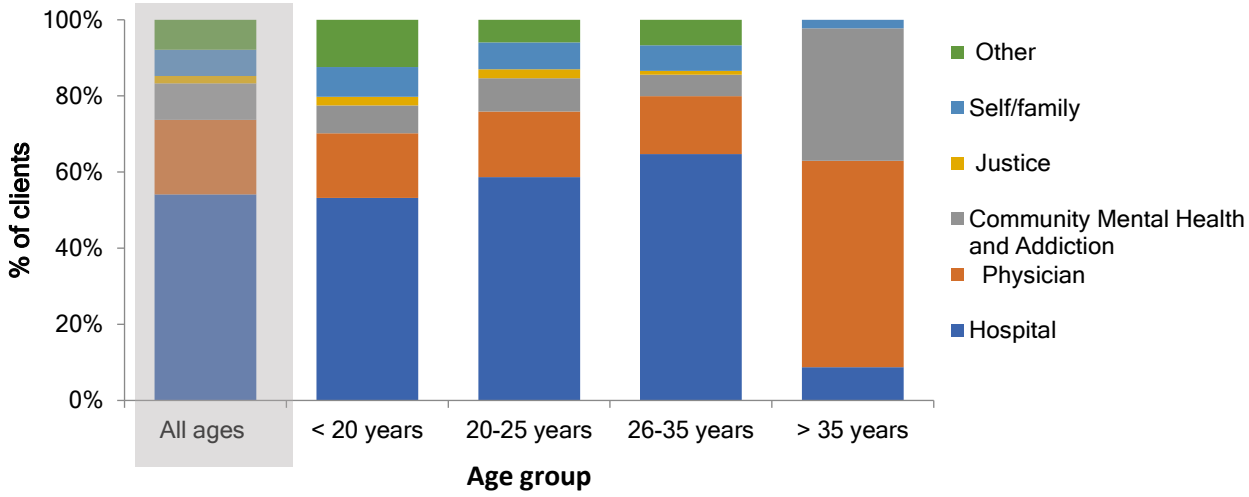
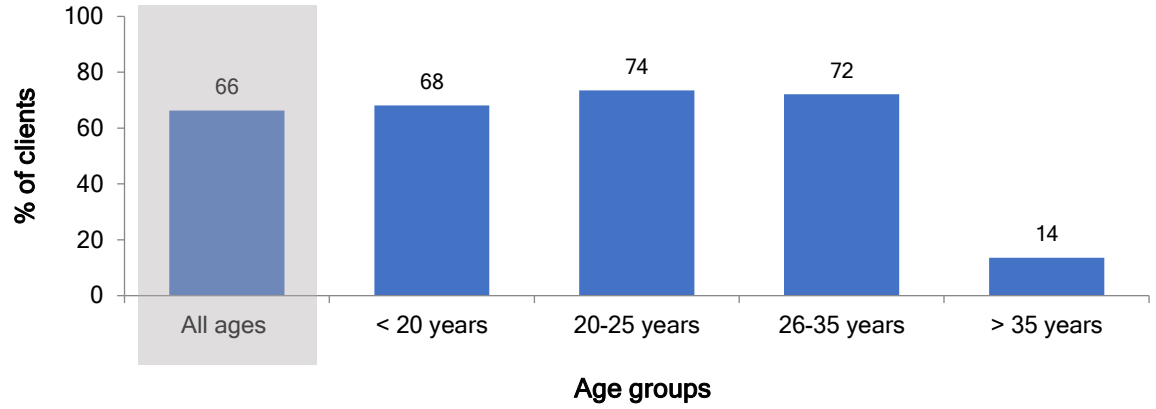


Figure 5: Hospital admission for mental health past 2 years by age group



Discussion

- Over half of clients were referred to the EPI program from hospital and two thirds had experienced an inpatient admission for mental health in the two years prior to program admission.
- While prior hospitalization is not uncommon, the First Episode Psychosis Fidelity Scale[21] has set 20-39% of patients receiving inpatient care during the year prior to EPI admission as the target for satisfactory practice and less than 20% as the target for exemplary practice.
- Social determinants can affect pathways to EPI care, including whether more coercive services (e.g., police, emergency room, involuntary admission) are involved.[22,23] Using the health equity variables in OCAN Version 3.0, it will be possible to investigate whether there is increased risk of coercive pathways based on social factors.
- While EPI programs are expected to provide information and tools to community providers and organizations to facilitate early identification and referral, in prior EPI sector surveys by our team,[24] program informants indicated challenges in developing community referral networks. These included lack of time, lack of skills and concern about capacity for timely response if referral rates were to increase.
- Older adults in our sample showed a very different pathway to care. Whether this relates to life stage and circumstances, or to program and system factors, would be important to explore.

Limitations

- While hospital as referral source is collected in the OCAN, the specific hospital service (e.g., emergency room, inpatient, outpatient clinic) is not collected and involuntary contact is not specified. For assessing coercive pathways this information is important.

- Police roles in referral may be underestimated in these data as police commonly transfer individuals in crisis to emergency departments and this would be the referral source reported in the OCAN.
- Duration of untreated psychosis is an important indicator of early access but is challenging to define and measure,[12] and is not currently collected in the OCAN.

Implications for system use

- OCAN data could be used to monitor access to EPI programs and determine whether system or sector interventions are necessary to support early identification and rapid, positive pathways to care (e.g., education for health care providers, police and the public on EPI or a centralized access system).

Programs conduct a comprehensive holistic assessment

Overview

EPI is a holistic model of care that addresses psychosocial as well as medical/ symptom needs. In line with this, the Ontario EPI Program Standards indicate that programs should conduct a comprehensive initial assessment that is client centered and comprehensive (**Standard 2: Comprehensive Client Assessment**).

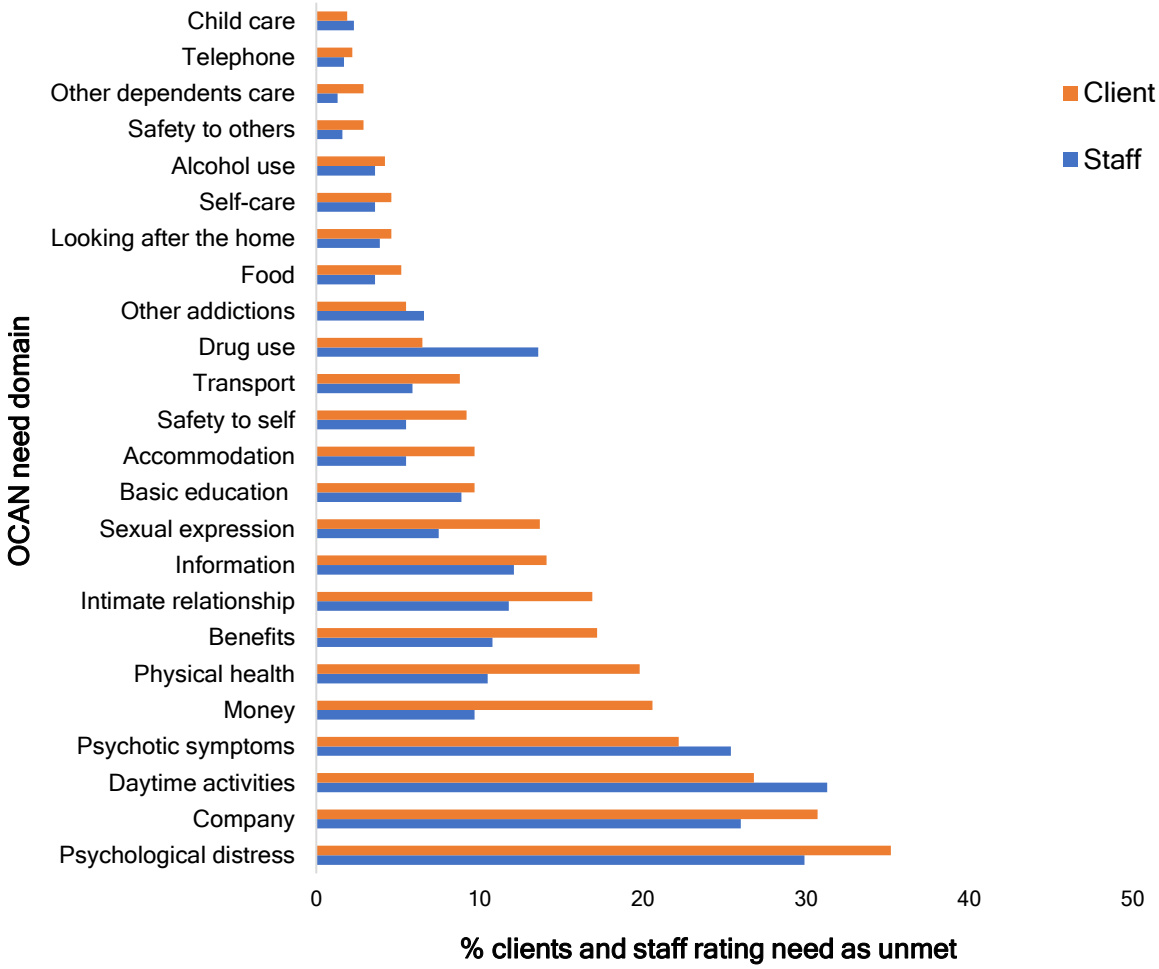
OCAN elements

For this analysis, we report need ratings for the 24 health and social domains included in the OCAN. Need is rated as unmet, met, no need, or unknown. Both staff and clients rate need. We report the results separately for the staff and client rated needs.

Results (see Figure 6)

- Needs were assessed across 24 domains. Unknown responses were most frequent for the staff ratings of *intimate relationships* (16%) and *sexual expression* (28%).
- For both staff and clients, ratings of unmet need were highest (22-35%) in the domains of *psychotic symptoms*, *psychological distress, daytime activities* and *company*.
- 14% of clients reported an unmet need related to *information* about their condition. This was also the domain with the highest level of met need based on client ratings (43%).
- Few clients reported unmet needs in basic community living domains (i.e., *accommodation, looking after the home, self-care, food security*).
- In almost every domain, more clients reported unmet need than staff. In particular, clients were more likely to rate unmet need related to *physical health* (20% vs 11%), *money* (21% vs 10%), *benefits* (17% vs 11%), *intimate relationships* (17% vs 12%), and *psychological distress* (35% vs 30%). An exception was the *drug use* domain where clients were less likely to identify an unmet need than staff (7% vs 14%).

Figure 6: Unmet need ratings* per domain by staff and clients (n=683)



*See Appendix A2 for definitions of the OCAN domains

Discussion

- Completion of the OCAN need ratings can support programs to meet the Standard of comprehensive assessment and can guide comprehensive care planning in line with the EPI model aim of delivering holistic care.
- The sample showed higher unmet need related to management of *psychotic symptoms*, *psychological distress*, *daytime activities* and *company*. These are areas that would be expected to be affected during the early stages of the illness, and align with the treatment foci of the EPI model.
- Staff ratings of unknown were highest for the *intimate relationships* and *sexual expression* domains. These topics may be uncomfortable for staff to discuss. However, for a young adult, learning to manage peer and intimate relationships is an important area of development. This may be an area where more staff training is needed.

- Program improvement work could target domains with higher rates of unmet need or where there are differences in staff and client-reported rates of unmet need. Change in these domains could be monitored as part of annual program improvement plans.

Limitations

- Need can be complex to rate and a better understanding of how these ratings are made would be important for system level use.
- OCAN Version 3.0 has clarified and simplified the need rating instructions for clients. For staff, follow-up work could assess the reliability and validity of ratings. This could include assessing consistency of rating application across programs and also how OCAN ratings align with other indicators of need.

Implications for system use

- System wide implementation of the OCAN could support programs to adhere to the comprehensive assessment Standard.
- Need ratings could be used to better understand the service needs of clients entering EPI programs.
- With sufficient reliability, need ratings could be tracked over time as a measure of client level outcomes. By using patient reported need ratings, these data could be used to populate patient-reported outcome measures (PROMS).

The client, family and team negotiate a comprehensive recovery plan

Overview

Studies consistently show differences between staff and clients in their perceptions of need – both the presence of a need and whether it has been met.[25] Higher agreement on need has been associated with better outcomes, possibly through improved therapeutic alliance.[26,27] Ontario health policy emphasizes the importance of including service users as participants in their own health care and of using PROMS to inform care delivery. The EPI Standards recommend that the client, family and care team negotiate and document a comprehensive, individualized, client-centered wellness/ recovery plan **(Standard 3: Treatment)**. The OCAN paired staff and client need ratings align with this aim. Both ratings can inform a negotiated care plan.

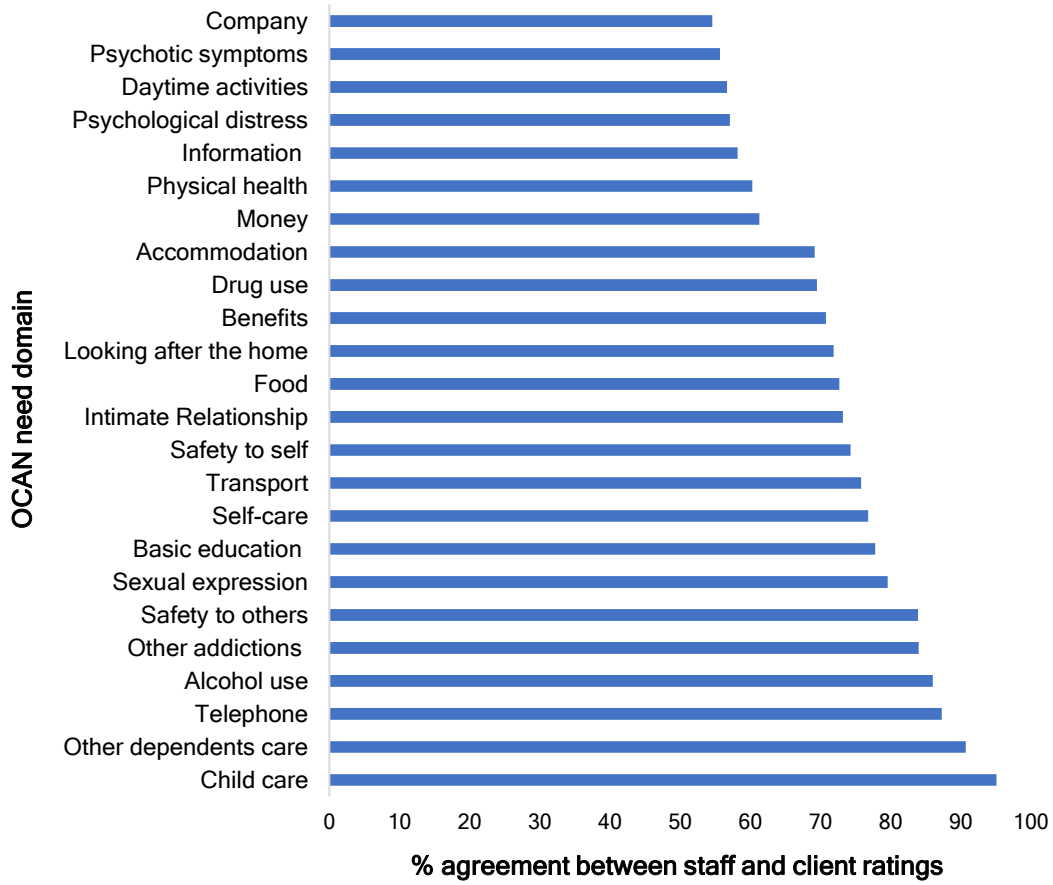
OCAN elements

For this analysis, we measured client and staff agreement on need ratings. We calculated the percentage of assessments per domain where the client and their staff reported the same need rating.

Results (see figure 7)

- Across the 24 domains, the rate of agreement ranged from 55%- 95%.
- Domains with lower rates of agreement included *company* (55%), *psychotic symptoms* (56%), *daytime activities* (57%), *psychological distress* (57%), and *information* (58%).

Figure 7: Agreement between staff and client ratings of need per domain (n=693)*



*See appendix A2 for definitions of the OCAN domains. Sample size per item varied due to missing data. When unmet need is low, agreement can be high simply due to chance.

Discussion

- These results show areas where staff and client perspectives on treatment needs differ. Transparent discussions between the client and their primary worker may lead to the development of a more meaningful care plan and shared decision making as recommended in both EPI and HQO standards.
- Previous research has suggested patterns of disagreement, for example, that clients are more likely to identify unmet social needs and staff are more likely to identify unmet needs related to symptoms and treatment, or that agreement is higher in concrete domains such as money and accommodation.[25,28] We did not see any clear patterns in our data.
- Addressing client identified unmet needs and increasing agreement over time between clients and staff have both been associated with improved outcomes and this could be valuable to track.

- Further work could examine predictors of disagreement and whether certain client groups are more likely to have differing perspectives from their clinicians, for example based on gender, age or education.

Limitations

- When unmet need is low, rates of agreement can be high simply due to chance. Other measures of agreement could be reported (such as Cohen's kappa and prevalence-corrected kappa) that correct for agreement due to chance or for the relatively low frequency of unmet need in some domains.[28]

Implications for system use

- Changes in rating agreement over time could be used as a measure of quality of care.

AIM 2: ASSESSING OCAN DATA QUALITY

Although the OCAN has the potential to be an important data source for monitoring the quality of EPI care in relation to the provincial Standards, a number of quality challenges have been identified. For this analysis we examined two key quality issues: (1) EPI program adherence to the data collection protocol; (2) completeness of submitted data. For population-based work it is important to have data that are representative of the service users in the system.

The analytic dataset for this component included all OCAN assessments uploaded by EPI programs to the central repository since 2010. This included 9528 assessments representing 4211 individuals. During this period, 50 EPI programs were eligible for OCAN data collection.

Adherence to the data collection protocol

Overview

In order for OCAN data to be used for system-planning, it is important to understand how representative the data are of Ontario programs and the individuals using them. This section assesses EPI program participation in OCAN submissions to the IAR, and consistency of completion within programs. The OCAN is intended to be completed for all clients at admission and then every six months until discharge.

OCAN elements

To assess adherence to the protocol, we calculated:

- The percentage of EPI programs uploading OCANs to the repository during 2010-16 (out of 50 eligible programs).
- Number of OCANs per client and frequency of assessments (considering that program length of stay is up to 3 years and assessments should be conducted every 6 months and at discharge).
- The percentage of assessments that included the consumer self-report component.

Results (see Figure 8 and Appendix A4)

- Of 50 eligible EPI programs, about two-thirds (68%) uploaded OCANs to the repository at some point during 2010-2016. Participation peaked in 2014 with 64% of programs participating and was down to 54% by 2016.
- Although program length of stay is up to 3 years and assessments should be completed every 6 months, 44% of sample clients only had one OCAN.
- When repeat assessments were conducted, 73% were completed within 6 months of the prior assessment.
- Although EPI programs are intended to complete the full OCAN, 6% of assessments were not done using the full OCAN. Of assessments using the full OCAN, only 47% included the consumer self-assessment portion.

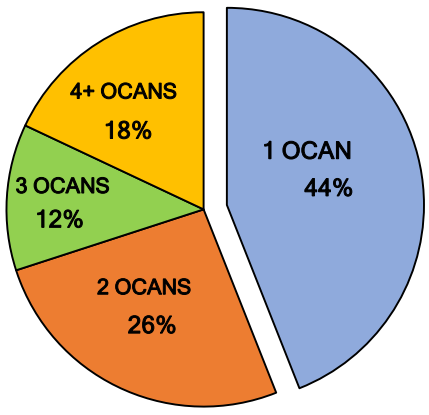


Figure 8: Number of OCAN assessments uploaded per client (n=4211)

Discussion

- Only two-thirds of EPI programs uploaded OCAN data to the central repository (IAR) over a six year period.
- In a prior sector survey by our team, 84% of programs reported routinely collecting OCAN data.[29] This suggests that programs are not consistently submitting the assessments to the IAR. Barriers to uploading included software issues and lack of client consent. While consent is needed to share uploaded assessments with other providers in the client's circle of care, if not provided the data should still be uploaded for system planning and research.[e] This is an area where more education of providers and clients may be needed.
- Results showed that most clients only had one assessment completed and one quarter of repeat assessments were not conducted within six months. Repeat assessments are important if change over time is to be monitored. However, the expected frequency may need to be revisited to align feasibility to complete and meaningfulness for monitoring change.
- Less than half of assessments included client ratings. It is important to learn more about who is not completing the OCAN self-assessments, and barriers to completion. CCIM has recently launched an eLearning initiative to address this issue which will hopefully improve future completion rates.
- Building program capacity to collect and use the OCAN is key to increase quality of the data. CCIM is actively working with the sector to identify and address barriers to both collecting and uploading OCAN data, and the Excellence through Quality Improvement Project (E-QIP)[f] is supporting service providers to use the OCAN for quality improvement.

Implications for system use

- Greater participation in the OCAN across EPI programs and better adherence to OCAN protocol (completion of repeat assessments and client assessment) would improve the utility of OCAN data to support system level monitoring, performance measurement and quality improvement.

[e] Data is used in de-identified form or with rigorous privacy protections.
[f] E-QIP is a provincial initiative to promote quality improvement capacity in the community mental health sector.

Data completeness

Overview

The OCAN includes both mandatory and non-mandatory items. Completion rates of non-mandatory items are unknown. Variable completion is a barrier to use of the data for system level purposes.

OCAN elements

We examined completion rates for a selection of non-mandatory OCAN variables[g] pertaining to:

- program access and use (e.g., dates of referral, acceptance, initiation, exit)
- socio-demographic characteristics
- clinical information (e.g., age of illness onset)
- use of other system services (e.g., family physician, psychiatrist, emergency room, hospital)

Results (See table 3)

- Rates of missing responses for non-mandatory items commonly exceeded 20% and, in some cases, exceeded 50%.
- Missing responses occurred across all variable categories.

Table 3: Missing responses for selected non-mandatory OCAN items

OCAN Element	% missing (out of 9528 assessments)
Program access and use	
Request for Service Date	21%
Service Decision Date	22%
Service Initiation Date	21%
Missing at least one of the 3 above dates	26%
Exit date (for discharge OCANs)	47%
Socio-demographics	
Marital Status*	24%
Culture*	30%
Citizenship status	21%
Clinical information	
Age of onset of mental illness*	23%

[g] Within study resources, these variables were feasible to import from the larger OCAN dataset provided by CCIM.

Age at first psychiatric hospitalization	30%
Physical health concerns**	54%
Use of other system services	
Client has a family doctor	31%
Family doctor last seen (if had family doctor)	63%
Client has a psychiatrist	24%
Psychiatrist last seen (if had psychiatrist)	44%
Total number of hospital admissions (if had an admission)	0.5%
Total number of hospital days (if had an admission)	2%

* Mandatory in Version 3.0. Culture variable is changed to racial or ethnic group.
** Removed from Version 3.0

Discussion

- OCAN data can serve multiple purposes including supporting direct client care, program planning and system planning. Since different clients and programs have differing needs it is appropriate that some data elements be non-mandatory, to be completed only when relevant. However, in order for data to be used at a system level, a high level of completion is required which is unlikely if variables are not mandatory.
- One group of variables that require additional consideration are key dates related to program access and discharge which currently have over 20% missing data. These elements are important for monitoring client movement through the health system and use of different levels of support (e.g., hospital, physician and community services). The most recent refresh (Version 3.0) of the OCAN has made more elements mandatory.[5] However, the date variables remain non-mandatory. More work is needed to clarify how to record dates under different circumstances (e.g., if an OCAN is submitted before an eligibility decision is made). A data platform that auto-populates the date variables may be helpful to improve quality.
- To strengthen the value of OCAN data for system level work, a subset of core items could be identified that are mandatory to complete. Selection could be based on relevance to the provincial mental health and addictions scorecard, quality standards or other system quality monitoring need. Consideration should be given to managing the overall burden of OCAN completion for staff and clients.

Implications for system use

- In order for OCAN data to be used at a system level, variables of interest need to be made mandatory. Further work is needed to identify the optimal minimum mandatory dataset to support system level reporting of OCAN data.

SUMMARY

This project assessed the value of the OCAN for learning about EPI practice and monitoring improvement in relation to EPI Program Standards. The Standards were released in 2011 but a standardized sector-wide measurement strategy for quality monitoring has been lacking. The OCAN is a potential data source for this purpose. We examined OCAN assessments for an EPI program admission cohort and reported results for five example quality statements based on available OCAN data. We also assessed data quality focusing on adherence to the data collection protocol and completeness of submitted data.

We demonstrated that OCAN data can be used to monitor care delivery in relation to the EPI Program Standards and to identify potential service gaps. For example, we learned that EPI programs are generally adhering to the age target set out in the Standards. However, a small number of programs deliver care to older adults who may not be well served in a youth focused program. This raised the question of how older adults experiencing a first episode of psychosis, especially women, should be supported. The referral source and prior hospitalization data raised questions about the need for more outreach to develop community referral networks and support the early intervention mandate. OCAN Version 3.0 includes more information on social determinants of health that could be used to understand who programs are serving and barriers to access.

In line with delivery of recovery focused care, OCAN need ratings address a range of clinical and community functioning domains. Completing these ratings aligns with the EPI Standard of conducting a comprehensive holistic assessment. The areas where reported unmet need at admission was higher align with the foci of the EPI treatment model and could be monitored over time as a measure of outcome. About one-quarter of staff rated needs related to intimate relationships or sexual expression as unknown. More training may be needed to support meaningful conversations between staff and clients on this topic. A unique strength of the assessment is the paired staff and client need ratings which can support shared treatment planning. However, only about half of assessments included the client ratings. More work is needed to explore barriers to completion of the client self-report component as well as how client feedback is integrated into care planning.

OCAN data have been used successfully to address targeted research questions about quality of care in Ontario.[e.g., 30,31] For system level work, however, it is important that the data reflect sector wide practice. In the present project, we found variable participation of EPI programs in central repository submissions, low adherence to the data collection protocol, and incomplete data. As such, the extent to which the data reflect sector-wide practice is unclear. Additionally, with missing program entry and exit dates, our

understanding of client use of community mental health services in the Ontario health care system will continue to be a gap.

We know from prior work that many EPI programs lack capacity to extract and use OCAN data, and they see little use for system planning.[29] Moving forward it will be important to consider how the value of the OCAN for clinical care, program planning and system planning can be demonstrated and maximized. Initiatives to assess the reliability and validity of the OCAN can also increase confidence in the data.

RECOMMENDATIONS

OCAN data have potential to inform understanding of current practice in relation to the EPI program standards. However, higher submission rates and better quality data are needed to support system level use of data. To improve quality and relevance of OCAN data for EPI programs and more broadly within the Ontario community mental health sector, we make the following recommendations:

- Submissions of OCAN data to the central repository should be made mandatory.
- Work should continue to link items within the OCAN to quality statements in EPI Standards, to support the use of OCAN data for system and program level quality improvement work, and for monitoring client progress.
- Program capacity to use OCAN data for client care and program improvement should be strengthened. Initiatives already implemented through Community Care Information Management (CCIM), Excellence through Quality Improvement Project (E-QIP), and the Provincial System Support Program could be scaled.
- Reasons for non-completion of the client self-assessment should be explored and strategies implemented to encourage completion.
- Frequency of assessments should be reviewed, considering the minimum required to provide clinical utility while respecting burden for clients and staff.
- A mandatory minimum dataset should be considered for uploading to the central repository that supports system monitoring and reduces burden on clients and staff to complete.
- Processes should be developed for ongoing monitoring of quality of uploaded assessments, with mechanisms for feedback and correction (such as used by the Canadian Institute for Health Information for other administrative databases).
- Efforts should continue to clarify variable definitions and instructions for data collection. Processes to assess data reliability and validity should be developed.
- A working group should be convened to progress these recommendations. The group should also review how OCAN data complement other system data sources and could be integrated to meet system monitoring needs.

REFERENCES

1. Brien S, Grenier L, Kapral M, Kurdyak P, Vigod S. Taking Stock: A report on the quality of mental health and addictions services in Ontario. An HQO/ICES Report. 2015. Available from: http://www.hqontario.ca/portals/0/Documents/pr/theme-report-taking-stock-en.pdf%0Ahttp://www.ices.on.ca/Publications/Atlases-and-Reports.
2. Ontario Ministry of Health and Long Term Care. Early Psychosis Intervention Program Standards. Toronto, Ontario; 2011.
3. Phelan M, Slade M, Thornicroft G, Dunn G, Holloway F, Wykes T, et al. The Camberwell Assessment of Need: the validity and reliability of an instrument to assess the needs of people with severe mental illness. Br J Psychiatry. 1995;167(5):589–95.
4. Excellent Care for All Act, 2010, S.O. 2010, c. 14. Available from: https://www.ontario.ca/laws/statute/10e14
5. Ontario Ministry of Health and Long-Term Care. OCAN Version 3.0 Summary Report. 2018. Available from: https://ccim.blob.core.windows.net/courseresources/e9352a1b-3467-4444-aaae-e46910fb61b9/dc999827-7708-4813-af16-7ce234c63d96.pdf
6. Marshall M, Lewis S, Lockwood A, Drake R, Jones P, Croudace T. Association between duration of untreated psychosis and outcome in cohorts of first-episode patients: A systematic review. Arch Gen Psychiatry. 2005;62(9):975–83.
7. Kane JM, Robinson DG, Schooler NR, Mueser KT, Penn DL, Rosenheck RA, et al. Comprehensive versus usual community care for first-episode psychosis: 2-Year outcomes from the NIMH RAISE early treatment program. Am J Psychiatry. 2016;173(4):362–72.
8. Simon GE, Coleman KJ, Yarborough BJH, Operskalski B, Stewart C, Hunkeler EM, et al. First presentation with psychotic symptoms in a population-based sample. Psychiatr Serv. 2017;68(5):456–61.
9. Ruggeri M, Bonetto C, Lasalvia A, Fioritti A, De Girolamo G, Santonastaso P, et al. Feasibility and effectiveness of a multi-element psychosocial intervention for first-episode psychosis: Results from the cluster-randomized controlled GET UP PIANO trial in a catchment area of 10 million inhabitants. Schizophr Bull. 2015;41(5):1192–203.
10. Oluwoye O, Reneau H, Stokes B, Daughtry R, Venuto E, Sunbury T, et al. Preliminary evaluation of Washington State's early intervention program for first-episode psychosis. Psychiatr Serv. 2019;1–8.
11. Jagger G, de la Fuente-Tomas L, Stochl J, Allan SM, Clay F, Kenedler L, et al. Early intervention in psychosis treatment components utilization in patients aged over 35. Community Ment Health J. 2020;56:206–10.
12. Savill M, Gosdin M, Patel P, Melnikow J, Loewy R, Niendam T. How do early psychosis services define and operationalize the duration of untreated psychosis? J Behav Heal Serv Res. 2019;46(3):497–508.
13. Health Quality Ontario. Impressions and Observations – 2016/17 Quality Improvement Plans: Primary Care. Toronto; 2017.
14. Ontario Ministry of Health and Long-Term Care. Patients First: A proposal to strengthen

patient-centred health care in Ontario. 2015. Available from: http://www.health.gov.on.ca/en/news/bulletin/2015/docs/discussion_paper_20151217.pdf

15. Selick A, Lamoureux A, O'connor K, Durbin J. A survey of health equity practices in early psychosis intervention programs: A starting point for improvement. Healthc Policy. 2017;13(2).

16. Anderson KK, Norman R, MacDougall AG, Edwards J, Palaniyappan L, Lau C, et al. Disparities in access to early psychosis intervention services: comparison of service users and nonusers in health administrative data. Can J Psychiatry. 2018;63(6):395–403.

17. Nossel I, Wall MM, Scodes J, Marino LA, Zilkha S, Bello I, et al. Results of a coordinated specialty care program for early psychosis and predictors of outcomes. Psychiatr Serv. 2018;69(8):863–70.

18. Ochoa S, Usall J, Cobo J, Labad X, Kulkarni J. Gender differences in schizophrenia and first-episode psychosis: a comprehensive literature review. Schizophr Res Treatment. 2012;2012:1–9.

19. Cotton SM, Lambert M, Schimmelmann BG, Foley DL, Morley KI, McGorry PD, et al. Gender differences in premorbid, entry, treatment, and outcome characteristics in a treated epidemiological sample of 661 patients with first episode psychosis. Schizophr Res. 2009;114(1–3):17–24.

20. Toronto Public Health, St. Michael's Hopstial, Centre for Addiction and Mental Health, Mount Sinai Hopsital. We Ask Because We Care: The Tri-Hospital + TPH Health Equity Data Collection Research Project Report.Toronto; 2013. Available from: http://www.stmichaelshospital.com

21. Addington DE, Norman R, Bond GR, Sale T, Melton R, McKenzie E, et al. Development and testing of the First-Episode Psychosis Services Fidelity Scale. Psychiatr Serv. 2016;67(9):1023–5.

22. Bhui K, Ullrich S, Coid JW. Which pathways to psychiatric care lead to earlier treatment and a shorter duration of first-episode psychosis? BMC Psychiatry. 2014;14(1).

23. Anderson KK, Flora N, Archie S, Morgan C, Mckenzie K. A meta-analysis of ethnic differences in pathways to care at the first episode of psychosis. Acta Psychiatr Scand. 2014;130(4):257–68.

24. Durbin J, Selick A, Hierlihy D, Moss S, Cheng C. A first step in system improvement: a survey of early psychosis intervention programmes in Ontario. Early Interv Psychiatry. 2016;10:485–93.

25. Lasalvia A, Boggian I, Bonetto C, Saggioro V, Piccione G, Zanoni C, et al. Multiple perspectives on mental health outcome: Needs for care and service satisfaction assessed by staff, patients and family members. Soc Psychiatry Psychiatr Epidemiol. 2012;47(7):1035–45.

26. Lasalvia A, Bonetto C, Tansella M, Stefani B, Ruggeri M. Does staff-patient agreement on needs for care predict a better mental health outcome? A 4-year follow-up in a community service. Psychol Med. 2008;38(1):123–33.

27. Junghan UM, Leese M, Priebe S, Slade M. Staff and patient perspectives on unmet need and therapeutic alliance in community mental health services. Br J Psychiatry. 2007;191:543–7.

28. Hensel JM, Banayan DJ, Cheng C, Langley J, Dewa CS. Client and key worker ratings of need in first-episode psychosis early intervention programmes. Early Interv Psychiatry. 2016;10(3):246–51.

29. Standards Implementation Steering Committee. After Release of the Ontario Early Psychosis Intervention (EPI) Program Standards : Results of the 2014 EPI program survey of current practices in relation to the Standards. Toronto, Ontario; 2015.

30. Durbin A, Sirotich F, Lunsky Y, Roesslein K, Durbin J. Needs among persons with human immunodeficiency virus and intellectual and developmental disabilities in community mental health care: a cross-sectional study. J Intellect Disabil Res. 2017;61(3):292–9.

31. Sirotich F, Durbin A, Durbin J. Examining the need profiles of patients with multiple emergency department visits for mental health reasons: a cross-sectional study. Soc Psychiatry Psychiatr Epidemiol. 2016;51(5):777–86.

APPENDICES

A1: Method

Cohort creation

The initial sample included all OCAN assessments uploaded to the IAR from October 2010 – February 2016 that were associated with an EPI program. Assessments were associated with an EPI program if they had an EPI Functional Centre listed as the OCAN Lead and if they were submitted by an organization known to have an EPI program. The data transfer included 17 files. For the present project, 3 of the files were cleaned and merged to create a single assessment record per client. A list of the excluded variables is available from the authors.

Table A1 below outlines the steps involved in creating the analytic dataset. Quality checks (see Table A4) were completed on the full dataset after step 3 (n=9528).

Table A1: Steps in creation of study cohorts

Cohort creation	Sample n
Cohort 1: All central repository (IAR) uploads 2010-16	
Ensure assessments are from EPI clients:	
• Original EPI cut (based on EI FC)- 2010-2016	9862
• Exclude assessments from organizations without an EPI program (n=39)	9823
• Remove cases where EI was not the program for the OCAN lead (n=295)	9528
Cohort 2: Admission sample selection	

• Ensure assessments were for individuals admitted into the program (i.e. met at least one of the below criteria related to program admission):
  • accepted to the program variable = yes; OR
  • valid service initiation date reported; OR
  • individual had at least 2 OCANs in dataset
(These may be cases where OCAN is used as screening tool for clients who are ultimately not accepted into the program)
	8948

• Limit to assessments between Jan 1 2014- Dec 31 2016	5602
• Limit to full OCANs (exclude 324 core and 21 self)	5257
• Limit to initial OCANs (based on reason for OCAN)	1327
• Exclude initial OCANs that are not the first OCAN for the individual (n=83)	1244
• Exclude assessments with more than 90 days between start and completion date (concern that data is not trustworthy if OCAN is open too long) (n=21)	1223
• Limit to cases with at least one client self-report item completed	693

A2: OCAN data element definitions

Table A2: OCAN data element definitions

Data element	Definition
Socio-demographic	
Age	Client age at assessment
Sex	Client sex
Prior hospitalization	Has the client been hospitalized due to mental health since last assessment (or if initial assessment, in past 2 years)
Referral Source	Capture the type of organization/ individual making a referral to the community mental health program
Work status	Client's current employment status
Education status	Client's current enrolment in formal education program
Income source	Client's primary source of income
Legal issues	Whether the client currently has any legal issues.
Living situation	Who the client lives with at the time of OCAN is conducted
Need domain	
Psychological distress	Does the person suffer from current psychological distress?
Psychotic symptoms	Does the person have any psychotic symptoms?
Alcohol	Does the person drink excessively, or have a problem controlling his or her drinking?
Drugs	Does the person have problems with drug misuse?
Other addictions	Does the person have problems with addictions?
Physical health	Does the person have any physical disability or any physical illness?
Safety to self	Is the person a danger to him- or herself?
Safety to others	Is the person a current or potential risk to other people's safety?
Information	Has the person received clear verbal/written information about their condition & treatment?
Accommodation	Does the person lack a current place to stay?
Looking after the home	Does the person have difficulty looking after the home?
Child care	Does the person have difficulty looking after his or her children?
Dependents	Does the person have difficulty looking after other dependents?
Self-care	Does the person have difficulty with self-care?
Food	Does the person have difficulty in getting enough to eat?
Money	Does the person have problems budgeting his or her money?
Telephone	Does the person lack basic skills in getting access to or using a telephone?
Transport	Does the person have any problems using public transport?
Benefits	Is the person definitely receiving all the benefits that he or she is entitled to?
Daytime activity	Does the person have difficulty with regular, appropriate daytime activities?
Basic education	Does the person lack basic skills in numeracy and literacy?
Company	Does the person need help with social contact?
Intimate relations	Does the person have difficulty finding a partner or maintaining a close relationship?
Sexual expression	Does the person have problems with his or her sex life?

A3: Staff and client need ratings

Table A3: Staff and client need ratings by OCAN domain

	Domain*	Need ratings (%)							
		Staff ratings (n=693)				Client ratings (n=693)			
		Unmet need	Met need	No need	Not known	Unmet need	Met need	No need	Prefer not to answer /missing
Clinical	Psychological distress	29.9	42.0	23.1	5.1	35.2	32.9	28.1	3.8
	Psychotic symptoms	25.4	50.8	19.8	4.0	22.2	39.5	34.3	3.9
	Alcohol use	3.6	8.9	81.4	6.1	4.2	7.9	85.0	2.9
	Drug use	13.6	22.1	58.7	5.6	6.5	14.6	74.6	4.3
	Other addictions	6.6	8.8	76.2	8.4	5.5	7.2	83.4	3.9
	Physical health	10.5	18.9	65.4	5.2	19.8	28.4	48.5	3.3
	Safety to self	5.5	21.9	69.1	3.5	9.2	16.0	71.3	3.5
	Safety to others	1.6	11.8	83.4	3.2	2.9	7.8	86.3	3.0
	Information	12.1	48.5	35.9	3.5	14.1	43.1	39.2	3.5
Basic function	Accommodation	5.5	38.0	56.3	0.3	9.7	35.9	52.8	1.6
	Looking after the home	3.9	24.0	62.5	9.7	4.6	31.5	61.8	2.2
	Child care	2.3	2.6	94.2	0.9	1.9	4.5	89.2	4.5
	Other dependent care	1.3	1.7	96.0	1.0	2.9	7.5	86.7	2.9
	Self-care	3.6	14.4	79.1	2.9	4.6	20.9	72.4	2.0
	Food	3.6	30.9	63.9	1.6	5.2	35.1	58.3	1.4
	Money	9.7	22.9	58.7	8.7	20.6	26.4	49.2	3.8
	Telephone	1.7	4.0	92.9	1.3	2.2	9.1	86.4	2.3
	Transport	5.9	14.7	75.6	3.8	8.8	17.5	71.1	2.6
	Benefits	10.8	16.6	62.8	9.8	17.2	18.2	58.0	6.6
	Daytime activities	31.3	33.0	32.3	3.3	26.8	27.4	41.6	4.2
	Basic education	8.9	10.8	78.1	2.2	9.7	12.1	75.6	2.6
Social	Company	26.0	28.0	40.5	5.5	30.7	23.8	41.4	4.0
	Intimate relationship	11.8	9.8	62.2	16.2	16.9	10.8	63.5	8.8
	Sexual expression	7.5	5.8	60.0	26.7	13.7	6.1	61.0	19.2

*See Table A2 for domain definitions

A4: Quality Checks

Sample: OCAN assessments uploaded to the IAR during 2010-2016, where EPI was the Functional Centre for the assessment lead: This included 9528 assessments for 4211 individuals.

Quality Checks: Checks are listed below. Per check, the unit of analysis (e.g. program, client, assessment), sample size (denominator) and result are reported.

Table A4: Adherence to protocol

Quality check	Calculation and result	Comments/ additional detail
OCAN participation based on uploads to the central repository (Integrated Assessment Record)	Numerator: **EPI programs who uploaded at least 1 OCAN to the IAR during 2010-2016** Denominator: EPI programs (n=50) Result: **68%**	64% of programs uploaded in 2014; 54% of programs uploaded in 2016
	Numerator: **# of OCANs uploaded per individual during 2010-2016** Denominator: All unique individuals represented in IAR data (n= 4211) Result: % individuals with: 1 OCAN uploaded = **44%** 2 OCANs uploaded = **26%** 3 OCANs uploaded = **12%** 4 OCANs uploaded = 8% 5 OCANs uploaded = 4% 6+ OCANs uploaded = 6%	
Assessment completion according to protocol	Numerator: **Assessments completed within 30 days of start date** Denominator: All OCAN assessments uploaded to IAR (n=9528) Result: **96%**	
	Numerator: **Reassessments completed within 6 months of prior assessment** Denominator: OCANs where previous OCAN available (n=5306) Result: **73%** occurred within 6 months of previous assessment	73% completed within 6 months; 94% completed within 1 year; 6% completed after 1 year

Quality check	Calculation and result	Comments/ additional detail
	Numerator: **Assessments completed using full OCAN version** Denominator: all OCAN assessments (n=9528) Result: **94%** were completed using full OCAN version	The Full OCAN includes a staff assessment, client self-assessment, client social and health information and mental health functional center use information. Briefer versions are used by a very small number of programs (e.g., peer initiatives do not complete the staff assessment component). EPI programs are expected to complete the full version.
	Numerator: **Consumer self-assessment completed** Denominator: OCAN assessments using full OCAN version (n=8917) Result: **47%**	Self-report was defined as completed if at least 1 self-report item was rated