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Characterizing inpatient care for adults with schizophrenia using the Health Quality Ontario indices: A single-centre retrospective cohort study

Abstract

Purpose: This single-center retrospective cohort study is one of the first reports to evaluate the inpatient care provided to persons diagnosed with schizophrenia in Canada.

Methods: This study examined all admissions for adults diagnosed with schizophrenia over a 6-month period in 2017 to an inpatient psychiatric unit situated in a nonprofit general hospital in Kingston, Ontario, Canada. The Health Quality Ontario standards for the inpatient care of adults with schizophrenia were used to assess the quality of care provided in hospital. Standards were determined to have been met by doing a thorough chart review for each patient, reviewing all documentation in progress notes, admission notes, discharge notes and emergency room notes for quality standard completion.

Results: The average length of stay per patient was 18.64 days. The treatment at this facility largely focused on medication management of schizophrenia; however, it was found that several areas of care did not meet the standard of care as set by the Health Quality Ontario Quality Standards for Schizophrenia Care for Adults in Hospitals, which was set in 2016. Problematic areas were promoting physical activity and healthy eating (4.9% compliance), treatment with clozapine (13.1% compliance) and cognitive behavioural therapy (9.8% compliance). The study site is fully accredited and attending physicians were all psychiatrists. How pervasive these deficiencies are in other settings is not known.

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In Canada, the prevalence of schizophrenia in the general population varies between 0.2% and 2%; however, a rate of 1% is generally accepted as the best estimate for lifetime prevalence [1]. This disorder ranks in the top five conditions that have the highest impact on life and health of people in Ontario. In Canadian hospitals, schizophrenia is the primary diagnosis in roughly 20% of all mental health-related admissions to general hospitals with psychiatric units, and 30% to dedicated psychiatric hospitals [2]. The average length of stay for patients with schizophrenia and psychotic related disorders in general and psychiatric hospitals are 23.4 days and 144.6 days, respectively [2]. Readmission rates for people with schizophrenia are 12.4% within the first 30 days of discharge and 41.3% within the first year of discharge from general hospitals [2]. From an economic perspective, schizophrenia places a substantial financial burden on the affected individuals, their family and the health care system as a whole: with the total direct cost of managing the illness in Canada estimated to be \$2.35 billion annually, or 0.3% of the Canadian gross domestic product [3]. This is combined with a high unemployment rate and additional productivity and mortality loss of \$4.83 billion (which accounts for 70% of the total direct and indirect health care costs) annually [3].

The average life expectancy of those with schizophrenia is approximately 15 to 20 years fewer than the general population, often due to advanced cardiovascular or respiratory disease [4]. In addition the stigma surround schizophrenia as a mental illness is pervasive [5,6] and is felt to impact the quality of care that patients receive [7]. Patients diagnosed with schizophrenia, particularly those whose behaviour does not meet societal norms, are often marginalized and have an increased risk of substance abuse, homelessness, unemployment and suicide [5]. Some patients are involuntarily hospitalized with little recourse available [8]. This paternalistic approach leaves patients living with schizophrenia with few rights and at the mercy of providers who may think that they have the patient's best interest in mind [8]. In many incidents, it has been found that health professionals may not actually inform the patient or their family about a diagnosis of schizophrenia [9]. As well, if informed, this stigma or the perception of stigma, can negatively affect a patient's ability to tell friends and family about their illness or to seek help. Stigma may also impact their ability to access health care services [5].

In Canada, as in other developed countries, the cost of health care is beginning to climb at an alarming rate [10], and hospitals are losing financial incentives to continue hospitalizing patients for long-term stays. There is also a

movement to provide more outpatient and community services throughout the country. While this trend could affect patients with schizophrenia disproportionately given their predilection for relatively long durations of stay on inpatient units, few studies have specifically examined the quality of inpatient psychiatric care.

There are significant gaps in the quality of care that people with schizophrenia receive in Ontario. Only a quarter of patients with a schizophrenia or psychosis-related hospitalization receive the recommended followup with a physician within seven days, and patients hospitalized for schizophrenia have a high rate of readmission and rates of emergency department visits for schizophrenia vary widely across Ontario [4]. Performance improvement, quality assurance and other such vehicles for monitoring and improving psychiatric care are generally still in their infancy in Canadian psychiatric hospitals [11].

Despite these issues, current mental health reform efforts are attempting to improve care for patients with schizophrenia in hospital; for example, informed consent and patients' rights have become increasingly visible, and there is an increased drive to begin reintegrating patients into the community [12]. In Ontario, Health Quality Ontario (HQO) has taken steps towards improving the delivery of care for patients with schizophrenia. The recently developed *HQO Quality Standards for Schizophrenia Care for Adults in Hospital*, finalized in 2016, addresses care for people aged 18 years and older who have been diagnosed with schizophrenia through the identification of eleven HQO Quality Standards (QS), covering a broad range of health domains. The HQO QS encompass the following domains: comprehensive interprofessional assessment; screening for substance use; physical health assessment; promoting physical activity and healthy eating; promoting smoking cessation; treatment with clozapine; treatment with long-acting injection antipsychotic medication; cognitive behavioural therapy; family intervention; follow-up appointment after discharge; and transitions in care [4]. The specific quality indicators and definitions which have guided HQO's development of these standards are described in detail in Supplementary Figure 1 (available upon request). The HQO QS are the first such standards developed to assess the quality of inpatient care for patients with schizophrenia in a Canadian setting. Because the HQO QS are new, they have not previously been used for research purposes. The quality of these standards is considered to be high given that they were developed on the basis of a systematic review, which synthesized data from a number of evidence-based sources, such as the National Institute for

Health and Care Excellence guidelines from the United Kingdom [13]. As well, the use of these standards has been validated in other settings, such as assessing the quality of care provided to those with depression and dementia, and for the prescribing of opioids [14–16].

Despite the development of these HSO QS in 2016, few studies have examined the quality of inpatient psychiatric care for those diagnosed with schizophrenia, which may provide some insight into the quality of psychiatric care that is being provided. The purpose of this study was to apply the HQO QS for Schizophrenia Care for Adults in Hospital to assess the care provided in an acute inpatient unit at a general hospital with regards to the treatment of patients diagnosed with schizophrenia who were hospitalized over a six-month study period.

Methods

The STROBE guidelines for observational epidemiologic studies were following throughout the conduct of this study [17]. Ethics approval for this study was acquired through the Health Sciences and Research Ethics Board at Queen's University in Kingston, Ontario, Canada (Supplementary Figure 2; available upon request) which allowed for a single-center retrospective cohort study to be conducted at an acute inpatient psychiatry unit at a general hospital in Kingston, Ontario, Canada. The Kingston Hospital site, a non-profit public general hospital has 40 inpatient psychiatry beds. This facility has two adult psychiatry nursing units, which combine voluntary and involuntary patients, as well as an Emergency Psychiatry unit equipped with an additional two beds. All of the units are locked. All patients were evaluated and treated by attending psychiatrists.

Patient's charts were retrospectively reviewed over a six-month period (January 1 to June 30, 2017) and provided a sample of all patients with schizophrenia (DSM-IV or DSM-V criteria, including subtypes; $n=61$). The HQO Quality Standards were selected for evaluation given their previous use in retrospective reviews of inpatient care of those diagnosed with depression and dementia [14,15] and the lack of other available inpatient quality of care standards for patients diagnosed with schizophrenia [4].

A Psychiatric Records Abstract Instrument (Supplementary Figure 3; available upon request) was completed for each patient, which collected information on demographics (age, gender, ethnicity, highest education completed, employment status, accommodation status, community supports in place), admission details (dates of

admission and discharge, voluntary or involuntary status during admission), past psychiatric history (duration of illness, whether or not diagnosis was made during the admission, number of previous admissions), substance use history (smoking status), and finally, if the eleven Health Quality Ontario Quality Standards for patients with schizophrenia were met (yes or no). Each HQO QS has a corresponding timeframe within which each standard should be met (as seen in Table 1). This corresponding timeframe was collected during data collection, however we do not describe these results in the current study but may be an area to be explored in further studies. Standards were determined to have been met by reviewing documentation in progress notes, admission notes, discharge notes, and emergency room notes.

Results

A summary of significant conclusions is grouped using the information collected in the PRAI. Only findings that varied markedly from the HQO recommendations are discussed in detail below. The HQO QS for individual patients were scored and then an aggregate score for the entire sample was computed.

Patient demographics are illustrated in Table 2. Patients from this sample were primarily from the Kingston area. The average age of the sample was 37.61 years (range: 19–79 years); however, female patients were significant older ($p = 0.012$) than their male counterparts. The average length of stay per patient was 18.64 days which was comparable to 23.4 days at other general hospitals provided in the literature [12]. Roughly one third (29.5%) had engaged in some level of post-secondary education with majority of the sample described as Caucasian (88.5%), unemployed (85.2%), and on disability/welfare (60.7%). There was no significant difference between voluntary status and gender ($\chi^2(1) = .005, p = 0.942$) whereas a significant majority of admissions were involuntary (85.2%). With regards to length of stay in hospital, this value did not differ if the patient was admitted voluntarily or under the Mental Health Act ($t(59) = 1.540; p = 0.129$). Approximately half of the sample reported active cigarette smoking (45.9%) with no significant gender difference ($p = 0.544$) within this group.

The completion rates of the eleven HQO QS are listed in Table 1. One hundred percent completion rates were observed for interprofessional assessments and promoting smoking cessation (QS1 and QS5); however, promoting physical activity and healthy eating (QS4, 4.9%), treatment with clozapine (QS6, 13.1%) and cognitive behavioural therapy

TABLE 1. Health Quality Ontario Quality Standards with corresponding timeframe for completion, and rates of completion

Quality standards	Timeframe	Numerator	Denominator	Both (N = 61)	Men (N = 48)	Women (N = 13)	Significance
Comprehensive interprofessional assessment	Within 24 hours	Number of people in the denominator who receive a comprehensive interprofessional assessment	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia	100%	100%	100%	Not applicable
Screening for substance use	Within 24 hours	Number of people in the denominator who are assessed for substance use	Total number of adults admitted to an inpatient setting or seen in the emergency department who have a primary diagnosis of schizophrenia	96.7%	97.9%	92.3%	p = 0.314
Physical health assessment	Within 72 hours	Number of people in the denominator who received a comprehensive physical health assessment, including metabolic workup, within the past year	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia	54.1%	56.3%	46.2%	p = 0.517
Promoting physical activity and healthy eating	Within 1 week	Number of people in the denominator who: receive interventions promoting physical activity; receive interventions promoting healthy eating; receive interventions promoting both physical activity and healthy eating	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia.	4.9%	6.3%	0%	p = 0.355
Promoting smoking cessation	Within 24 hours	Number of people in the denominator who receive behavioural and/or pharmacological interventions to alleviate nicotine-withdrawal symptoms and help them reduce or stop smoking.	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia who are current smokers or who are quitting smoking but experiencing nicotine-withdrawal symptoms.	100%	100%	100%	Not applicable
Treatment with clozapine	Within 2 weeks	Number of people in the denominator who are offered clozapine while in hospital	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia who have not responded adequately to treatment with at least two antipsychotic medications	13.1%	14.6%	7.7%	p = 0.514
Treatment with long-acting injectable medication	Within 2 weeks	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia	54.1%	54.2%	53.8%	p = 0.984
Cognitive behavioural therapy	On discharge	Number of people in the denominator who are screened for appropriateness of cognitive behavioural therapy for psychosis	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia	9.8%	10.4%	7.7%	p = 0.770
Family intervention	Inquiring what is available	Number of people in the denominator who: receive family intervention during the inpatient stay or have family intervention arranged in their discharge plan	Total number of adults admitted to an inpatient setting with a primary diagnosis of schizophrenia (excludes those without a family and those who do not consent to family involvement)	77.0%	77.1%	76.9%	p = 0.990
Follow-up appointment after discharge	Within 1 week	Number of people in the denominator who have a follow-up appointment with a care provider within 7 days of discharge	Total number of adults discharged from an inpatient setting after an admission for a primary diagnosis of schizophrenia	95.1%	97.9%	84.6%	p = 0.049
Transitions in care	Within 1 week	Number of people in the denominator whose care plan is made available to the receiving provider within 7 days of discharge	Total number of adults discharged from an inpatient setting after an admission for a primary diagnosis of schizophrenia who have a documented care plan	95.1%	97.9%	84.6%	p = 0.049

Significance at p-level < 0.05, bold

TABLE 2. Characteristics of patient sample ^a

	Both	Men (N = 48; 79%)	Women (N = 13; 21%)	Significance (comparison) b
Mean age (years)	37.61	35.27	46.23	p = 0.012
Education				
College/university	29.5%	27.1%	38.5%	p = 0.578
High school	26.2%	27.1%	23.1%	
< High school	19.7%	22.9%	7.7%	
Unknown	24.6%	22.9%	30.8%	
Legal status				
Involuntary	85.2%	85.4%	84.6%	p = 0.942
Voluntary	14.8%	14.6%	15.4%	
Length of stay (days)	18.64	20.02	13.54	p = 0.258
Ethnicity				
Caucasian	88.5%	87.5%	92.3%	p = 0.797
Asian	1.6%	2.1%	0%	
Biracial	1.6%	2.1%	0%	
Middle Eastern	1.6%	2.1%	0%	
Hispanic	3.3%	2.1%	7.7%	
Black	3.3%	4.2%	0%	
Smoking				
Yes	45.9%	47.9%	38.5%	p = 0.544
No	54.1%	52.1%	61.5%	
Disability status				
On disability	60.7%	58.3%	69.2%	p = 0.476
Not on disability	39.3%	41.7%	30.8%	
Housing status				
Lives alone	21.3%	16.7%	38.5%	p = 0.089
Lives with family	78.7%	83.3%	61.5%	
Employment				
Unemployed	85.2%	85.4%	84.6%	p = 0.010
Employed	11.5%	14.6%	0%	
Retired	3.3%	0%	15.4%	

^a N = 61^b T-test and chi-square tests were used to test for significance for continuous and categorical variables, respectively (p < 0.05 for significance, bold).

(QS8, 9.8%) were not consistently achieved. There were significant gender differences in the rates of completion of QS10 (follow-up appointments after discharge) and QS11 (transitions in care), which were completed more consistently amongst male patients ($p = 0.049$).

Discussion

In this retrospective single-centre retrospective cohort study described over a six-month period, 61 admissions for adults diagnosed with schizophrenia were reviewed by applying the HQO QS for Schizophrenia Care for Adults in Hospitals. In our sample, the QS with the highest rates of completion were interprofessional assessment and promoting smoking cessation, with rates of 100% for both; however, promoting physical activity and healthy eating, treatment with clozapine and cognitive behavioural therapy had the lowest rates of completion. This study is one of the first to measure the quality of inpatient care for Canadian adults diagnosed with schizophrenia.

Physical activity and healthy eating is of paramount importance to all adults, regardless of mental health status. The World Health Organisation (WHO) defines a “healthy life” as one that promotes physical, mental and social health, and the WHO World Mental Health Day in 2014 prioritized “living a healthy life with schizophrenia”. It claimed also that there is “no mental health without physical health as well” [18]. As those with schizophrenia often experience negative and cognitive symptoms of the illness, this can make it even more difficult for these people to eat healthy, and especially to prepare meals for themselves. Sedentary behaviour and unhealthy eating increase vulnerability to ill health and early death, both of which are common in this population [4]. One potential strategy to promote these practices is to involve more allied health practitioners, such as dietitians, nutritionists and recreational staff in a patient’s care within the hospital. Involving these teams may help promote both healthy eating and physical activity in a population that continues to struggle with these goals.

The QS that addresses both offering and receiving clozapine for those diagnosed with schizophrenia was not met within this study. Recommended as a first-line pharmacotherapy in treatment-resistant schizophrenia (defined as failure to completely respond to, or tolerate, two different antipsychotics prescribed for an adequate period of time at an adequate dose), clozapine remains significantly underutilised [19,20]. Literature suggests that clozapine use is delayed for an average of four years despite the clear evidence

and superiority of clozapine in treatment-resistant schizophrenia in both the short and long term [20]. More evidence points to the demonstration that delaying the offering and utilisation of clozapine is associated with increased symptom severity, increased likelihood of remission and reduced functional outcome [21]. The reason this QS was not met may be multi-factorial. Clinicians' practical experience and attitudes about clozapine could include 1) experiencing adverse events, 2) a gap in knowledge on initiation, titration and monitoring of the medication and 3) fear that if clozapine does not work. Education and assistance from pharmacists and other practitioners may be instrumental in overcoming these obstacles.

Cognitive behavioural therapy (CBT) for psychosis has been widely researched over the last 20 years and there is considerable evidence that it is an effective intervention. Guidelines for professionals recommend individual CBT in the treatment of schizophrenia and some recommend that this should start in the acute phase [22]. There is some evidence that long-term group CBT can be more effective than individual therapy if used as an early intervention. Group therapy in an inpatient setting is challenging for several reasons including the timing of the intervention (appropriateness for therapy as patients are often currently experiencing a crisis), considerably uncertainty regarding length of stay in hospital and medication changes or increases during their hospital stay [23]. The consensus remains that those diagnosed with schizophrenia should be assessed, offered and referred for CBT as a QS. One potential strategy might be to involve staff, including social workers and psychologists, to have an adequate workforce that can address the multidimensional needs of patients diagnosed with schizophrenia—especially the ones who are often overlooked.

There is a significant potential to improve quality and productivity in the care of patients with schizophrenia, both locally and globally [24]. Internationally, various initiatives have been undertaken in community settings, but there have been few evaluations of effectiveness or efficiency [24]. As there is a need for standardisation of guidelines on conducting such studies, it is helpful for different sites to use similar quality markers. As such, the development of HQO QS is quite timely and will enable the development of a set of benchmarks against which groups within Ontario (and perhaps abroad) can organise and audit their practices and be used to evaluate the effectiveness of service changes. For practitioners, these guidelines will provide practical guidance regarding helpful and proper management of various measures beneficial to their patients. As well, the development of QS

enables the formation of integrated care pathways, which are also effective, feasible and cost-effective for improving the quality of care for patients with psychotic illnesses [25]. Eventually, such care pathways will assist in establishing workforce and training need, including professional, therapeutic, vocational areas as well as to promote support worker time and training. These in turn may lead to improvements in specific quality indicators.

As most organisations are currently struggling to balance quality of care and financial agendas due to ongoing austerity, cost-effective strategies are in high demand. As well, limited resources within services to deliver care along such pathways may impact our ability to improve the quality of care for our patients. These may include inadequate numbers of clinicians with an understanding of the needs of patients with psychotic illnesses, and insufficient numbers of trained therapists to deliver the interventions, such as cognitive behavioural therapy or the promotion of healthy diet and exercise. Adaptation and adoption of care pathways continue to have challenges, due to system differences, hospital-based care and different payment systems [26]. Similarly, there may be challenges in developing countries where care is hospital-based and attributions to illness and help-seeking pathways into care are culturally influenced [26].

For our study, the three QS for which the care was provided least consistently were QS 4 (promoting physical activity and healthy eating), QS 6 (treatment with clozapine) and QS 8 (CBT). For these three areas, there are multiple potential barriers that may explain why these quality standards were not achieved: for QS 4, the lack of allied health practitioners with a specific focus or interest in promoting physical health may have contributed to the inconsistency in delivery of health promotion; for QS 6, physician attitudes towards clozapine, and difficulties in obtaining reliable followup—especially for clozapine-related bloodwork; for QS 8, generalized shortages in psychotherapists, especially those trained in CBT. Across the board, additional improvements in QS completion could be facilitated by the use of consistent reporting measures, such as electronic discharge summaries with checkboxes for the 11 QS statements.

Our study is not without limitations. As a single centre retrospective cohort study, the quality of our study is limited by the availability of historical records. As well, there is potential for recall and selection bias due to the nature of the participants included in this study. Future research could utilize enhanced methodologies that could support our findings; for example, including parallel interviews with care providers, patients and families may represent a means to

qualify barriers to better care provision. In addition, while the HQO QS have been developed using a collaborative and iterative process, they have not previously been used in a clinical setting and have not been validated for this use.

In conclusion, this study is one of the first to evaluate the quality of inpatient care for Canadian adults diagnosed with schizophrenia and may inspire other sites to assess the quality of care they provide. Quality indices and definitions among the QS developed by HQO, appear to be an effective way of standardizing care across different sites and may help identify areas where there are relative deficiencies in particular aspects of a patient's treatment. Certain facets of care, such as the promotion of physical health or psychological interventions, may be better suited to allied health practitioners whereas the use of certain medications, such as clozapine, should also require a multi-disciplinary team that includes pharmacists, nurses and other health practitioners. Ultimately, QS—and the role that they play in quality improvement in mental health—may play a vital role in shaping and standardizing the care that our patients receive.

Future studies may be beneficial in exploring a more efficient way for data collection of these HQO QS, perhaps by using discharge summaries or pre-printed admission sets to help capture relevant data. Discussion surrounding whether these Quality Standards are being met within the timeframe designated could be instrumental into even further standardising the care provided to each patient diagnosed with schizophrenia. These standards should also be further applied to larger systems within the province or country for greater statistical power and the identification of gaps within care on a much broader scale.

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References

- McGrath J, Saha S, Chant D, Welham J. Schizophrenia: A Concise Overview of Incidence, Prevalence, and Mortality. *Epidemiol Rev.* 2008;30(1):67-76. doi:10.1093/epirev/mxn001
- Information (CIHI) CI for H. Hospital Mental Health Services in Canada. <https://secure.cihi.ca/estore/productSeries.htm?pc=PCC185>. Accessed April 1, 2018.
- Goeree R, Farahati F, Burke N, et al. The economic burden of schizophrenia in Canada in 2004. *Curr Med Res Opin.* 2005;21(12):2017-28. doi:10.1185/030079905X75087
- Health Quality Ontario. Schizophrenia: Care for Adults in Hospital. 2016. www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/View-all-Quality-Standards/Schizophrenia. Accessed April 1, 2018.
- Aakre JM, Klingaman EA, Docherty NM. The relationship between stigma sentiments and self-identity of individuals with schizophrenia. *Psychiatr Rehabil J.* 2015;38(2):125-31. doi:10.1037/prj0000119
- Norman R, Lecomte T, Addington D, Anderson E. Canadian Treatment Guidelines on Psychosocial Treatment of Schizophrenia in Adults. *Can J Psychiatry.* 2017;62(9):617-23. doi:10.1177/0706743717719894
- Jørgensen M, Mainz J, Svendsen ML, et al. Improving quality of care among patients hospitalised with schizophrenia: a nationwide initiative. *BJPsych Open.* 2015;1(1):48-53. doi:10.1192/bjpo.bp.115.000406
- Raboch J, Kališová L, Nawka A, et al. Use of Coercive Measures During Involuntary Hospitalization: Findings From Ten European Countries. *Psychiatr Serv.* 2010;61(10):1012-7. doi:10.1176/ps.2010.61.10.1012
- Dunn LB. Ethical issues in schizophrenia: considerations for treatment and research. *Psychopharmacol Bull.* 2007;40(4):145-55.
- Health Spending | CIHI. <https://www.cihi.ca/en/health-spending>. Published November 6, 2017. Accessed April 1, 2018.
- Jayaram G. Implementing Performance Improvement and Measuring Psychiatric Care Quality. *Psychiatry Edmont.* 2007;4(5):58-61.
- Meadows GN. Overcoming barriers to reintegration of patients with schizophrenia: developing a best-practice model for discharge from specialist care. *Med J Aust.* 2003;178 Suppl:S53-6.
- Kuipers E, Yesufu-Udechuku A, Taylor C, Kendall T. Management of psychosis and schizophrenia in adults: summary of updated NICE guidance. *BMJ Online.* 2014;348.
- Ontario Health Technology Assessment Series. Screening and Management of Depression for Adults With Chronic Diseases. *Ont Health Technol Assess Ser.* 2013;13(8):1-45.
- Ontario Health Technology Assessment Series. The Appropriate Use of Neuroimaging in the Diagnostic Work-Up of Dementia. *Ont Health Technol Assess Ser.* 2014;14(1):1-64.
- Health Quality Ontario. Opioid Prescribing for Chronic Pain. 2018. <http://www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/View-all-Quality-Standards/Opioid-Prescribing-for-Chronic-Pain>. Accessed September 30, 2018.
- Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and Elaboration. <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0040297>. Accessed April 25, 2018.

18. Kessler RC, Ormel J, Petukhova M, et al. Development of Lifetime Comorbidity in the World Health Organization World Mental Health Surveys. *Arch Gen Psychiatry*. 2011;68(1):90-100. doi:10.1001/archgenpsychiatry.2010.180
19. Cetin M. Clozapine: Fear of Prescribers of Clozapine for Treatment of Schizophrenia. *Klin Psikofarmakol Bül-Bull Clin Psychopharmacol*. 2014;24(4):295-301. doi:10.5455/bcp.20141223052008
20. Cetin M, Kose S. An updated clozapine treatment guide against clozapine attitudes. *J Mood Disord*. 2016;6(4):242. doi:10.5455/jmood.20161230061411
21. Joob R, Boksa P. Clozapine: a distinct, poorly understood and under-used molecule. *J Psychiatry Neurosci JPN*. 2010;35(3):147-9. doi:10.1503/jpn.100055
22. Kråkvik B, Gråwe RW, Hagen R, Stiles TC. Cognitive Behaviour Therapy for Psychotic Symptoms: A Randomized Controlled Effectiveness Trial. *Behav Cogn Psychother*. 2013;41(5):511-24. doi:10.1017/S1352465813000258
23. Nordentoft M, Austin S. CBT for psychotic disorders: beyond meta-analyses and guidelines – it is time to implement! *World Psychiatry*. 2014;13(3):260-1. doi:10.1002/wps.20164
24. Health (UK) NCC for M. PSYCHOSIS AND SCHIZOPHRENIA IN ADULTS. National Institute for Health and Care Excellence (UK); 2014. <https://www.ncbi.nlm.nih.gov/books/NBK333029/>. Accessed June 23, 2018.
25. McGorry PD. Early Intervention in Psychosis. *J Nerv Ment Dis*. 2015;203(5):310-8. doi:10.1097/NMD.0000000000000284
26. Rathod S, Garner C, Griffiths A, et al. Protocol for a multicentre study to assess feasibility, acceptability, effectiveness and direct costs of TRIumph (Treatment and Recovery In Psychosis): integrated care pathway for psychosis. *BMJ Open*. 2016;6(12):e012751. doi:10.1136/bmjopen-2016-012751