

# Mental Health and Addictions System Performance in Ontario: An Updated Scorecard, 2009–2017

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## Abstract

Scorecards, particularly those that report on health system performance over time, can shed light on issues related to access and quality. In this updated 2020 Mental Health and Addictions Scorecard, we report on a number of indicators between 2009 and 2017. In general, we found that the performance of the mental health and addictions health system did not improve substantially over time. Among the many findings, over the past decade, suicide rates have not declined and rates of emergency department visits for deliberate self-harm have continued to rise. The highest rates of deliberate self-harm and the greatest rise over time in overall mental health and addictions-related outpatient visits, emergency department visits and hospitalizations were experienced by individuals aged 14–24 years. There continues to be a growing use of mental health services in outpatient settings, with the majority of care provided by primary care physicians. We also observed a slight decrease over time in the proportion of individuals who had no physician-delivered mental health care prior to presenting to the emergency department, which suggests an improvement in access over time.

## Background and Context

Previously, the Government of Ontario (2011) released *Open Minds, Healthy Minds – Ontario’s Comprehensive Mental Health and Addictions Strategy*, a cross-government initiative committed to addressing the burden of mental health and addictions (MHA) issues in Ontario. As part of this strategy, the ICES (formerly Institute for Clinical Evaluative Sciences) Mental Health and Addictions Program Framework (MHAP) team was tasked by the Ministry of Health to develop performance measures (i.e., indicators) for children and youth mental health in Ontario.

The MHAP project team released its first baseline scorecard on children and youth mental health in Ontario in March 2015, followed by an update in June 2017 (ICES 2015, 2017). When Ontario’s MHA Strategy entered its second phase, the scorecard was expanded from its initial focus to include MHA performance measures for adults, and we released

the first MHA baseline scorecard for adults in March 2018 (ICES 2018). Together these reports provided comprehensive trends of mental health system performance measurement indicators over time for all Ontarians, including measures on MHA-related hospital and emergency department use, access to MHA care and adverse outcomes, such as deliberate self-harm and suicide. The objective of this updated 2020 MHA scorecard (ICES 2020, manuscript in preparation) was to examine mental health system use and performance in Ontario between 2009 and 2017.

## Method

For this updated scorecard, we adopted an across-the-lifespan approach, reflecting both the fact that the oversight of children and youth mental health services transitioned from the Ministry of Child and Youth Services to the Ministry of Health and the fact that most mental illnesses and addictions have an onset in the late teen or early adult years and can persist throughout the lifespan. This MHA indicator analysis is an update to our previous scorecard work. The 2020 MHA scorecard consists of 12 indicators grouped into (1) general measures of health service use and (2) quality domain categories, including safe, timely, efficient and effective, which were identified by the Institute of Medicine (2001) and adopted by the Mental Health and Addictions Leadership Advisory Council (2016) and Health Quality Ontario (2019, now Ontario Health Quality; Table 1). We calculated crude and age- and sex-standardized rates overall and by age group, sex, diagnostic group, neighbourhood income quintile and Local Health Integration Network (LHIN). We present the key findings in the following text.

We included individuals from birth to 105 years of age who lived in Ontario between January 1, 2009, and December 31, 2017; individuals who did not have a valid Ontario health card or who had missing information on age or sex were excluded. The current estimates may not be directly comparable to those of our previous results (ICES 2015, 2017, 2018) or related reports (Health Quality Ontario 2019), as the MHAP team is engaged in an iterative quality improvement process that

reflects our evolving understanding of the data and the indicators. This quality improvement process has resulted in modifications of indicator definitions, which, in turn, can result in minor changes in results from one scorecard report to the next.

**TABLE 1.**  
Indicators included in the ICES Ontario Mental Health and Addictions Scorecard

Category	Indicator
Health service use	Rate of mental health and addictions–related outpatient visits
	Rate of individuals seen by outpatient physicians for mental health and addictions–related care
	Rate of mental health and addictions–related emergency department visits
	Rate of mental health and addictions–related hospitalizations
	Median length of stay for mental health and addictions–related hospitalizations
<b>Quality domain</b>	
Safe	Rate of physical restraints used in mental health and addictions-related hospitalizations
Timely	First contact in the emergency department for mental health and addictions
Efficient	Rate of outpatient visits within seven days following mental health and addictions-related hospitalizations
	Rate of mental health and addictions-related emergency department revisits within 30 days
	Rate of mental health and addictions-related rehospitalizations within 30 days
Effective	Rate of emergency department visits for deliberate self-harm
	Rate of deaths by suicide

## Key Findings

### Health service use

Approximately 15% of Ontario residents received MHA care from a physician in an outpatient setting, most commonly from primary care providers. The rate of outpatient visits to all physician specialties (i.e., primary care providers, psychiatrists and pediatricians) increased from 52.5 per 100 persons in 2009 to 56.8 per 100 persons in 2017. The overall increase was driven by individuals under the age of 45 years. Overall, the standardized rate of emergency department visits for MHA-related issues increased from 13.5 (2009) to 19.7 (2017) per 1,000 persons. The highest rates were found for individuals aged 14–24 years (Figure 1, Panel A). Overall, anxiety- and substance-related disorders were the most common MHA-related diagnoses for

an emergency department visit, and the rates of emergency department visits for these conditions showed the greatest increase over time.

The rates of MHA-related hospitalizations remained stable over time for most older age groups but increased for younger age groups, especially for individuals aged 14–24 years (Figure 1, Panel B). The top three reasons for MHA-related hospitalization were mood disorders, schizophrenia and substance-related disorders for all periods. The median length of hospital stay for MHA hospitalizations decreased from eight days to six days for both male and female individuals. Individuals aged 65 years and older had the longest median length of stay. Rates of MHA-related outpatient visits, emergency department visits and hospitalizations were highest among patients living in lower-income neighbourhoods.

### Safe

In 2017, 4.5% of MHA-related hospitalizations involved the use of physical restraints. The rate was higher for male patients. The rate declined from 2009 to 2012 and then increased slightly. The use of restraints was highest among individuals aged 14–24 years and for those with psychotic and mood disorders.

### Timely

Access to MHA care continues to be an issue as demands for services increase. Approximately one in three patients who sought help for MHA-related care in an emergency department did not have any MHA-related health service contact in the emergency department, hospital or outpatient setting in the previous two years; this was most common for substance-related and anxiety diagnoses. Overall, there was a slight improvement over time (i.e., an absolute reduction of 3.3% from 2009 [32.6%] to 2017 [29.3%]), suggesting a higher rate of health service use prior to an MHA-related emergency department visit.

### Efficient

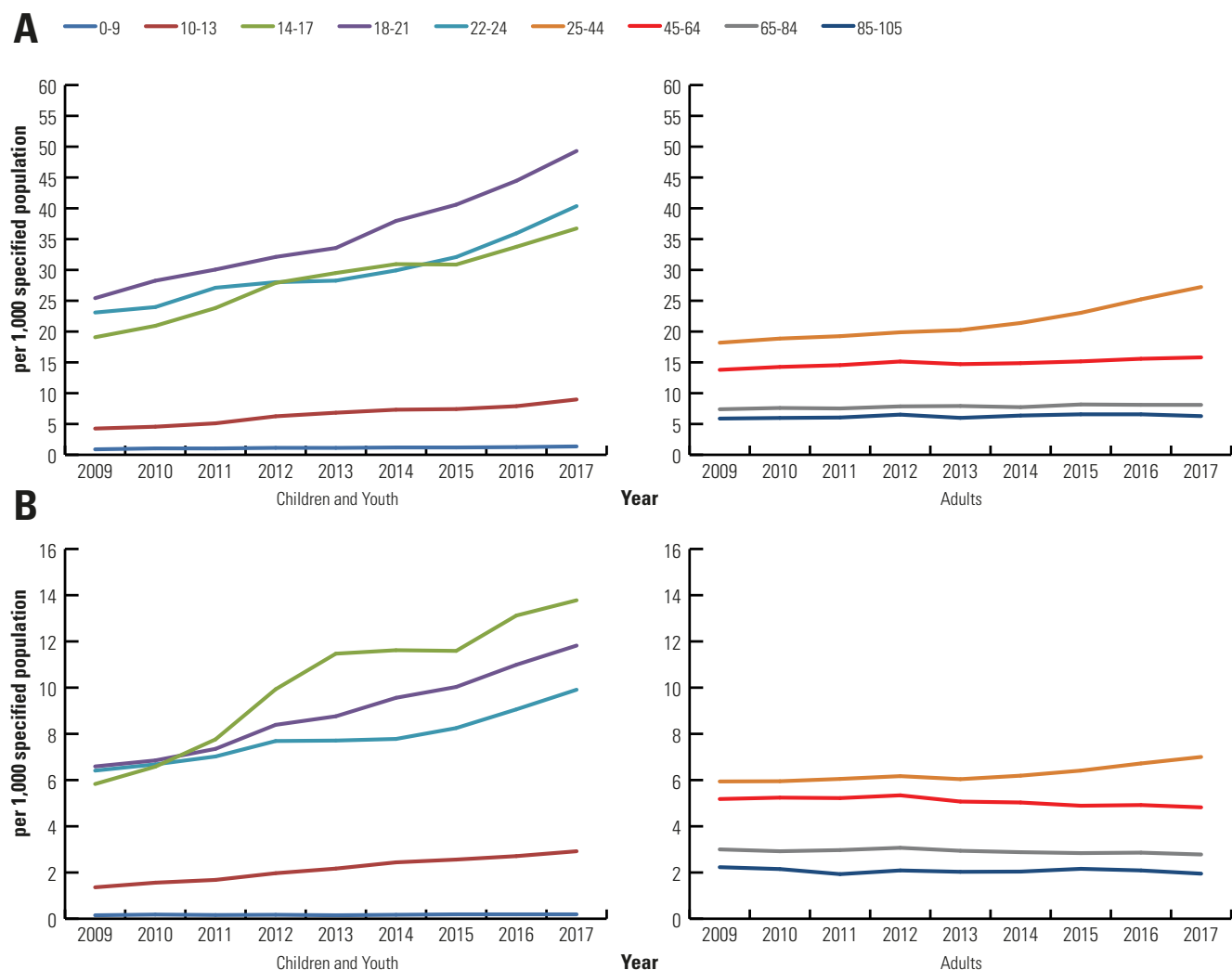
In 2017, 39.3% of MHA-related hospitalizations were followed up by a physician within seven days of the patient being discharged from hospital, with 14.0% being readmitted within 30 days. Approximately one in four MHA-related emergency department visits was followed up with a revisit within 30 days. Overall, there was a persistently low rate of follow-up after an MHA hospitalization, despite this being a high-risk period.

### Effective

Between 2009 and 2017, the standardized rate of emergency department visits for deliberate self-harm increased from 15.7 to 19.4 per 10,000 persons aged 10–105 years. Over time, the greatest rise was observed among young adults aged 14–24 years (Figure 2) and among females. The rate of death by

**FIGURE 1.**

**Rate of mental health and addictions–related emergency department visits (Panel A) and hospitalizations (Panel B) per 1,000 crude population aged 0–105 years in Ontario, by age group, 2009–2017**



suicide, which remained largely unchanged, was highest among the lowest-income groups. Poisoning and hanging were the most common methods for deliberate self-harm and suicide, respectively.

**Limitations**

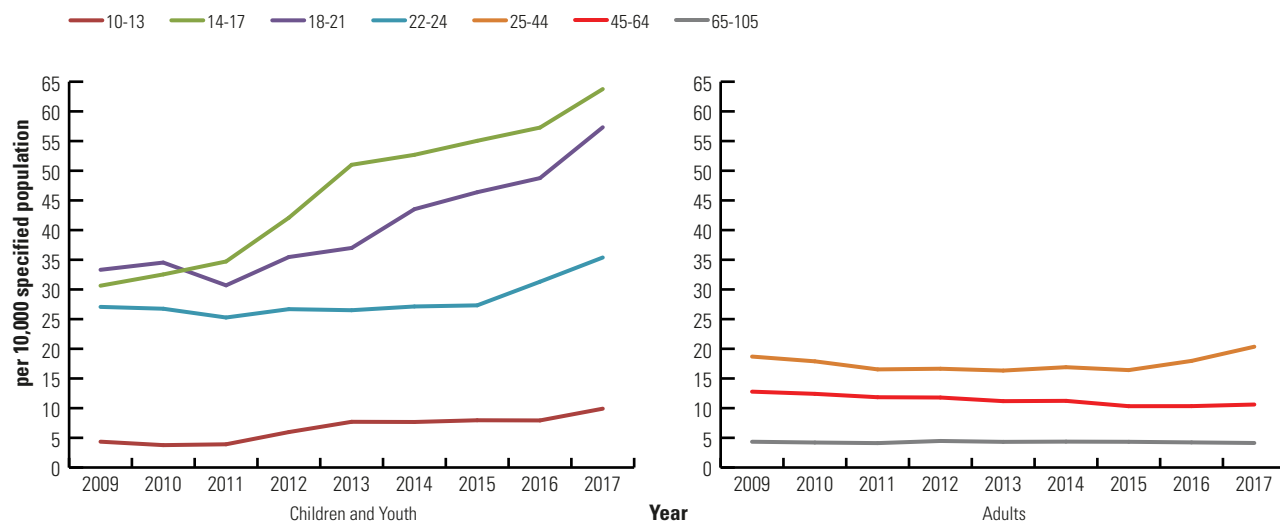
The general limitations of health administrative data, such as potential coding errors and lack of clinical detail, apply for this scorecard. Due to data limitations, only MHA services provided in a hospital or by a physician in an outpatient setting were included in this analysis. The care provided by community-based MHA agencies and by non-physician clinicians – such as psychologists and social workers – was not captured in this analysis; however, we did include available data on visits

to family physicians and nurse practitioners in community health centres. In addition, information on cause of death was available only until December 2015, and the cause of death for suicide is prone to misclassification.

**Interpretation and Conclusion**

Overall, we did not find substantial improvement over time in most quality domains. Most notably, over the past decade (2009–2017), suicide rates have not declined and rates of emergency department visits for deliberate self-harm have continued to rise. Youth and young adults aged 14–24 years had the highest rates of emergency department visits for deliberate self-harm and the greatest increase over time in MHA-related outpatient visits, emergency department visits

**FIGURE 2.**  
**Rate of emergency department visits for deliberate self-harm per 10,000 crude population aged 10–105 years in Ontario, by age group, 2009–2017**



Note: For this figure, we present rates of ED visits for deliberate self-harm where this diagnosis was made as a primary, secondary or other reason for the visit.

and hospitalizations. The rate at which individuals visited an emergency department for MHA-related reasons with no prior outpatient visits decreased only slightly. In total the observed increase in acute care utilization, and the more modest increase in outpatient services, suggest that outpatient resources are not responding to the increased demand for MHA services, particularly among youth and young adults. We observed some important trends by diagnoses; for example, there was a sharp increase in anxiety- and substance-related emergency department visits. Patients with severe mental illness (e.g., schizophrenia) continued to experience the longest lengths of hospital stay but the lowest rates of physician follow-up after hospital discharge. The lower rate of follow-up suggests that there are opportunities to more effectively align access to services for those with the greatest need.

**The highest rates of deliberate self-harm were experienced by individuals aged 14–24 years.**

We also found that access to and use of mental health services varied by LHINs and by neighbourhood income. For example, unlike most LHINs where primary care physicians provided the majority of MHA care, in the Toronto Central LHIN, the rates of psychiatrist visits were almost on par with the rates of MHA-related primary care provider visits, suggesting that access to mental health specialists is not equitable across the province. In addition, individuals living in lower-income neighbourhoods had the highest rates of MHA-related outpatient visits, emergency department

visits and hospitalizations. Transitions between acute care and outpatient care remained suboptimal, with approximately 60% of patients not being followed up by any outpatient physician care after an MHA-related hospitalization.

The MHAP team at ICES has been measuring mental health system performance systematically since 2013. Since that time, we have standardized the approaches to measurement and have reported on access and quality of care issues. For example, we have demonstrated that individuals with schizophrenia are a substantial proportion of all individuals who have MHA hospitalizations, longer lengths of hospital stay and some of the lowest access to care following discharge. The sum of these findings from three different indicators affords an opportunity to systematically address the quality of care for individuals with schizophrenia. Moreover, our capacity to measure these outcomes means that any effort to improve access to care can be monitored for success based on our capacity to routinely measure these outcomes. This is one example among many that have been highlighted by our scorecard work. The 2020 MHA Scorecard is a reflection of the current MHA system performance, but it also serves as an opportunity for measurement-based quality improvement.

**Future Directions**

The continued monitoring of MHA system performance described in this report builds upon previous children and youth as well as adult baseline scorecards (ICES 2015, 2017, 2018) and helps track the progress of programs implemented as part of Ontario’s MHA strategy (Government of Ontario n.d.). The indicators are descriptive and provide a useful starting

point to identify and target areas for intervention. Further work is under way to explore some of the emerging trends from these analyses, such as notable increases in MHA-related emergency department visits and hospitalizations and the rate of deliberate self-harm among children and young adults. We will evaluate provincial interventions to improve access to mental health care and to analyze trends in important healthcare delivery and outcomes related to the COVID-19 pandemic.

To obtain a more complete picture of the complex MHA system in Ontario, ICES and the MHAP team are engaged in the development of partnerships with health and non-health stakeholders and the integration of record-level and linkable data. New legislation will allow the linkage of multisector data, such as those from education, social assistance and community-based mental health services, to health and demographic data holdings at ICES and will facilitate more integrated measurement of MHA system performance. **HQ**

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