Evaluating the Impact of Prescription Drug Coverage on Emergency Department Visits in Youth: Evidence from Ontario's OHIP+ Program

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Abstract

This thesis examines the impact of Ontario's OHIP+ program (introduced January 2018) to provide prescription coverage to youths <25, on suicide-related behavior (SRB) emergency department (ED) visits among youth. Using interrupted time series (ITS) and comparative ITS (CITS) analyses, the study assessed changes in SRB-related ED visits per 100,000 population overall and by socioeconomic status (SES). Youth with low-SES, less likely to have private insurance and more likely to benefit from OHIP+, were compared to high-SES youth. ITS results showed a significant immediate reduction in SRB-related ED visits after OHIP+ implementation (-9.39, 95% CI: -18.21 to -0.56). CITS results showed a larger immediate decline among low-SES youth (-19.61, 95% CI: -37.71 to -1.50), reducing rates from 54.11 to 45.90 per 100,000, with stronger effects among women. Findings suggest drug coverage can reduce youth mental health crises and support expanded pharmacare.

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INTRODUCTION

Context: Canadian medication insurance framework and consequences for the lack of coverage

Canada is the only country with a universal health insurance system that does not provide universal coverage of prescription drugs. Instead, it relies on a fragmented mix of over 100 public and 100,000 private insurance plans[1] , each varying in eligibility, patient expenses, and drug coverage[2]. Overall, this framework leaves 1 in 5 Canadians reporting they have no coverage for their prescriptions[2]. Drug coverage varies significantly across provinces and territories, as each provincial and territorial government implements a drug benefit plan for eligible groups[3] , such as youths, older adults, or individuals on social assistance. In Ontario, public drug coverage is primarily provided through the Ontario Drug Benefit Program, which operates in collaboration with the Ontario Health Insurance Plan (OHIP). Ontario Drug Benefit Program eligibility includes adults 65 years or older, beneficiaries of Ontario Works or Ontario Disability Support Program, people living in long-term care homes, and those enrolled in the Trillium Program[4]. On January 1st, 2018, the Ontario government introduced the Ontario Health Insurance Plan Plus (OHIP+), providing comprehensive drug coverage to individuals under the age of 25, which provides access to over 5,000 prescription medications[5]. However, in April 2019, the program was modified to exclude individuals with access to private insurance or other drug benefits, such as coverage through a parent's plan or a university/college health plan.

Limited access to prescription medications can have serious consequences for population health - including impacts on mental health and suicide-related behaviors (SRBs). Youth are disproportionately affected, facing greater barriers to accessing medications and experiencing elevated risks of SRBs. Youth are more likely to contemplate suicide compared to older populations[6], with suicide being the second leading cause of death for those aged 15-24 years. Alarmingly, Canada ranks third among high-income countries for youth suicide rates[7]. Given these patterns, expanding public drug coverage may play a

critical role in reducing SRBs by improving access to essential mediations and alleviating related financial stressors that contribute to crisis events.

The current system disadvantages certain populations, since access to private insurance is unevenly distributed, with only two-thirds of Canadian workers having private insurance[8]. Part-time workers[8], those earning less than $30,000 annually[8,9], individuals without post-secondary education[8], and under the age of 25 years are the least likely to have private coverage[8]. Public attitudes echo dissatisfaction with the current system, with 69% of Canadians agreeing the system needs reform[9]. In 2024, the federal government passed Bill C-64, the *Pharmacare Act*[10,11]. The proposed bill provides universal coverage only to contraceptive and diabetic medication[12]. The passage of Bill C-64 marks a critical step toward universal pharmacare and presents a timely opportunity to evaluate how publicly funded drug coverage can help address pressing public health challenges—particularly the growing crisis of youth suicide in Canada.

Potential mechanisms linking pharmacare and suicidality

For many Canadians, the high prescription drug costs create significant barriers to healthcare, leading to cost-related non-adherence (e.g. skipping doses, delaying refills, or not filling prescriptions)[13]. Despite having greater access to medication compared to the United States (US), Canada has one of the highest rates of cost-related non-adherence among high-income comparable countries[14]. According to Statistics Canada, approximately 1 in 10 Canadians do not fill prescriptions due to out-of-pocket costs[15]. Cost-related non-adherence contributes to many premature deaths annually in Canada (e.g. 640 deaths related to ischemic heart disease, and 420 deaths related to diabetes)[16]. By eliminating out-of-pocket costs for youth, OHIP+ reduces a key financial barrier that contributes to cost-related non-adherence. There are several mechanisms by which OHIP+ may reduce suicide and self-harm risk. This includes improved

access to mental health medications, better management of physical illness and chronic pain, and reduced financial stress associated with medication costs.

This issue is particularly critical in the context of mental health, where access to appropriate medications is essential, but often limited by financial barriers. Pharmacare can improve access to key treatments crucial for managing mental illness. Consistent access to psychiatric medications—such as antidepressants, mood stabilizers, and antipsychotics—plays a vital role in reducing SRBs by addressing symptoms such as aggression and impulsivity[17]. This is especially important given that individuals with mental disorders face significantly higher risks of suicide compared to the general population[18,19]. By removing financial barriers to treatment, OHIP+ may enhance adherence to essential psychiatric medications and help prevent crisis events, ultimately reducing the risk of suicide-related outcomes.

Beyond pharmacare's direct impact on mental health, OHIP+ may also reduce SRB indirectly by improving the management of physical illnesses. Individuals with major physical illnesses (e.g. diabetes, asthma, epilepsy) face a significantly elevated risk of self-harm - up to 50% higher than those without a physical illness[20]. This risk increases in a dose-response pattern with the number of physical illnesses present[20]. Chronic pain and psychological distress, are common features of many physical illnesses, may be a key driver of this risk, and has been linked with increased suicidal thoughts[21,22], plans[23], attempts[21,24], and deaths[24]. When physical illness compromises quality of life, it can amplify emotional distress, making one more vulnerable to suicide related-behaviors[25]. By improving access to medications that manage chronic physical conditions, OHIP+ may reduce pain and functional impairment, thereby easing the emotional burden that contributes to suicide risk.

OHIP+ may also reduce SRBs by alleviating the financial stress associated with prescription drug costs. In order to afford medications, many individuals frequently engage in strategies such as cutting spending on basic necessities such as food[26,27] and electricity use[28]. Individuals have also reported delaying payments for rent or mortgage[26], borrowing money[26,27], increasing debt[29], or drawing on savings[27,28]. An estimated 1.45 million Canadians have reduced their spending on other necessities such as food, other health expenses, or heat to afford medications[30], a practice associated with poorer

psychological health[29]. These burdens disproportionately affect vulnerable groups, including women, those aged 18 to 24, non-white individuals, those in nonprofessional occupation, and lower income earners being more likely to engage in these strategies[9,30]. By eliminating out-of-pocket medication costs, OHIP+ may help relieve these financial pressures, reduce associated stress, and contribute to improved psychological well-being.

Prior studies investigating OHIP+

Research on the health impact of OHIP+ remains limited, with the few existing studies primarily focusing on outcomes including prescription stimulant dispensing[31], diabetes management through HbA1c levels[32], and publicly funded drug plan usage[33]. These studies used population-based approaches, administrative data, and applied various time-series analysis (e.g ARIMA and segmented regression model). These studies found that OHIP+ led to an increase in publicly covered prescriptions for chronic conditions (e.g. asthma and diabetes)[33], as well as stimulant dispensing[31]. Furthermore, OHIP+ led to improved diabetes management (as shown in reduced HbA1c levels) among lower socioeconomic status (SES) individuals with diabetes[32].

One prior study examined the impact of OHIP+ on dispensing rates of antidepressants and antipsychotics among individuals aged 18 and under, using a population-based ARIMA time-series analysis[34]. The study found no significant changes in dispensing rates following the implementation or amendment of OHIP+[34]. However, the single-group design used in this study limits causal inference, as it does not account for broader trends over time or offer a suitable comparison group. While this is the only study within the existing literature to focus on a mental health-related outcome, it did not examine suicide-related behaviors—an urgent and severe consequence of unmet mental health needs. To our knowledge, no previous research has assessed the relationship between OHIP+ and suicide-related

behaviors, leaving a critical gap in the literature on the program's potential for suicide prevention among youth.

While research on OHIP+ is limited, there is a substantial body of evidence on similar programs, such as Medicare Part D in the US. Medicare Part D, introduced in 2006, provides prescription drug coverage to individuals aged 65 and older, as well as individuals with eligible disabilities[35,36]. Like OHIP+, the program targets specific age groups, aiming to reduce financial barriers to medications and improve access to essential treatments. Both programs provide publicly funded drug coverage for populations at higher risk of poor health outcomes, making Medicare Part D a relevant comparator for evaluating the potential impact of OHIP+.

Medicare Part D Studies

Despite the breadth of research on Medicare Part D, no studies to our knowledge have examined its impact on SRBs. However, examining its effects on other health outcomes can still offer valuable insights into how publicly funded drug coverage may influence broader health trajectories, including those relevant to mental health and crisis prevention. Existing studies on the impact of Medicare Part D include outcomes such as hospitalization[37–40], emergency department (ED) visits[37,38,41,42], medication utilization[43,44], self-reported health status[41,45] and mental health[45,46]. These studies report mixed findings. Several studies found that Medicare Part D was associated with a reduction in hospitalization rates, specifically for conditions such as coronary heart failure[39,40], diabetes[40], asthma[40], and COPD[39], while other studies found no impact on hospitalizations[37,38]. Regarding medication use, Medicare Part D was associated with increased utilization of antihypertensives[43] and antidepressants[44], suggesting improved access to pharmacological treatment. Evidence on self-reported health is limited and inconsistent: one study reported a lower likelihood of poor health among enrollees[45], while another found no changes in fair or poor health status[41]. In terms of mental health, one study found a significant improvement[46], while another observed no significant changes in self-reported mental health[45]. Several studies have examined the impact of Medicare Part D on ED use across populations such as non-elderly individuals with

disabilities[37], adults aged 65–70[42], and cancer patients[38], using quasi-experimental designs such as difference-in-difference[38,42] or interrupted time-series[41]. Most found no significant change in overall ED utilization following implementation[37,38,41,42], though some reported reductions in outpatient or non-emergency visits among specific subgroups[38,42]. A few studies also examined mental health medications, finding that individuals with limited or no prior drug coverage experienced greater increases in antidepressant use and adherence compared to those with employer-sponsored plans[44], which points to a potential pathway that may help reduce SRB by improving access to timely mental health treatment.

Despite growing evidence on the health impacts of pharmacare programs, no studies to date have directly examined their effect on suicide-related behaviors (SRBs). This represents a critical gap, given emerging evidence that access to mental health treatment may play an important role in reducing suicide risk[18] . While public drug coverage programs like OHIP+ and Medicare Part D aim to improve access to medications, including those for mental health conditions, their potential to reduce SRBs has not been evaluated. This gap is particularly important in the Canadian context, where suicide is the second leading cause of death among youth and access to prescription medications remains uneven. Understanding whether pharmacare can help reduce SRBs is essential for addressing a major public health concern and for guiding the development of more equitable and effective drug coverage policies in Canada and beyond. In this study, we ask: Did the implementation of OHIP+ in Ontario lead to changes in emergency department visits for suicide-related behaviors among youth?

METHODOLOGY

Data source

The data source that was used is the Canadian Census Health and Environment Cohorts (CanCHEC 2016 with 8.6 million participants), accessed in the Statistics Canada Research Data Center at

McMaster University. CanCHEC is an anonymized population-based, probabilistically linked administrative datasets that combine data from a) respondents of the long-form Census with b) longitudinal health administrative data, and c) annual tax file information on income and government benefits, covering 8.4 million individuals in 2016. This included 25% of Canadian Households. While the cohort is created from a cross-sectional long-form census, each participant is linked to longitudinal data (i.e., income and healthcare use) from 2012 to 2022. We used the linkage with health administrative data National Ambulatory Care Reporting System (NACRS) to identify ED visits. We used the Census person weight provided by Statistics Canada to represent the population[47,48].

Study Population

To accurately determine eligibility under OHIP+ drug coverage policy and its subsequent amendment, we used the date of birth and included individuals between 19 and 24 years old as of March 31st, 2020. We focused on ages 19-24 to capture the young adult population who are legally recognized as adults in Ontario and for whom age-specific transitions such as legal access to alcohol, cannabis and gambling may coincide with increased mental health vulnerability and healthcare needs. All patient information was anonymised and de-identified before analysis.

Exposure: Ontario Health Insurance Plan Plus (OHIP+)

To evaluate the impact of OHIP+ and its subsequent amendment on SRB-related ED visits among Ontarian individuals aged 19-24, three distinct periods related to the policy dates were utilized: 1) the pre-coverage period (April 2016 - December 2017), before the introduction of OHIP+, when youth had to

pay out of pocket or rely on private insurance for prescription medications; 2) Full coverage period (January 2018 - March 2019), when OHIP+ was introduced and provided universal publicly funded drug coverage for all Ontarians under 25, regardless of insurance status; 3) Reduced coverage period (April 2019 - March 2020), following the amendment to OHIP+, which restricted eligibility to those without private insurance. ED visits occurring after March 2020 were excluded due to the surge in ED utilization at the onset of the COVID-19 pandemic[49].

Outcomes

This study examined ED visits due to suicide-related behavior as the primary outcome. Data for these visits were sourced from NACRS[50]. Suicide-related behavior (SRB) ED visits were identified using the International Classification of Diseases, 10th Revision (ICD-10) codes, with cases classified based on primary and secondary diagnostic codes X60-X84 (intentional self-harm) and undetermined injuries and deaths (Y10-Y34)[51]. The primary outcome of suicide-related behavior captures a broader spectrum of self-injurious presentations, including those with mental health diagnosis.

Statistical Analysis:

In order to examine the impact of OHIP+, along with its subsequent amendment on SRB-related ED visits for Ontarians ages 19-24, a single interrupted time series (ITS) analysis based on monthly incidence rates derived from aggregated data was conducted. Using aggregated data in ITS analyses is beneficial as it aligns with the population level nature of policy interventions and reduces the influence of random variation evident in individual-level data. This leads to more stable, interpretable estimates by

mitigating noise or outliers that can obscure true trends - an advantage of health time series analysis - as ITS is increasingly used to evaluate public health interventions introduced at a clearly defined time and aimed at improving population-level health outcomes[52]. ITS is a quasi-experimental design commonly used to assess the longitudinal effects of a policy, program, or intervention at a clearly defined point in time[53]. It allows the estimation of both immediate level change and month-to-month trend (slope) changes associated with the intervention. This method provides a strong internal validity, meaning that the results are caused by the intervention, and strong external validity, meaning that the results are generalizable. The ITS was used to evaluate the changes in SRB-related ED visits in three distinct time periods: Pre-coverage period (April 2016 to December 2017), Full-coverage period (January 2018 to March 2019), and reduced coverage period (April 2019 to March 2020). The model (i.e. single interrupted time series with 2 interruptions) is specified as follows:

$Y_t = \beta_0 + \beta_1 T_t + \beta_2 X_{1t} + \beta_3 X_{1t} T_{1t} + \beta_4 X_{2t} + \beta_5 X_{2t} T_{2t} + \epsilon_t$	
Variables	
Y_t	Outcome
T_t	Time since the start of the Pre-coverage period
X_{1t}	Dummy variable denoting Full-coverage period
T_{1t}	Time since the start of Full-coverage period
X_{2t}	Dummy variable denoting Reduced coverage period
T_{2t}	Time since the start of Reduced coverage period
Coefficients	
β_0	Grand Intercept
β_1	Pre-coverage slope
β_3	Full-coverage slope change
$\beta_1 + \beta_3$	Full-coverage slope

β_2	Full-coverage intercept change
β_5	Reduced coverage slope change
$\beta_1 + \beta_3 + \beta_5$	Reduced coverage slope
β_4	Reduced coverage intercept change
ε_t	Error term

Second, a comparative interrupted time series (CITS) was conducted to compare changes in SRB-related ED visits among Ontarians aged 19-24 from low- and high-socioeconomic status (SES) backgrounds. We compared Ontarians aged 19–24 with low SES (target group) to those aged 19–24 with high SES (comparison group). The target and comparison groups were identified based on the following assumption: individuals with lower-SES were more likely to benefit from OHIP+, given their lower rates of private insurance and greater financial barriers to medication access[54,55]. In contrast, higher-SES individuals were more likely to have private insurance coverage[54], reducing the program's potential impact for them. Prior research found that only 19.8% of individuals with household incomes below $20,000 reported having private insurance, compared to 76.2% among those with household incomes above $80,000[55]. Among those without private coverage, low-SES individuals also faced greater challenges affording medications, as high-SES individuals could more easily absorb out-of-pocket costs[56–58]. Therefore, OHIP+ was expected to have a greater effect on low-SES individuals, who otherwise faced substantial financial and structural barriers to accessing medications. This SES-based comparison allows us to assess how the program's impact varies across socioeconomic strata, shedding light on potential equity-enhancing effects. We defined low SES as having an income below the Employment and Social Developmental Canada's Market Basket Measure[59].

To improve comparability between the SES groups, we employed Coarsened Exact Matching (CEM) on low- and high-SES groups by matching on age, sex, ethnicity (white/non-white), and household size. CEM improves covariate balance and reduces confounding variables. CEM also helps to ensure that the matched groups follow similar pre-intervention trends, which is a crucial assumption of

valid causal inference. In CITS, in order to validly interpret differences in post-policy trends as causal effects of the policy, one must assume that in the absence of the intervention, both groups would have continued to follow the same trend - parallel trends assumption. Satisfying the parallel trends assumption is a critical requirement for CITS due to the fact if the target and comparison groups already had different trends before the policy, any observed differences in outcomes post-policy could reflect underlying differences between the groups rather than the effect of the policy itself. A user-written package for ITSA[60] was utilized to compare trends of ED visits over three periods: pre-coverage period, full-coverage period, reduced coverage period. The model (comparative time series with 2 groups and 2 interruptions) is specified as follows:

$$Y_t = \beta_0 + \beta_1 T_t + \beta_2 X_{1t} + \beta_3 X_{1t} T_{1t} + \beta_4 Z + \beta_5 Z\, T_t + \beta_6 Z\, X_{1t} + \beta_7 Z\, X_{1t}\, T_{1t} + \beta_8 X_{2t} + \beta_9 X_{2t} T_{2t} + \beta_{10} Z\, X_{2t} + \beta_{11} Z\, X_{2t}\, T_{2t} + \epsilon_t$$

Y_t	Outcome
Variables	
Z	Dummy variable denoting target group
X_{1t}	Dummy variable denoting Full-coverage
T_{1t}	Time since the start of Full-coverage
X_{2t}	Dummy variable denoting Reduced coverage
T_{2t}	Time since the start of Reduced coverage
Coefficients	
β_0	Baseline intercept (comparison group)
$\beta_0+\beta_4$	Baseline intercept (target group)
β_4	Difference in baseline intercept between target and comparison groups
β_1	Pre-coverage slope (comparison group)
$\beta_1+\beta_5$	Pre-coverage slope (target group)
β_5	Difference in pre-coverage slope between target and comparison groups
β_2	Full-coverage intercept change (comparison group)
$\beta_2+\beta_6$	Full-coverage intercept change (target group)
β_6	Difference of intercept change between target group and comparison group in full-coverage period
β_3	Full-coverage slope (comparison group)
$\beta_3+\beta_7$	Full-coverage slope (target group)
β_7	Difference of slope between target group and comparison group in full-coverage period
β_8	Reduced coverage intercept change (comparison group)

$\beta_8+\beta_{10}$	Reduced coverage intercept change (target group)
β_{10}	Difference of intercept change between target group and comparison group in reduced coverage period
β_9	Reduced coverage slope (comparison group)
$\beta_9+\beta_{11}$	Reduced coverage slope (target group)
β_{11}	Difference of slope between the target group and comparison group in reduced coverage period

All post-estimation tests were two-tailed, using an alpha of 0.05 to determine statistical significance. Analyses were conducted in STATA v18.

Sensitivity tests

In order to ensure that the observed relationship between OHIP+ and SRB-related ED visits are robust, we conducted additional sex-stratified analysis for single ITS and CITS models. This allowed us to examine whether the effect of OHIP+ on SRB-related ED visits varied by sex, potentially revealing important sex-based discrepancies in healthcare access and utilization.

Robustness test

To assess the robustness of our findings to the way SES was defined, we conducted a sensitivity test by using an alternative definition of SES. In this test, household income was adjusted by the square root of the household size[61]. Low SES was now defined as those in the bottom 25% of household income, while high SES was now defined as those in the top 25% of household income. We then re-estimated the models using the same CITS analysis as the main analysis, comparing the outcomes as the revised target and comparison group to determine whether the primary results held under this alternative specification. We consider the findings robust if the effect remained consistent with the primary results.

Missing Data

The Canadian Census addresses missing data through their own imputation process[62]. After initial editing and coding, the data undergoes a final review to detect errors. During this stage, imputation replaces missing, invalid, or inconsistent values with plausible alternatives, ensuring a complete and stable dataset. Additionally, missing data is generally very low among individuals successfully linked to health administrative data, as these individuals tend to have more complete and consistent records due to the nature of health tracking.

RESULTS

Table 1 shows the demographic characteristics for those with no SRB-related ED visits and those with 1 or more SRB-related ED visits. The weighted sample included 988,350 youth, with 12,950 who had 1 or more SRB-related ED visits, accounting for about 1.31%. A smaller proportion of individuals with SRB were male (33.37%) compared to those without SRB (51.7%). Youth with SRB were also less likely to have completed high school (32.64% vs 49.43%), to be recent immigrants (5.18% vs 9.54%), and to live in large households (32.10% vs 36.10%). In contrast, they were more likely to reside in rural areas (14.62% vs 9.57%), to have low income (20.02% vs 17.20%), and to be white (64.35% vs 59.68%).

Table 1 Sample Characteristics by SRB-related ED visit status

Overall (weighted N=988,350)	No SRB (weighted N=975,400)	1 or more SRB (weighted N=12,950)
Age (mean/ sd)	17.70 (0.01)	17.32 (0.03)
Male (%)	51.77	33.37
White (%)	59.68	64.35

Have high school diploma (%)	49.43	32.64
Recent immigrants (%)	9.54	5.18
% large household (4 or more family members)	36.10	32.10
Rurality (%)	9.57	14.62
Low-income (%)	17.20	20.02

Table 2 shows the demographic characteristics for the matched groups for the target group, and the comparison group. There were 170,370 who were in the target group and 167,390 who were in the comparison group. The two groups were well-balanced across all observed demographic characteristics. There were no statistically significant differences between groups in terms of age (17.86 years vs 17.83 years), sex (51.16% vs 51.09%), ethnicity (38.44% vs 37.74%), and household size (29.21% vs 30.44%). This supports the comparability of the two groups, indicating adequate covariate balance for comparative analysis.

Table 2 Characteristics of matched target and comparison groups (matched using Coarsened Exact matching)

	Target group: Low-SES group (weighted N=170,370)	Comparison group: High SES group (weighted N=167,390)
Age (years)	17.86 (0.01)	17.83 (0.01)
Male (%)	51.16	51.09
White (%)	38.44	37.74
Have high school diploma (%)	50.00	54.38
Recent immigrants (%)	13.06	13.38

% large household (4 or more family members)	29.91	30.44
Rurality (%)	6.46	7.54

Values are presented as mean (sd) or %

Table 3 presents the average monthly incidence rates of SRB-related ED visits per 100,000 population across our 3 periods. In the pre-coverage period, the incidence rate was 44.11 per 100,000 for the full sample, 54.11 per 100,000 among the matched target group and 40.08 per 100,000 among the matched comparison group. During the full-coverage period, the incidence rate for the full sample was 43.57 per 100,000, 45.9 per 100,000 among the matched target group and 40.94 per 100,000 among the matched comparison group. In the reduced coverage period, the incidence rate for the full sample was 35.89 per 100,000, 43.58 per 100,000 among the matched target group and 35.24 per 100,000 for the matched comparison group. Overall, the average monthly incidence rates for SRB-related ED visits showed a decrease across the 3 study periods for both the full unmatched sample and target group, with the rates being the highest during the pre-coverage period, followed by a notable reduction particularly in the target group - during the full-coverage period. This downward trend continued into the reduced coverage period.

Table 3 Average monthly incidence rates of SRB[†]-related ED[‡] visits per 100,000 individuals across 3 phrases: pre-coverage period, full-coverage period, and reduced-coverage period

	Pre-coverage period	**Full-coverage period**	**Reduced coverage period**
Full unmatched sample	44.11 (5.71)	43.57 (7.32)	35.89 (7.04)
Matched Target group (low-SES)	54.11 (13.62)	45.9 (12.33)	43.58 (11.02)
Matched Comparison group (high-SES)	40.08 (9.09)	40.94 (8.75)	35.24 (11.6)

Note: all coefficients refer to the number of SRB-related ED visits per 100,000 persons per month
[†]SRB = Suicide-related behaviors

‡ED = Emergency department

Table 4 and figure 1 represents our results from our single ITS (using the full unmatched sample): during the pre-coverage period, SRB-related ED visits among individuals ages 19-24 years as of 2020 in Ontario showed a significant increasing trend (0.56, 95% CI: 0.09 to 1.03, p = 0.02), indicating that SRB ED visits increased by approximately 0.56 per 100,000 per month before the introduction of OHIP+. In the full-coverage period, there was a statistically significant immediate reduction in SRB-related ED visits, with a level drop of -9.39 per 100,000 per month (-9.39, 95% CI: -18.21 to -0.56, p = 0.04). However, the full-coverage slope was not statistically significant, indicating while there was an immediate decrease in SRB-related ED visits, the slope did not change during the full OHIP+ coverage period. During the reduced coverage period, there was a further immediate decrease of SRB-related ED visits, but this change was not statistically significant. Similarly, the slope showed a non-statistically significant decrease as well. This suggests that the amendment was not associated with a statistically meaningful change in the trend of SRB ED visits compared to the full coverage period. The slope changes were insignificant.

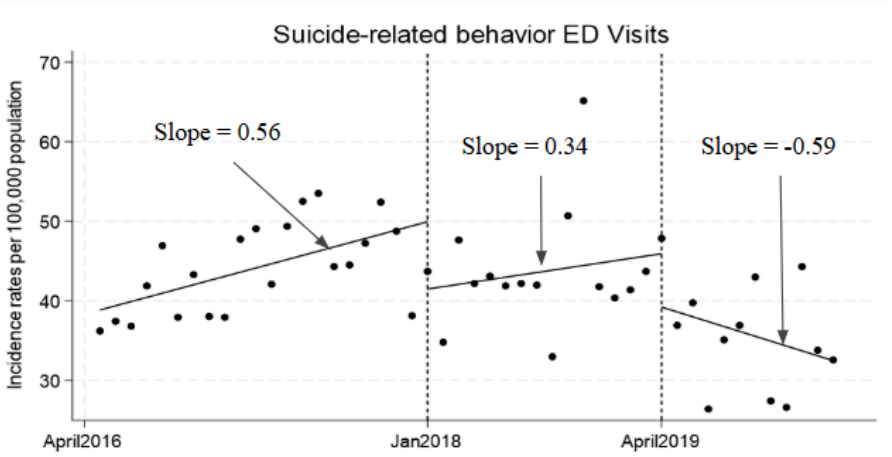
Table 4 Results of the interrupted time series estimating changes in SRB†-related ED‡ visits associated with the 3 phrases: pre-coverage period, full-coverage period, and reduced coverage period

	Coefficient	**95% Confidence interval**	**P value**
Baseline intercept	39.20	32.31 to 46.09	0.00
Pre-coverage slope	0.56	0.09 to 1.03	0.02
Full-coverage immediate change	-9.39	-18.21 to -0.56	0.04
Full-coverage slope	0.34	-0.43 to 1.11	0.37
Reduced coverage immediate change	-7.06	-17.93 to 3.81	0.20
Reduced coverage slope	-0.59	-1.81 to 0.62	0.33
Slope change 1: Full-coverage minus Pre-coverage	-0.22	-1.09 to 0.65	0.61

Slope change 2: Reduced-coverage minus Full-coverage	-0.93	-2.31 to 0.44	0.18

Note: all coefficients refer to the number of SRB-related ED visits per 100,000 persons per month
[†]SRB = Suicide-related behaviors
[‡]ED = Emergency department

Figure 1 Interrupted time series estimating the association between the 3 phases of OHIP+ and SRB-related ED visits per 100,000 population



In the CITS analyses using the matched sample (Table 5 and figure 2), trends in SRB-related ED visits were compared between target (i.e low-SES) and comparison groups (i.e high-SES). In the pre-coverage period, both groups demonstrated comparable trends in SRB-related ED visits. The difference in the pre-coverage period slope trend between the target and comparison groups exhibited no statistically significant differences (difference = 0.71, 95% CI: -0.20 to 1.60). This supports the parallel trends assumption necessary for causal interpretation [63]. During the full-coverage period, the target group experienced a significant immediate decrease in SRB-related ED visits by -24.52 per 100,000 per month (intercept change: -24.52, 95% CI: -37.71 to -11.33), while among the comparison group, there was no significant immediate change. The difference in immediate level change between the target and comparison group in the full-coverage period was statistically significant (difference = -19.61, 95% CI:

-37.71 to -1.50 visits per 100,000 individuals). This indicates that the target group experienced a more pronounced reduction of SRB-related ED visits compared to the comparison group. In terms of slope trends, there was no significant change observed in either the target or comparison group. Additionally, the difference between the two groups was also statistically not significant, suggesting that while there was an immediate drop in SRB-related ED visits in the target group compared to the comparison group, there was no differential change in the ongoing trend between the two groups. During the reduced coverage period, there were no significant immediate changes in SRB-related ED visits in either the target or comparison group, and the difference in the reduced coverage period immediate level change was also statistically not significant. Similarly, the slope changes during the reduced coverage period were statistically not significant for both groups. The differences in slope between the two groups was also not significant.

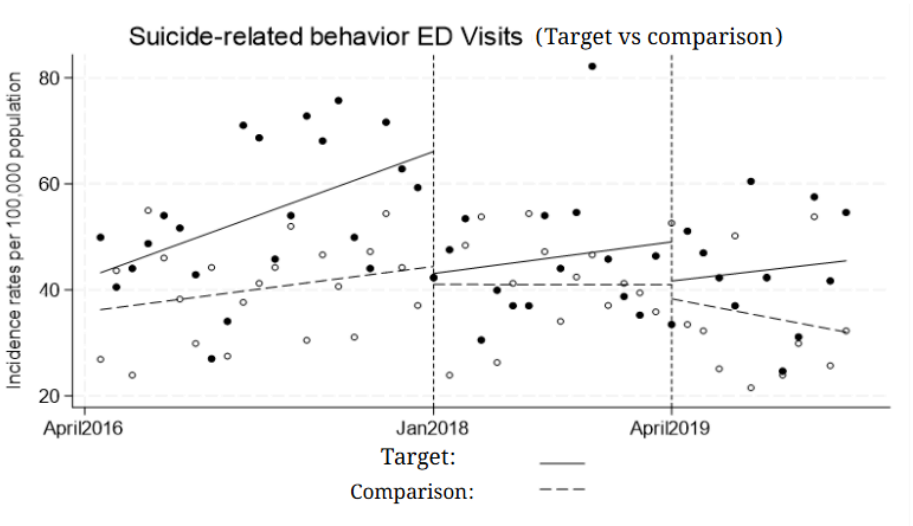
Table 5 Association between OHIP+ implementation phases and SRB[†]-related ED[‡] visits across target and comparison groups, estimated using comparative interrupted time series (CITS) model

Overall	**Target group (low-SES)**	**Comparison group (high-SES)**	**Difference**
Pre-coverage slope	1.14 (0.45 to 1.83)	0.44 (-0.23 to 1.11)	0.70 (-0.20 to 1.60)
Full-coverage immediate change	-24.52 (-37.71 to -11.33)	-4.91 (-18.54 to 8.71)	-19.61 (-37.71 to -1.50)
Full-coverage slope	0.47 (-0.79 to 1.73)	0.07 (-1.01 to 1.16)	0.40 (-1.28 to 2.08)
Reduced coverage immediate change	-7.73 (-25.61 to 10.16)	-3.08 (-17.72 to 11.56)	-4.64 (-26.70 to 17.42)
Reduced coverage slope	0.34 (-1.19 to 1.86)	-0.57 (-2.34 to 1.21)	0.91 (-1.23 to 3.05)
Slope change 1: Full-coverage minus Pre-coverage	-0.67 (-2.08 to 0.74)	-0.37 (-1.60 to 0.87)	-0.30 (-2.20 to 1.59)
Slope change 2: Reduced-coverage minus Full-coverage	-0.13 (-2.12 to 1.86)	-0.64 (-2.64 to 1.36)	0.51 (-2.20 to 3.23)

Note: all coefficients refer to the number of SRB-related ED visits per 100,000 persons per month

†SRB = Suicide-related behaviors
‡ED = Emergency department

Figure 2 Comparative interrupted time series (CITS) analysis of monthly suicide-related ED visits per 100,000 population among low-SES (target) and high-SES (comparison) youth across three OHIP+ policy periods



In the sex-stratified CITS models (sensitivity test), trends in SRB-related ED visits were compared between the target (i.e low-SES) and comparison group (i.e high-SES)(Table 6 and figure 3). Among males, both the target and comparison group showed statistically insignificant trends during the pre-coverage period. The difference during the Pre-coverage period was statistically insignificant, supporting the parallel trends assumption. During the full-coverage, both the target (low-SES) and comparison groups (high-SES) experienced an insignificant level change reduction, with the difference test also being insignificant. The slope during the full-coverage also showed insignificant reductions in both groups, and were not differences between income groups. Similarly to the full-coverage period, the reduced coverage period showed no significant level change in both the target and comparison group. The difference test for the level change was also insignificant. Likewise, the slope during the reduced coverage period was also statistically insignificant, and were not different between income groups.

For females, the target group had a significant immediate reduction in SRB-related ED visits change during the full-coverage period (intercept change: -48.66, 95% CI: -73.68 to -23.64 visits per 100,000 persons), and the comparison group had an insignificant reduction. The difference test during the full-coverage period was significant, indicating that the target group had a greater reduction in SRB-related ED visits during this period (difference = -45.77, 95% CI: -78.17 to -13.37 visits per 100,000 per persons). The slope during the full-coverage period was insignificant for both groups and the difference test also showed to be insignificant. Both the immediate level and slope change during the reduced coverage showed insignificant results for the target and comparison group, and additionally for the difference tests.

Table 6: Sex-stratified comparative interrupted time series (CITS) estimates of the association between OHIP+ policy phases and monthly SRB[†]-related ED[‡] visits per 100,000 population among low-SES (target) and high-SES (comparison) youth

Male	**Target**	**Comparison**	**Difference test**
Pre-coverage period	0.22 (-0.53 to 0.96)	0.45 (-0.02 to 0.93)	-0.23 (-1.08 to 0.61)
Full-coverage immediate change	-1.60 (-15.81 to 12.62)	-6.81 (-16.92 to 3.31)	5.21 (-11.66 to 22.08)
Full-coverage slope	-0.32 (-1.35 to 0.71)	-0.10 (-0.99 to 0.80)	-0.23 (-1.56 to 1.11)
Reduced coverage immediate change	-0.47 (-19.36 to 18.41)	6.49 (-7.25 to 20.24)	-6.97 (-28.54 to 14.60)
Reduced coverage slope	0.51 (-2.13 to 3.16)	-0.95 (-2.14 to 0.25)	1.46 (-1.24 to 4.17)
Slope change 1: Full-coverage minus Pre-coverage	-0.54 (-1.77 to 0.69)	-0.55 (-1.53 to 0.43)	0.01 (-1.57 to 1.58)
Slope change 2: Reduced-coverage minus Full-coverage	0.84 (-1.89 to 3.56)	-0.85 (-2.27 to 0.57)	1.69 (-1.30 to 4.68)
Female	**Target**	**Comparison**	**Difference test**
Pre-coverage period	2.11 (1.01 to 3.21)	0.43 (-0.71 to 1.57)	1.68 (0.21 to 3.16)

Full-coverage level change	-48.66 (-73.68 to -23.64)	-2.89 (-26.03 to 20.25)	-45.77 (-78.17 to -13.37)
Full-coverage slope	1.32 (-1.17 to 3.81)	0.24 (-1.47 to 1.95)	1.08 (-1.95 to 4.10)
Reduced coverage level change	-15.44 (-47.45 to 16.57)	-12.88 (-36.7 to 10.90)	-2.55 (-39.98 to 34.87)
Reduced coverage slope	0.16 (-2.82 to 3.15)	-0.19 (-3.52 to 3.15)	0.35 (-3.83 to 4.53)
Slope change 1: Full-coverage minus Pre-coverage	-0.80 (-3.49 to 1.89)	-0.19 (-2.15 to 1.77)	-0.61 (-3.96 to 2.74)
Slope change 2: Reduced-coverage minus Full-coverage	-1.15 (-4.99 to 2.68)	-0.43 (-4.06 to 3.20)	-0.72 (-5.89 to 4.44)

Note: all coefficients refer to the number of SRB-related ED visits per 100,000 persons per month
[†]SRB = Suicide-related behaviors
[‡]ED = Emergency department

Figure 3 Sex-stratified comparative interrupted time series (CITS) analysis of monthly suicide-related behavior (SRB) emergency department visit rates per 100,000 population, comparing low-SES (target) and high-SES (comparison) youth across three policy periods. The left panel displays trends among females, while the right panel displays trends among males, from April 2016 to March 2020.

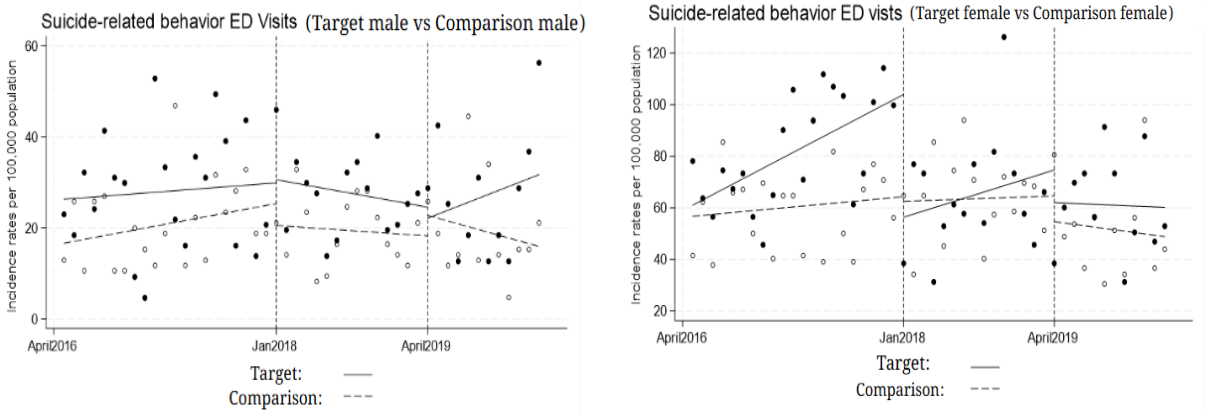


Table 7 and figure 4 shows the single ITS SRB-related ED visits stratified by sex. During the pre-coverage period, males had a significantly increasing trend (0.38, 95% CI: 0.06 to 0.69 visits per 100,000 persons per month). The full-coverage period immediate level change had a decreasing trend, but it was insignificant, and so was the full-coverage slope change. In the reduced coverage period, the immediate level change was insignificant, but males experienced a significant decreasing slope during the reduced coverage (-0.98, 95% CI: -1.81 to -0.15 visits per 100,000 persons per month).

During the pre-coverage period, females experienced a significant increase in SRB-related ED visits (0.78, 95% CI: 0.01 to 1.56 visits per 100,000 persons per month). During the full-coverage period, females had a significant immediate decrease in SRB-related ED visits (intercept change = -18.77, 95% CI: -33.23 to -4.31 visits per 100,000 persons per month), but the slope was insignificant. Like the full-coverage period, females also experienced a significant immediate reduction during the reduced coverage period (intercept change = -17.85, 95% CI: -35.56 to -0.13 visits per 100,000 persons per month). But, the reduced coverage period slope was insignificant for females.

Table 7 Interrupted time series (ITS) estimates of changes in monthly SRB[†]-related ED[‡] visits rates per 100,000 population, stratified by sex.

Male			
	Coefficient	95% CI	P value
Pre-coverage period	0.38	0.06 to 0.69	0.02
Full-coverage immediate change	-0.97	-6.96 to 5.03	0.75
Full-coverage slope	-0.23	-0.75 to 0.29	0.38
Reduced coverage immediate change	2.94	-4.55 to 10.43	0.43
Reduced coverage slope	-0.98	-1.81 to -0.15	0.02
Slope change 1: Full-coverage minus Pre-coverage	-0.60	-1.18 to -0.02	0.04

Slope change 2: Reduced-coverage minus Full-coverage	-0.75	-1.68 to 0.17	0.11
Female			
	Coefficient	95% CI	P value
Pre-coverage period	0.78	0.01 to 1.56	0.05
Full-coverage immediate change	-18.77	-33.23 to -4.31	0.01
Full-coverage slope	0.98	-0.28 to 2.24	0.13
Reduced coverage immediate change	-17.85	-35.56 to -0.13	0.05
Reduced coverage slope	-0.22	-2.20 to 1.76	0.82
Slope change 1: Full-coverage minus Pre-coverage	0.19	-1.24 to 1.63	0.79
Slope change 2: Reduced-coverage minus Full-coverage	-1.20	-3.46 to 1.06	0.29

Note: all coefficients refer to the number of SRB-related ED visits per 100,000 persons per month
[†]SRB = Suicide-related behaviors
[‡]ED = Emergency department

Figure 4 Interrupted time series (ITS) analysis of monthly suicide-related behavior (SRB) emergency department (ED) visit rates per 100,000 population, stratified by sex. Panels show trends for males (left) and females (right) across three periods: pre-coverage, full OHIP+ implementation (Jan 2018–Mar 2019), and post-amendment (Apr 2019–Mar 2020).

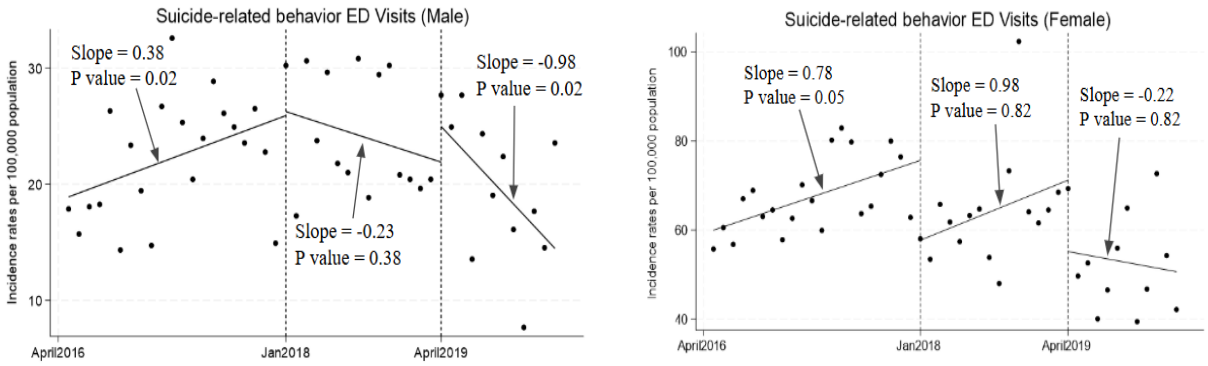


Table 8 shows the robustness test for the re-estimates of CITS SRB-related ED visits using the alternative classification of SES, by comparing youth in the bottom 25% versus the top 25% of household income, adjusted for household size. The results from this analysis were consistent with the main findings. During the full-coverage period, the target group experienced a significant immediate reduction in SRB-related ED visits (intercept change = -19.01, 95% CI: -29.90 to -8.12 visits per 100,000 persons per month), while there was no significant change observed in the comparison group. The difference between groups remained significant (difference = -18.00, 95% CI: -33.56 to -2.43 visits per 100,000 persons per month), indicating that the target group experienced a more pronounced reduction in SRB-related ED visits compared to the comparison group. These findings support the robustness of the main model and suggest that the observed policy effect is not sensitive to the definition of SES.

Table 8 Comparative interrupted time series (CITS) estimates the association between OHIP+ implementation and SRB[†]-related ED[‡] visits per 100,000 population among the target group (bottom 25% household income) and comparison groups (top 25% household income)

	Target	Comparison	Difference
Pre-coverage period	1.40 (0.76 to 2.04)	-0.05 (-0.61 to 0.52)	1.45 (0.60 to 2.29)
Full-coverage immediate change	-19.01 (-29.90 to -8.12)	-1.01 (-12.81 to 10.79)	-18.00 (-33.56 to -2.43)
Full-coverage slope	0.20 (-0.75 to 1.15)	-0.03 (-1.08 to 1.03)	0.23 (-1.19 to 1.65)
Reduced coverage immediate change	-6.41 (-19.91 to 7.09)	-5.36 (-16.95 to 6.22)	-1.04 (-18.09 to 16.00)
Reduced coverage slope	0.03 (-1.44 to 1.50)	-0.44 (-1.30 to 0.42)	0.47 (-1.05 to 2.00)
Slope change 1: Full-coverage minus Pre-coverage	-1.20 (-2.35 to -0.05)	0.02 (-1.16 to 1.19)	-1.22 (-2.86 to 0.43)
Slope change 2: Reduced-coverage minus Full-coverage	-0.17 (-1.92 to 1.58)	-0.41 (-1.64 to 0.82)	0.24 (-1.83 to 2.32)

Note: all coefficients refer to the number of SRB-related ED visits per 100,000 persons per month
[†]SRB = Suicide-related behaviors
[‡]ED = Emergency department

DISCUSSION

This study assessed the impact of OHIP+ on SRB-related ED visits among youth aged 19–24 in Ontario. Using single ITS analysis on the full unmatched sample, we observed a significant immediate reduction of 9.4 events per 100,000 population per month following OHIP+ implementation. To put this into context, according to Canadian health administrative data from 2021/2022, the overall rate of ED visits for self-inflicted injuries in Ontario was approximately 279.4 events per 100,000 population annually[64], or about 23.3 events per month. Thus, the observed reduction represents a meaningful decline relative to the overall burden of SRB-related ED visits among youth. In addition, our CITS analysis showed that, relative to the comparison group, the target group experienced an immediate reduction of approximately 20 SRB-related ED visits per 100,000 population following the implementation of OHIP+. The baseline monthly incidence rate among youth prior to OHIP+ was 54.1 events per 100,000 population. The observed reduction reflects a substantial absolute decrease after accounting for background trends captured by the comparison group. These findings suggest that improving access to prescription medications, particularly mental health treatments, may play an important role in reducing emergency department visits related to suicide and self-harm among youth. This reduction is likely attributable to better management of mental health symptoms through continuous access to treatment, which may have helped prevent crisis events leading to ED visits. The findings also suggest that cost-related nonadherence was a significant barrier to care, particularly for low-SES individuals. By removing financial barriers, OHIP+ enabled greater access to necessary medications and continuity of treatment. The significant immediate level change observed following OHIP+ implementation indicates a rapid and meaningful response to improved medication access. With only low-SES being impacted by OHIP+ may be due to the fact that OHIP+ had an equity-promoting effect, by strictly benefiting those with financial vulnerability. There may have also been a lack of change among high-SES since these

individuals may initially have better access to medications, maybe through private insurance plans or parental coverage, therefore there would have been less of an impact.

The sex-stratified CITS analysis suggested that females may have been the primary contributors to the effects observed in the overall sample. Our study demonstrated that OHIP+ had a greater impact on reducing SRB-related ED visits among women than men, despite the fact that, as of 2022, men in Canada die by suicide at three times the rate of women[65]. This discrepancy may be partly explained by differences in help-seeking behaviors. Research shows that men are less likely to use psychological services and exhibit more negative attitudes toward seeking help compared to women[66,67]. These patterns are closely tied to traditional masculinity norms—such as stoicism, self-reliance, and emotional suppression—that discourage expressions of vulnerability[68]. Over adherence to these norms has been linked to worsening depression, anxiety, substance abuse, and lower rates of professional help-seeking[69]. Thus, while OHIP+ removed financial barriers, deeply entrenched social norms may have limited its impact among men, particularly against the backdrop of rigid masculine ideals[70].

Differences in the methods of suicidal behavior may also contribute to the sex differences observed. Men are more likely to use highly lethal methods such as firearms, hanging, or jumping[71,72], while women more often attempt suicide through drug poisoning[73,74], which has a lower fatality rate. As a result, women experience higher rates of nonfatal suicide attempts, increasing the likelihood that they would present to the ED and benefit from improved access to treatment. Together, these factors may help explain why the removal of financial barriers through OHIP+ had a greater immediate impact on reducing suicide-related ED visits among females than among males.

While the amendment to OHIP+ (reduced coverage period) could theoretically have led to increases in SRB-related ED visits by restricting access to free medications, no such increase was observed overall for all Ontarians ages 19-24.While the sex-stratified ITS results showed a decline in SRB-related ED visits for males during the reduced coverage period, this is likely not attributable to the OHIP+ amendment, as the CITS model found no significant difference between male target and comparison groups during the same period. Several factors may explain this finding. First, the number of

affected individuals may have been too small to generate a detectable change at the population level. Second, the relatively short follow-up period after the amendment may have limited our ability to capture delayed effects of medication discontinuation on mental health crises. Third, some youth with private insurance may have retained partial access to needed medications, mitigating the immediate risk. Finally, individuals and families may have employed coping strategies, such as rationing medications or relying on informal support, to bridge gaps in coverage. These factors likely contributed to the absence of a detectable increase in SRB-related ED visits following the OHIP+ amendment.

Our study extends prior OHIP+ research, which has focused on outcomes such as medication utilization[33], diabetes control[32], and stimulant prescribing[31], by examining a more distal and severe mental health outcome—suicide-related behaviors (SRBs). Unlike a prior study that found no significant change in antidepressant or antipsychotic dispensing among those under 18[34], our study identified a meaningful reduction in SRB-related ED visits among youth, particularly for low-SES individuals. This suggests that medication access may have a greater impact on crisis prevention than on prescribing patterns alone. Our findings also complement U.S. evidence from Medicare Part D, which has shown improvements in medication adherence and reductions in hospitalizations for chronic illness[39,40], but no changes in ED visits, besides reductions in outpatient and non-emergency visits[38,42]. This may be due to these studies focusing on specific subgroups such as cancer patients[38] or individuals with disabilities[37]. Our study examined the broader population of young adults aged 19-24 and this difference in study population may partly explain the contrasting findings, as our focus captures a wider spectrum of youth. Additionally, little is known about mental health outcomes or SRBs, besides one Medicare Part D study finding improvements in mental health[46]. Given the strong link between mental health and SRB, it reinforces the expectation that OHIP+ helped reduce SRB. By linking pharmacare to acute mental health crises, our study contributes new evidence that public drug coverage may play a role in suicide prevention and mental health equity—filling a critical gap in both Canadian and international literature.

LIMITATIONS

Although our study provided valuable insights, they aren't without limitations. First, we did not have access to individual-level data on private insurance coverage or prescription drug use. After the OHIP+ amendment, eligibility was restricted to individuals without private insurance; however, without direct insurance status information, we could not precisely identify who lost coverage or was affected by the policy change. Similarly, the absence of individual-level prescription claims limited our ability to determine whether individuals were prescribed mental health medications, whether they filled their prescriptions, and whether they adhered to treatment—factors that could significantly influence SRB-related outcomes. Nevertheless, by leveraging population-level health administrative data and applying a controlled interrupted time series design, our study was able to robustly capture system-level changes in SRB-related ED visits following OHIP+ implementation.

Second, our outcome measure captures only SRBs that result in emergency department visits, and does not include non-fatal or subclinical behaviors such as suicidal ideation, planning, or self-harm that do not require acute care. This limits our ability to assess the full continuum of suicide-related behaviors. Nonetheless, our use of ED data still offers clinical relevance due to its broad scope and high accuracy, which enhances the generalizability and reliability of our findings.

Third, although we used Coarsened Exact Matching, we matched on a limited number of covariates: age, sex, ethnicity, and household size. We did not match on education, immigration status, or rurality—despite their known associations with SES—because our target and comparison groups were intentionally defined by socioeconomic status. These groups inherently differ across many structural dimensions, and matching on too many SES-related variables could have masked true disparities or undermined common support. Still, post-matching diagnostics (Table 2) show good balance across most characteristics, with only modest differences in education. Our approach aligns with equity-focused evaluation practices, which aim to assess whether programs reduce disparities between structurally

distinct populations. Moreover, the inclusion of a pre-policy period allowed us to verify parallel trends, strengthening the validity of our causal inferences despite limited covariate adjustment.

Fourth, our findings may not be generalizable to other countries with different healthcare systems, health insurance coverage models, or social contexts. OHIP+ was implemented within the Canadian universal healthcare framework, where access to physician and hospital services is publicly funded but drug coverage remains fragmented. In countries with either universal pharmacare or entirely private systems, the baseline barriers to medication access—and the potential impact of a publicly funded drug program—may differ substantially. Additionally, cultural attitudes toward mental health, help-seeking behaviors, and suicide-related stigma can vary internationally, potentially influencing both treatment uptake and crisis outcomes. As such, while our results offer important policy insights for Canada and similar systems, caution should be exercised when applying them to different national contexts.

Lastly, we excluded data post-March 2020. Although this decision was made to avoid confounding effects related to COVID-19, we were not able to assess the long-term impact of OHIP+ amendment or potential delayed outcomes following the amendment.

POLICY IMPLICATIONS

Our findings highlight the critical role that publicly funded pharmacare programs can play in reducing acute mental health crises among youth. The significant and immediate reduction in SRB-related ED visits following OHIP+ implementation suggests that removing financial barriers to prescription medications can help prevent crisis events. While improved access to mental health medications is a potential driver, pharmacare may also reduce SRBs by alleviating broader financial stress associated with out-of-pocket drug costs. These benefits are particularly salient for youth from lower-SES backgrounds, who experienced the largest reductions in SRB-related ED visits. In the context of Bill C-64 and ongoing national pharmacare discussions, our study offers timely, policy-relevant evidence that drug coverage can

reduce both health disparities and acute mental health harms. Policymakers should consider expanding OHIP+ or adopting similar national models that provide universal, comprehensive drug coverage to youth—regardless of insurance status—and ensure that essential mental health and chronic disease medications are included. Broadening access to essential medications may play a crucial role in advancing health equity and addressing the urgent public health challenge of youth mental health and suicidality.

Sex-stratified analyses revealed that the benefits of OHIP+ were more pronounced among women than men. This points to the need for gender-responsive approaches in future pharmacare and mental health strategies. Specifically, the limited impact observed among men may reflect entrenched social norms around masculinity that discourage help-seeking. To address these barriers, pharmacare expansion should be paired with targeted mental health promotion efforts for young men—including community-based outreach, male-focused peer support programs, and public health campaigns aimed at destigmatizing help-seeking. These complementary strategies may be necessary to ensure that universal pharmacare delivers equitable benefits across gender groups.

A key limitation highlighted by this study—and a broader issue across Canada's healthcare system—is the lack of individual-level data on private drug insurance coverage and out-of-pocket medication costs. This information gap makes it difficult to accurately identify who benefits from public pharmacare programs like OHIP+ and who continues to face financial barriers to accessing medications. Without such data, evaluations of pharmacare programs remain incomplete, and efforts to improve equity risk being misdirected. To address this, Ontario should invest in building data linkages between health administrative data and private insurance claims, as well as pharmacy billing systems. Partnerships with insurers, pharmacies, and provincial health data custodians (e.g., ICES) could facilitate the routine collection of insurance coverage type, copayment levels, and patient-paid drug expenses. Establishing this infrastructure would enable policymakers to monitor real-time access gaps, evaluate the reach and effectiveness of drug coverage programs, and ensure that pharmacare initiatives are equitably serving those most in need.

CONCLUSION

In conclusion, this study provides novel evidence that publicly funded prescription drug coverage through OHIP+ was associated with a significant reduction in emergency department visits for suicide-related behaviors among Ontario youth, particularly those from low-income backgrounds and among women. These findings highlight the potential of pharmacare to address urgent mental health needs and reduce health disparities. As Canada moves toward broader pharmacare reform, our results underscore the importance of equitable medication access as a critical component of youth suicide prevention.

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