Outcome of pediatric emergency mental health visits: incidence and timing of suicide

Joshua Lee, BA[*]; Tyler Black, MD[†]; Garth Meckler, MD, MSHS[‡]; Quynh Doan ⓘ, MDCM, PhD

Clinician's Capsule

What is known about the topic?
Children and youth with mental health conditions are at increased risk of death by suicide.
What did this study ask?
What is the risk of suicide among pediatric mental health emergency patients and when do they occur?
What did this study find?
Risk of unnatural death was three-fold higher for mental health vs control visits and occurred 5.1 years after index visits.
Why does this study matter to clinicians?
The magnitude of risk and timing for pediatric suicide should guide ED clinicians with acute resource use and disposition decisions.

ABSTRACT

Objectives: To determine the incidence, risk, and timing of mortality (unnatural and natural causes) among youth seen in a pediatric emergency department (ED) for mental health concerns, compared with matched non–mental health ED controls.
Methods: This was a retrospective cohort study conducted at a quaternary pediatric ED in British Columbia. All visits for a mental health related condition between July 1st, 2005, and June 30th, 2015, were matched on age, sex, triage acuity, socioeconomic status, and year of visit to a non–mental health control visit. Mortality outcomes were obtained from vital statistics data through December 31st, 2016 (cumulative follow-up 74,390 person-years).
Results: Among all cases in our study, including 6,210 youth seen for mental health concerns and 6,210 matched controls, a total of 13 died of suicide (7.5/100,000 person-years) and 33 died of suicide or indeterminate causes (44/100,000 person-years). All-cause mortality was significantly lower among mental health presentations (121.3/100,000 v. 214.5/100,000 person-years; hazard ratio [HR], 0.54; 95% confidence interval

[CI], 0.37–0.78). The median time from initial emergency visit to suicide was 5.2 years (interquartile range, 4.2–7.3). Among mental health related visits, risk of death by suicide or indeterminate cause was three-fold that of matched controls (HR, 3.05 95%CI, 1.37–6.77).
Conclusions: While youth seeking emergency mental health care are at increased risk of death by unnatural causes, their overall mortality risk is lower than non–mental health controls. The protracted duration from initial presentation to suicide highlights the need for long-term surveillance and preventative care for youth seen in the ED for all mental health concerns.

RÉSUMÉ

Objectif: L'étude visait à déterminer trois éléments statistiques liés à la mortalité (par cause naturelle ou non naturelle), soit l'incidence, le risque et le moment, chez des jeunes ayant consulté à un service des urgences pédiatriques (SUP) pour des troubles mentaux par rapport à des témoins appariés exempts de troubles mentaux ayant été examinés au SUP.
Méthode: Il s'agit d'une étude de cohortes rétrospective, menée dans un SUP de soins quaternaires, en Colombie-Britannique. Tous les patients ciblés ayant consulté pour des troubles mentaux entre le 1er juillet 2005 et le 30 juin 2015 ont été appariés selon l'âge, le sexe, le degré de gravité au moment du triage, le statut socioéconomique et l'année de la visite, avec des témoins exempts de troubles mentaux. Les données sur la mortalité ont été obtenues de l'organisme responsable des statistiques de l'état civil, et ce, jusqu'au 31 décembre 2016 (suivi cumulatif : 74 390 personnes-années).
Résultats: Sur l'ensemble des patients sélectionnés, soit 6210 jeunes examinés pour des troubles mentaux et 6210 témoins appariés, 13 jeunes au total se sont suicidés (7,5/100 000 personnes-années) et 33 sont morts par suicide ou de cause indéterminée (44/100 000 personnes-années). La mortalité toute cause confondue était significativement plus basse dans le groupe de personnes ayant consulté pour des troubles mentaux (121,3/100 000 contre 214,5/100 000 personnes-années; rapport de risque [RR] : 0,54; IC à 95% : 0,37–0,78) que dans

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From the *Faculty of Medicine, University of British Columbia, Vancouver, BC; †Department of Psychiatry, Division of Pediatric Psychiatry, University of British Columbia, Vancouver, BC; and ‡Department of Pediatrics, Division of Pediatric Emergency, University of British Columbia, BC Children's Hospital Research Institute, Vancouver, BC.

Correspondence to: Dr. Quynh Doan, 4480 Oak Street, Shaughnessy Building, Office B429, Vancouver BC V6H 3N1Canada; Email: qdoan@bcchr.ca

l'autre. Le temps médian écoulé entre la consultation initiale au SUP et le suicide était de 5,2 ans (intervalle interquartile : 4,2–7,3). Dans le groupe de troubles mentaux, le risque de mort par suicide ou de cause indéterminée était 3 fois plus élevé que celui enregistré dans le groupe des témoins appariés (RR : 3,05; IC à 95% : 1,37–6,77).

Conclusion: Bien que les jeunes qui consultent au SUP pour des troubles mentaux connaissent un risque accru de mort par cause non naturelle, leur risque général de mortalité est inférieur à celui enregistré chez les témoins exempts de troubles mentaux. La longue période qui s'écoule entre la consultation initiale et le suicide met en évidence la nécessité de donner des soins préventifs aux jeunes examinés au SUP pour tous types de troubles mentaux, et d'assurer une surveillance à long terme.

Keywords: Adolescence, suicide, suicidal behavior, mental health

INTRODUCTION

Suicide is a significant cause of mortality among youth worldwide in both developed and developing countries.[1] In 2016, suicide was the second leading cause of death among youth 10–19 years old in both Canada and the United States, accounting for more deaths in this age group than all other medical illness combined.[2,3] Patient level risk factors for suicide have been identified, including underlying mental health and personality disorders, self-harm behaviours, previous suicide attempts, substance abuse, and prior ED visits. Males are more likely to complete and females to attempt suicide.[4–6]

Emergency departments (EDs) across North America are increasingly and disproportionately at the center of a youth mental health crisis.[7,8] Over the past decade, youth mental health visits to EDs have dramatically increased in Canada and the United States, with rates of increase far exceeding those of the non–mental health population.[7,9–13]

Compounding the disproportionate increase in visit rates, youth with mental health complaints experience significantly longer ED lengths of stay, have higher rates of hospitalization and transfer, and use more resources, and at greater cost than their non–mental health counterparts.[7,9,11,12,14,15] These trends are particularly true for youth presenting with suicidal ideation or suicide attempts. Increased ED resource use by this population is driven in part, by ED clinician concern for imminent suicide risk, which may contribute to the high rates of consultation, admission, and transfer.[13,16–21]

Although global and North American population-level data on suicide incidence have been published,[1,2,22] fewer studies have examined the risk of suicide among those evaluated in the ED. Research has documented an increased risk of suicide attempts and completions among adults initially evaluated in the ED for suicidal ideation or deliberate self-harm compared with the general (non-ED) population.[23–27] Less has been published about the outcomes of youth following an ED visit for self-harm, and these studies are hampered by small sample size and limited follow-up.[4,28–30] In light of this well-documented surge in youth mental health related ED visits, a better understanding of both the absolute and relative risk for this population compared with those with non–mental health ED visits is important to better inform ED clinicians' decisions around immediate resource use and disposition.

We sought to describe the incidence, risk, and timing of mortality from both unnatural and natural causes among youth seen in a pediatric ED for mental health complaints. To address the possibility that seeking health care in the ED setting is itself associated with suicide among youth, we included matched non–mental health ED controls.[31]

METHODS

Design and setting

We conducted a retrospective cohort study of patients presenting to the pediatric ED at the British Columbia Children's Hospital (BCCH). The BCCH ED treats youth up to 17 years of age. BCCH is the only quaternary pediatric referral center in the province, with a yearly visit volume of approximately 50,000. The study was reviewed and approved by BC Women and Children's Research Ethics Board.

Study population and data sources

Our study captured all mental health related visits to the BCCH ED between July 1st, 2005, and June 30th, 2015,

with linked outcomes through December 31st, 2016. Visits were identified through both chief complaints and discharge diagnoses using the Canadian Emergency Department Information System Presenting Complaint List (V 3.0) and the ED Diagnosis Shortlist from the National Ambulatory Care Reporting System (implemented in April, 2012). We included all visits with presenting complaints and diagnostic codes related to mental health and suicidality (mental health codes 351–400) and substance abuse (substance abuse codes 751–800). For visits before April 1st, 2012, we used free text searches of reason for visit and diagnoses using terms associated with the codes above. As visits were sampled as opposed to patients, multiple visits by the same patient were captured. We considered the earliest visit during the study period as the index visit and referenced subsequent visits to identify those who made return visits to ED.

We included a control group of non–mental health related visits matched to the study cohort on age, sex, triage acuity using the Canadian Triage and Acuity Scale (CTAS), year of visit, and socioeconomic (SES) quintile at the index visit. Visits for a physical complaint in the context of intoxication were classified as a mental health related visit. If an individual made both mental health and non–mental health related visits to the ED during the study period, the mental health related visit was identified as the index visit and that individual was excluded from the control group, insuring the two groups were mutually exclusive. We classified diagnosis at ED presentation into seven categories: mood disorder, suicidal ideation, self-harm, anxiety, overdose/substance misuse, other mental health-related not otherwise specified, and medical (non–mental health) visits. All electronically identified mental health related ED visits and matched controls were reviewed by an investigator, using all available information (age, free-text chief complaint, and discharge diagnosis) to ensure their presentations were consistent with their assigned cohort.

To assess ED visit outcomes, we linked emergency visit data provided by the Provincial Health Service Authority Performance Measurement Reporting Office to patient characteristic and vital statistics provided by Population Data BC.[32,33] Databases were linked and de-identified by data custodians and uploaded to Population Data BC's Secure Research Environment servers for secure storage and analysis. Using International Classification of Disease, Tenth Revision, we classified cause of mortality into four categories: suicide (X60-X84), death by indeterminate cause (R99, Y10-34, Y87-89), accidental poisoning or overdose (X40-49, T36-T50), and other cause of death. All study subjects were followed up until death or the end of study period, whichever occurred first.

Outcome measure and analyses approach

Our primary outcome was the incidence of suicide or suspected suicide following a visit to the pediatric ED. We defined death by suicide as those coded by the coroner as suicide (X60-X84) and suspected suicide as those coded by the coroner as suicide or death by indeterminate causes (R99, Y10-34, Y87-89).[34] We used descriptive statistics to report the study population's demographic characteristics as well as the subpopulation that died by suicide. We used Kaplan-Meier survival curves to compare mortality outcomes and timing between mental health and non–mental health related ED visits. We further evaluated the association between cause of death: natural (labeled by the coroners as associated with an internal cause/pathology), or un-natural (indeterminate, suicide, accidental, or poisoning) and ED visit types (and other potential risk factors) using Cox proportional hazard regression modeling. Analyses were performed using IBM SPSS Statistics (version 25.0) and Excel 2016. A two-tailed type I error rate of $p = 0.05$ was used as the threshold for statistical significance.

RESULTS

Over the study period, 10,267 visits were initially classified as mental health related. A total of 3,525 visits were subsequently reclassified as return visits, 69 visits could not be linked to vital statistics, and 463 were reclassified as non–mental health related after further review, leaving 6,210 index mental health visits. We included 6,210 non–mental health related matched ED controls. The overall median age was 14 years (interquartile range [IQR],11–15) with a slight female predominance (54.5%). Youth seen for a mental health related visit were followed up for a median of 5.6 years (IQR, 3.5–8.4) and matched controls for a median of 5.7 years (IQR, 3.6–8.5). The study population had a cumulative follow-up of 74,390 person-years. Study population demographics and visit characteristics are reported in Table 1.

Table 1. Study patient demographic and visit characteristics, stratified by type of ED visits

	Overall	Non–mental health related ED visit	Mental health related ED visit	Death by suicide
N visits	12420	6210	6210	13
Age at index visit				
Age cluster: 5–9 Y	1769 (14.2%)	893 (14.4%)	876 (14.1%)	0 (0%)
Age cluster: 10–14 Y	5669 (45.6%)	2875 (46.3%)	2794 (45.0%)	7 (53.8%)
Age cluster: 15–19 Y	4982 (40.1%)	2442 (39.3%)	2540 (40.9%)	6 (46.2%)
Median age at initial visit (IQR)	14 (11–15)	13 (11–15)	14 (12–15)	14 (12–15)
Sex: male (%)	5648 (45.5%)	2859 (46.0%)	2789 (44.9%)	5 (38.5%)
Income quintile				
1 (lowest)	2188 (17.6%)	1001 (16.1%)	1187 (19.1%)	2 (15.4%)
2	2639 (21.2%)	1271 (20.5%)	1368 (22.0%)	5 (38.5%)
3	2520 (20.3%)	1266 (20.4%)	1254 (20.2%)	1 (7.7%)
4	2413 (19.4%)	1253 (20.2%)	1160 (18.7%)	2 (15.4%)
5 (highest)	2520 (21.1%)	1412 (22.7%)	1208 (19.5%)	3 (23.1%)
Missing SES data	40 (0.3%)	7 (0.1%)	33 (0.5%)	0 (0%)
Triage acuity level				
CTAS 1 (%)	159 (1.3%)	65 (1.0%)	94 (1.5%)	0 (0%)
CTAS 2 (%)	3023 (24.3%)	1455 (23.4%)	1568 (25.2%)	6 (46.2%)
CTAS 3 (%)	8199 (66.0%)	4133 (66.6%)	4066 (65.5%)	6 (46.2%)
CTAS 4 (%)	853 (6.9%)	464 (7.5%)	389 (6.3%)	1 (7.7%)
CTAS 5 (%)	118 (1.0%)	63 (1.0%)	55 (0.9%)	0 (0%)
Missing data (%)	68 (0.5%)	30 (0.5%)	38 (0.5%)	
Admitted at first ED visit N (%)	2146 (17.3%)	399 (6.4%)	1747 (28.1%)	9 (69.2%)

Death by suicide following mental health related ED visits

Among all included ED visits (mental health related and controls), a total of 13 youth died of suicide by the end of the follow-up period. The suicide rate in the mental health cohort was 27.0 per 100,000 person-years compared with 8.0 per 100,000 person-years in the control group. Within the population who died of suicide, the median time from index ED visit to death by suicide was 5.1 years (IQR, 4.2–6.5) among those seen for a mental health related visit and 7.3 years (IQR, 5.6–8.8) in the control group. The majority of those who died by suicide were admitted at their initial visit (69.2%).

There were 20 deaths by indeterminate causes, which were considered possible suicide (25.5/100,000 person-years): 15 (40.8 per 100,000 person-years) in the mental health cohort and 5 (12 per 100,000 person-years) in the control group. The median time from index ED visit to death by indeterminate cause was 2.8 years (IQR, 1.7–3.8) and 6.3 years (IQR, 4.1–9.0) in the mental health and control groups, respectively.

The risk of suicide during the study period was more than 3 times higher among youth who sought care for a mental health related concern in the ED than among controls, although this was not statistically significant (HR, 3.30; 95% CI, 0.91–12.04). The risk of death by suicide or indeterminate causes was significantly higher among youth seen in the ED for a mental health related concern (HR, 3.05; 95% CI, 1.37–6.77). Figure 1 shows the survival curves for death by suicide or indeterminate cause among the mental health and control groups.

Factors associated with suicide following a mental health related visit to the ED

We evaluated various factors potentially associated with death by suicide among youth presenting to the ED with mental health concerns. These included return visits to ED, age, sex, SES, and mental health diagnosis categories (mood disorder, suicidal ideation, self-harm, anxiety, substance misuse and overdose, and other). None of these factors was significantly associated with risk of death by suicide.

We conducted the same analysis for the combined outcome of death by suicide or indeterminate cause and found that multiple ED visits for a mental health concern was associated with a 2.5-fold increase in death by suicide or indeterminate cause compared with
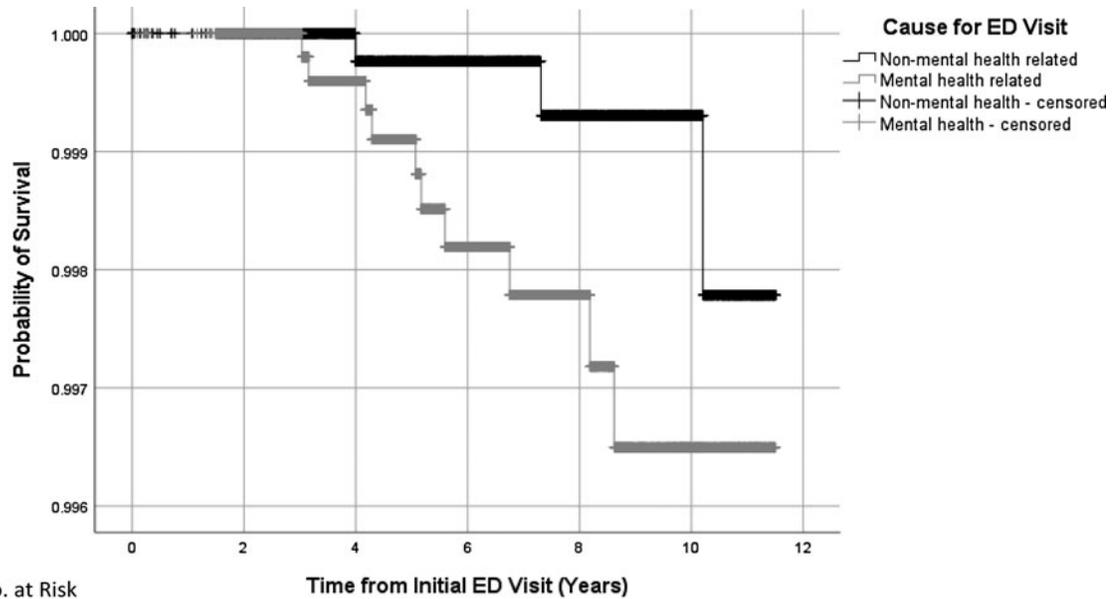
Figure 1. Survival curves for death by suicide or indeterminate cause among pediatric ED mental health related visits and controls.

those who made only one visit to the ED (HR, 2.57; 95% CI, 1.15–5.73). The risk also increased with advancing age at index presentation (HR, 1.22; 95% CI, 1.01–1.48). Table 2 displays the hazard ratios for all evaluated risk factors.

Overall mortality

There were a total of 125 deaths (1.0%) across the study period: 45 (121.3 per 100,000 person-years) among the mental health related visits v. 80 (214.5 per 100,000 person-years) among the matched controls. The risk of all-cause mortality among youth with mental health concerns was half that of matched controls (HR, 0.54; 95% CI, 0.37–0.78). Figure 2 shows survival curves for all-cause mortality for mental health visits and controls. Table 3 provides detailed mortality rate by cause of death.

DISCUSSION

We analyzed suicide-related outcomes of a large longitudinal cohort from a Canadian pediatric ED and found a significant association between ED visits for mental health related concerns and subsequent death from suicide or indeterminate cause. Both repeat ED visits and advancing age at index presentation were associated with subsequent mortality from suicide or indeterminate causes. The absolute number of deaths from suicide or indeterminate cause was low (7.5–44/100,000 person years and), and importantly, there was a significant lag between index visit and subsequent death by suicide of 5.1 years. By contrast, the risk for all-cause mortality following a mental health related ED visit was less than half that of controls. Our results may help ED clinicians assess the absolute and relative risk of youth seeking care for a range of mental health concerns, which could inform decision making about acute resource use and disposition for this population.

Our finding of an association between repeat ED visits and subsequent death by suicide or indeterminate cause has been previously documented among adults,[24] even after adjusting for other known risk-factors.[23] While it is possible that these return visits represent an opportunity for intervention, several studies suggest that return ED visits by youth are common but are not a marker of a lack of outpatient mental health resources. Frosch et al. found that youth with a return ED visit within 6 months of an index mental health visit were 5 times more likely to report a connection with outpatient mental health care.[18]

Table 2. Factors associated with suicide following an ED mental health related visit

Variable	Death by suicide (N = 10): Adjusted HR (95% CI)	Death by suicide or indeterminate cause (N = 25): Adjusted HR (95% CI)
Return visit to pediatric ED		
No	Ref	Ref
Yes	2.46 (0.70–8.68)	2.57 (1.15–5.73)
Age	1.15 (0.87–1.51)	1.22 (1.01–1.48)
Sex		
Male	Ref	Ref
Female	1.23 (0.34–4.52)	0.66 (0.30–1.47)
SES		
SES 1: lowest income	Ref	Ref
SES 2	1.71 (0.31–9.38)	0.53 (0.17–1.62)
SES 3	0.46 (0.04–5.08)	0.35 (0.09–1.32)
SES 4	0.59 (0.05–6.55)	0.75 (0.24–2.34)
SES 5: highest income	1.01 (0.14–7.19)	0.50 (0.15–1.67)
Mental health categories		
Diagnosis of mood disorder (reference)	Ref	Ref
Diagnosis of suicidal ideation	1.79 (0.16–19.82)	0.60 (0.13–2.67)
Diagnosis of self-harm	Insufficient events	1.75 (0.19–16.00)
Diagnosis of anxiety	1.25 (0.08–20.58)	0.61 (0.11–3.37)
Diagnosis of substance misuse	0.66 (0.04–10.64)	0.81 (0.21–3.06)
Other diagnosis	1.84 (0.21–16.27)	0.93 (0.29–3.03)

Our primary finding that youth with a mental health related ED visit were at increased risk for subsequent death by suicide or indeterminate causes is consistent with prior published results of ED populations, but expands our understanding of this risk to a broader mental health cohort.[5,35,36] Most similar to our study in design were two prior cohort studies of patients seen in the ED for self-harm or self-poisoning. Olfson et al.
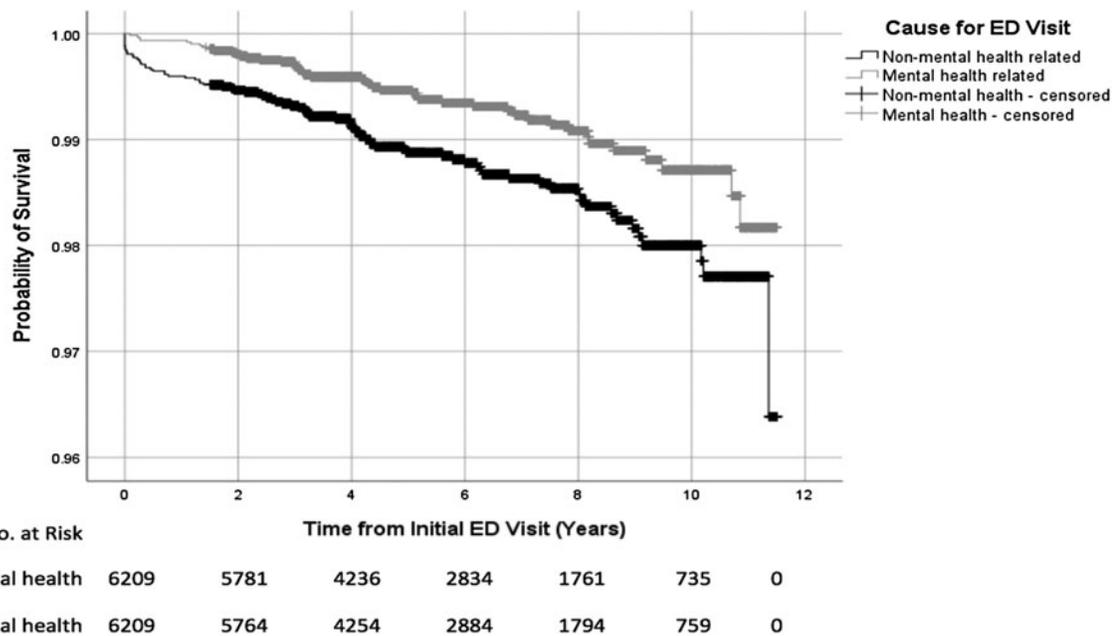

Figure 2. Survival curves for all-cause mortality among pediatric ED mental health related visits and controls.

Table 3. Mortality rate and cause of death in youth seeking emergency care for mental health related concerns vs matched controls.

Variable	No. (%)		Mortality rates*		HR[†] (95% CI)
	Mental health related visit Total N: 6210	Non–mental health related visit Total N: 6210	Mental health related visit	Non–mental health related visit	
All-cause mortality	45 (0.7)	80 (1.3)	121.3	214.5	0.54 (0.37–0.78)
Natural cause of death	12 (0.2)	68 (1.1)	32.4	182.3	0.17 (0.09–0.31)
Unnatural cause of death	33 (0.5)	12 (0.2)			
Indeterminate	15 (0.2)	‡	40.4	13.4	2.92 (1.06–8.05)
Suicide	10 (0.2)	‡	27	8.0	3.30 (0.91–12.04)
Accidental or poisoning	8 (0.1)	‡	21.6	10.7	1.76 (0.52–5.94)
Death by suicide *or* by indeterminate cause[§]	25 (0.4)	8 (0.1)	67.4	21.4	3.05 (1.37–6.77)

*Per 100,000 person-year.
†Adjusted for age, sex, and SES quintile.
‡Cannot be reported to preserve masking of 5 or less incidents in one of the cohorts, per privacy protection requirements.
§This figure combines the rows Suicide and Indeterminate reported above.

followed a national cohort of adolescents and young adults (age, 12–20 years) for 1 year after an ED visit for deliberate self-harm. They found that these adolescents were at increased risk for repeat self-harm and suicide completion compared with young adults.[4] Finkelstein and colleagues, compared a mixed cohort of patients seen in EDs across Ontario for deliberate self-poisoning (28.1% age <20 years) with an ED control group without self-poisoning. They also found a significant increase in subsequent mortality from unnatural causes, including suicide among the self-poisoning cohort. Of interest, this risk was lowest among the adolescent population in this study.[5]

There are important differences between our study and this prior work. The study by Olfson et al. calculated standardized mortality rates using the general population rather than an ED control group. Finkelstein's study used an ED control group that may have included other mental health related visits. Furthermore, both prior studies focused on a specific subset of ED mental health visits (self-harm or self-poisoning), whereas our study found an absolute and relative risk across a range of mental health related visits (not just suicide related) and used an ED control group with medical conditions that excluded other mental health presentations.

Most notable was our finding of a median 5-year gap (range, 3–10 years) between index ED mental health visit and subsequent death by suicide which suggests a chronic rather than acute risk. This contrasts with prior studies of specific ED mental health presentations, which report a more acute risk and shorter time to suicide completion. In the Finkelstein study, for example,

among the 107 youth (age < 20 years) who died of suicide during the 9.5-year follow-up period, the median time from initial ED presentation to death by suicide was 2.2 years (IQR, 1.1–4.2). Similarly, a cohort study of ED visits for suicidal ideation, self-harm, or overdose in New Mexico found that more than half of the 11 deaths by suicide in the youth population (age, 10–24 years) occurred in the first 3 years after the index visit.[36] Studies outside of North America, evaluating the outcome of mostly adult populations, have reported similar findings. A 4-year cohort study of 7,968 individuals seen in an ED for deliberate self-harm in the United Kingdom found that among the 60 who had died of suicide or indeterminate cause during the 4-year study, the suicide rate was highest in the first 6 months of follow-up (562 per 100,000 person year). While this study population's age ranged from 10 to 92 years, the median age was 30 years (IQR, 21–40).[37] It is possible that the discrepancy between our findings and the prior research relates to differences between our exclusively pediatric cohort compared with the mixed youth and adult populations of these previous studies.

Another important finding in our study is the fact that all-cause mortality was significantly lower in the mental health cohort than controls (HR, 0.54; 95% CI, 0.37–0.78). Despite this finding, we observed a four-fold higher rate of hospitalization at the index visit for youth with mental health complaints compared with non–mental health controls (28.1% v. 6.8%). This is consistent with other studies documenting disproportionate resource usage among youth with mental health related visits.[7,9,11,12,14,15,21,38,39] The high

hospitalization rate in our study is particularly notable because our control group was matched, in part, on triage acuity. Our findings may reflect ED clinicians' discomfort assessing or appreciating the magnitude and time frame of risk for youth with mental health complaints.[40,41] Alternatively, it may reflect risk aversion on the part of mental health professionals compared with ED practitioners in settings where disposition decisions for youth with mental health complaints are made exclusively by mental health professionals. Psychiatric hospitalization from the pediatric ED was not protective, as more than two-thirds (69.2%) of subsequent suicides were initially hospitalized. This may reflect more significant underlying psychopathology among those hospitalized for their mental health concerns but is consistent with other epidemiologic studies of suicidal ED patients that document similar increased risk among those hospitalized at their index visit.

Our study has several important limitations. Despite including a large and comprehensive cohort of youth, our study captured only 13 youth who died of suicide over a follow-up period of 11.5 years. This limited our ability to identify with confidence individual and visit characteristics associated with this outcome. Furthermore, we only captured presentations to a single pediatric ED. While our study site is the only quaternary pediatric center in the province, we know that many youth seek mental health care at a nonpediatric facilities. As a result, our findings may not be generalizable to other settings. Failure to capture initial mental health related visits to other hospitals may have led to an underestimation of the time from first ED visit to death by suicide. The retrospective study design introduces additional limitations with regard to our cohorts that were determined based on documented chief complaint and ED diagnoses.

As such, additional medical comorbidities among those presenting with a mental health complaint could not be captured. It is possible that a small proportion of those classified as controls may have been misclassified if, for example, an injury was documented but concomitant intoxication was not. Finally, the all-cause mortality in our control group was high compared with the cohort with mental health visits and three-fold higher than the death rate of the pediatric population in Canada as a whole. This is likely related to the study setting as well, reflecting the fact that children with life-threatening illnesses or injuries who are referred or present to quaternary pediatric EDs may carry a risk of death forward, and may be over-represented in this setting compared with other ED settings and the population as a whole.

CONCLUSION

Data on outcomes of youth following an ED visit for a mental health crisis that is not isolated to a suicide attempt, are scarce. We found that youth seeking care in a pediatric ED for any mental health related concern were at increased risk of death by unnatural causes, but their risk of all-cause mortality was significantly lower than non–mental health ED controls. The protracted duration from initial presentation to suicide highlights the importance of long-term surveillance and longitudinal care for youth seen in the ED for all mental health concerns. The magnitude and timing of risk for youth presenting to the ED with and without mental health concerns reported here can inform decision makers about acute resource usage and disposition planning for these populations.

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