



## RESEARCH ARTICLE

# Emergency Department Use for Mental Health Problems by Youth in Child Welfare Services

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### Abstract

**Objectives:** In Canada, little research has focused on emergency department (ED) use by youth involved with child welfare services, a vulnerable population. Our aims were therefore (1) to examine the characteristics of ED users among child welfare-involved youth, 2) to identify predictors of ED use and 3) to identify youth trajectories to EDs. **Methods:** Data were collected from child welfare charts from two agencies in Montreal, Canada. Logistic regression was conducted to determine the predictors of ED use. Latent class analysis was used to identify trajectories to the ED. **Results:** The sample included 226 youth aged 11-18 years. 33% of youth visited the ED at least once for mental health problems during child welfare involvement. ED users were more likely to be youth with a history of 1) sexual abuse, 2) parental mental illness, and 3) placements outside of the home, compared to youth with no ED visits. Mental health treatment was initiated in the 30 days following an ED presentation in 24% of cases. Three trajectories were found: 1) ED contact initiated by child welfare workers for suicidal ideation/attempts, 2) ED contact initiated by police for substance use and externalized behaviours and 3) ED contact initiated by parents for suicidal ideation/attempts. **Discussion:** Despite all youth being followed by child welfare and many already receiving mental health services, youth had high, often recurrent ED use. This highlights the need for stronger coordination between child welfare, youth mental health services and EDs.

**Key Words:** mental health, child, adolescent, emergency department, service utilization, child welfare, child protective services

### Résumé

**Objectifs:** Au Canada, peu de recherche s'est penchée sur l'utilisation du service d'urgence (SU) par les jeunes impliqués dans les services d'aide à l'enfance, une population vulnérable. Nous visions donc à (1) examiner les caractéristiques des utilisateurs de SU chez les jeunes impliqués dans l'aide à l'enfance, 2) identifier les prédicteurs de l'utilisation de SU et 3) identifier les trajectoires des jeunes au SU. **Méthodes:** Les données ont été recueillies des dossiers de l'aide à l'enfance

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dans deux agences de Montréal, Canada. La régression logistique a été menée pour déterminer les prédicteurs de l'utilisation du SU. L'analyse de classe latente a servi à identifier les trajectoires au SU. **Résultats:** L'échantillon comprenait 226 jeunes âgés de 11 à 18 ans, dont 33 % ont visité le SU au moins une fois pour des problèmes de santé mentale durant leur implication à l'aide à l'enfance. Les utilisateurs de SU étaient plus susceptibles d'être jeunes avec des antécédents de 1) abus sexuel, 2) maladie mentale parentale, et 3) placements hors du foyer, comparés aux jeunes sans visite au SU. Un traitement de santé mentale a été initié dans les 30 jours suivant une présentation au SU dans 24 % des cas. Trois trajectoires ont été distinguées: 1) un contact avec un SU initié par les travailleurs de l'aide à l'enfance pour des idées/tentatives de suicide, 2) un contact avec un SU initié par la police pour utilisation de substances et comportements externalisés et 3) un contact avec un SU initié par les parents pour des idées/tentatives de suicide. **Discussion:** Bien que tous les jeunes aient été suivis par l'aide à l'enfance et que nombre d'entre eux aient déjà reçu des services de santé mentale, les jeunes avaient une utilisation élevée souvent récurrente du SU. Ceci met en lumière le besoin d'une coordination plus forte entre l'aide à l'enfance, les services de santé mentale pour les jeunes et les SU.

**Mots clés:** santé mentale, enfant, adolescent, service d'urgence, utilisation du service, aide à l'enfance, services de protection des enfants

## Introduction

In recent years, the use of hospital emergency departments (EDs) for mental health problems has been escalating. This is particularly true for young people (1-5), with reports estimating a 45-50% increase in ED visits for mental health reasons by youth under the age of 24 in the past decade (6, 7). In many cases, EDs have become the primary portal of access to the mental health system for young people (8-10), and mental health concerns make up about a quarter of all ED visits for children and youth in Canada and the USA (11-13).

The rise in ED use for mental health problems by youth is likely due to several complex and interrelated factors, including a high prevalence of mental health problems, coupled with gaps in access to primary care, long wait lists for mental health services, and a desire for rapidly accessible care without appointments or referrals (10, 13-15). In some cases, youth presenting to EDs for mental health problems are not experiencing an urgent need for care, but access EDs due to a lack of other options (1, 16). Youth presenting at the ED for mental health problems are often older adolescents (17), females (18-21), racial or ethnic minorities (22, 23) and have experiences of childhood adversity, parental history of mental illness, and socio-economic deprivation (19, 24). One study from Canada showed a disproportionate use of ED as a first mental healthcare contact among youth from immigrant compared to non-immigrant backgrounds (24). Common reasons for youths' ED presentations include aggressive behaviours, mood disorders, suicidality, anxiety, and substance use (13, 25, 26).

Despite the predominance of EDs in responding to youth mental health crises, it has also been noted that EDs are not

well equipped to address the needs of young people and their families (4, 5). EDs often lack required resources, such as mental health specialists, training opportunities, and connections with outpatient care (2, 27). As such, youth often face difficulty in receiving the right mental health assessments or treatment at the ED (4), and few are referred to appropriate, continuous care following their ED visit (12, 28, 29). Unsurprisingly, repeated ED visits are a common occurrence among youth, with up to 45% of all ED visits being made by recurrent users (12, 25, 30). A Canadian study showed that almost 40% of youth who visit an ED for a mental health problem make three or more such visits for the same concern (31). Such use of emergency services comes at a high expense to the healthcare system (32), and some youth have described their experience as traumatic (33) and shameful (34). Understandably, a recent Canadian report included repeat emergency department visits within 365 days as a metric of the quality of the mental healthcare system (35).

Among youth, those involved with child welfare services are known to be particularly high users of EDs for mental health concerns (36). A review from France demonstrated that 22-43% of all youth presenting to the ED for mental health problems had a history of child welfare involvement (26). A relationship between placements outside of the family home and ED presentations has also been previously noted, with youth with a placement history being more likely to use EDs for mental health problems (37) compared to peers involved with child welfare services who did not experience placements outside of the home. Increased numbers of placements were also linked to higher rates of ED use (38). Certainly, the rates of mental health problems

among youth in child welfare services (39-41) may place them at heightened risk for the types of psychiatric crises that warrant emergency care. Still, the high use of EDs by youth involved in child welfare services is concerning. Given these youth's links with health and social services, their mental health problems ought to have been identified and responded to early, which could help mitigate some need for emergency or crisis care.

While many studies have examined ED use for mental health problems in children and adolescents (10, 42, 43), very few have investigated this issue within child welfare populations. Additional research is thus needed to examine the profiles of youth who use the ED for mental health problems during their involvement with child welfare services, particularly in the Canadian context where this issue has not been systematically addressed. This would allow us to identify young people at high risk of using ED services, as well as to identify organizational gaps that can be addressed to better respond to the mental health needs of youth in child welfare services. Accordingly, this study's objectives were 1) to examine the demographic, clinical and ED use characteristics of a sample of youth involved with child protection services aged 11-18 years, 2) to determine the predictors of ED use and 3) to evaluate trajectories for ED use, using reason for ED presentations and who initiated the ED visit.

## Methods

### **Setting: Local Context – Quebec Child Welfare Services**

In Canada, child welfare services provide an array of psychosocial, rehabilitation and care placement services to youth who have been found to be abused, be neglected, or experience behavioural problems. Care placements refer to the placements of children outside of their family home, often with kin, with foster parents, or in group home settings, on a temporary or permanent basis.

Although child welfare services can offer interventions designed to address mental health or adaptation problems in youth, youth in child welfare services often use regular-stream mental health services (39). Canada's healthcare model is a publicly funded, universal system. In the province of Quebec, healthcare is organized geographically, with services planned and delivered to address the needs of a population within defined catchment areas. Mental health services are offered in primary care settings (i.e., local, community-based primary health centres); secondary care settings (i.e., specialized services, often requiring referrals); and tertiary care settings (i.e., complex care)(44). Private-sector mental health services are also available, predominantly through private psychologists and psychotherapists.

### **Ethics**

This study was approved by the *Centre Jeunesse de Montréal-Institut Universitaire's* Ethics Committee (REB Approval ID : CJM- IU : 16-06-12.)

### **Sample**

Our sample included youth who received services from Montreal's only two child welfare agencies (*Centre jeunesse de Montréal*, n=142; and *Batshaw Youth and Family Centers*, n=84) who were aged 11-17 between 2013 and 2015. Charts were selected based on parents' postal codes being located within two distinct catchment areas within Montreal. Information was gathered from charts and from administrative data sources collected as part of child protection services. Data from the two cohorts was continuously collected from youth's entry in child welfare services until 2019, or when the youth aged out of the system. Other than age restrictions, no inclusion/exclusion criteria were used.

### **Data collection**

Trained research assistants systematically collected information from the charts, using a detailed template created for the study. Ten percent of all charts were randomly picked for independent review to ensure accuracy. Inter-rater reliability was high (Cohen's kappa  $\kappa = .71$ ) (45). Weekly team meetings were conducted to assure data accuracy.

To complement chart review, data from the administrative electronic files were also retrieved. These data were used to obtain information on youth and parent demographic information, maltreatment history, and placement history. Specifically, types of substantiated adverse childhood events, as well as placements, were identified from the administrative datasets. Data from seven individuals were not available in administrative datasets and these were excluded from final analyses.

Participants' social and material deprivation were derived by matching their postal codes with relevant indices from the *Institut National de Santé Publique* (46). These indices were developed from census data using six neighbourhood-level population indicators known to be proxies for deprivation: completion of secondary education; employment status; living situation; average income; marital status; and proportion of single parent family units. To characterize ED trajectories, all details pertaining to ED visits were extracted, including dates for each visit, reason for seeking services, who initiated the ED contact, diagnoses given, and recommendations following the contact. Data extraction templates are available from the authors upon request.

## Statistical Analyses

### **Objectives 1 and 2: Characteristics of ED users and Predictors of ED use**

Descriptive statistics for characteristics of ED users were calculated. Independent samples t-tests and Pearson's chi-squared tests were used to determine group differences between ED users and non-users. Logistic regression analysis was used to estimate the influence of socio-demographic and clinical factors on ED use, with odds ratio and confidence intervals presented. Based on previous findings on characteristics of youth ED users, factors including age, gender, immigration and visible minority status, adversity indicators (emotional neglect or abuse, physical neglect or abuse, sexual abuse), social and material deprivation, and parental history of mental illness were used to compare ED users and non-users. The number of youths who were already in contact (currently or in the previous 30 days) with mental health services at the time of their ED visit was also calculated. Finally, the time to treatment initiation after each ED encounter was examined and compared against the Canadian Psychiatric Association benchmark of 30 days (47).

### **Objective 3: Distinct trajectories to ED use and their associations with recurrent ED use**

Latent class analysis (LCA) was used to identify distinct trajectories taken to EDs. Latent class analysis allows data to be clustered into groups with similar categorical characteristics. In our analysis, each ED visit was considered a separate event and categorical characteristics for each event were computed. ED trajectory characteristics included reason for visit, initiator, previous mental health contacts, and placement history. The smallest model (1-class) was fit first, followed by sequentially increasing the number of classes selected to a maximum number of five classes. Model fit was determined using Akaike information criterion (AIC), Bayesian information criterion (BIC), and log-likelihood (LL). The Lo-Mendell-Rubin likelihood ratio (LMR-LRT) was also used to compare each subsequent K class model compared to the previous K-1 class model. These indices, in combination with theoretical interpretability, led to the selection of the final model (48). Finally, for each latent class, we calculated a Kaplan-Meier survival curve to compare the recurrence of ED use within one year among these classes. Differences between the curves were tested with log-rank tests.

All analyses were performed using JMP software, version 15 Pro.

## Results

### **1. Characteristics of ED Users**

One third of youth in our total sample ( $n=74/226$ ) had at least one ED visit over the course of their follow-up by child welfare services and accounted for a total of 157 ED visits by 74 youth. ED users were predominantly female (69% of ED users). See Table 1 for sample characteristics.

Among ED users, most (47%,  $n=35$ ) had one visit; 38% ( $n=28$ ) had two or three visits; and 15% ( $n=11$ ) had four or more ED contacts. For 12 youth (16% of ED users), their ED visit represented their first ever lifetime contact with the mental health system.

As indicated in Table 2, the most common initiator of contact with the ED for mental health reasons was the police (35% of cases), followed by child welfare services (27%), and parents (19%). The most common reasons for an ED visit were suicidal ideation, substance use, and suicide attempts. For males, the predominant reason for ED visits was substance use problems, while suicidal ideation was the predominant reason for females.

#### **1.1. Predictors of ED Use**

Logistic regression analysis indicated that having a previous experience of sexual abuse (OR =2.85, 95% CI 1.32-6.12), a parental history of mental illness (OR =2.85, 95% CI 1.32-6.12), and having at least one placement outside the family home during child welfare services (OR =2.85, 95% CI 1.32-6.12) significantly predicted likelihood of ED use (see Table 2). We also compared the characteristics of single-visit ED users, repeat users, and non-users, using chi-square analysis, which demonstrated that females (more than males) were likely to be repeat users. (Results not presented, but available from the author upon request).

#### **1.2 Timing of ED Visits**

We examined the timing of ED visits with respect to child welfare and mental health treatment history for each ED contact (See Table 4).

#### ***Treatment at time of ED visit***

Forty-four percent of all ED visits (69/157) occurred during mental health treatment. The most common setting in which youth had been receiving mental health services at the time of their ED visit were hospital outpatient services, followed by community centres and schools. Of the remaining 88 ED visits, which occurred while the youth was not receiving mental health treatment, 20 visits (23%) were linked to a previous episode of mental health care within 30 days prior to the ED contact.

<b>Table 1. Sample characteristics by use of the emergency department (ED)</b>			
Variables	Total sample	ED users	Non ED-users
	(N=226) % (n)	(N=74) % (n)	(N=152) % (n)
<b>Demographic characteristics</b>			
Sex			
Male	46 (103)	31 (23)	53 (80)
Female	54 (123)	69 (51)	47 (72)
Visible minority status <sup>a</sup>			
Yes	53 (113)	55 (39)	52 (74)
No	47 (101)	45 (32)	48 (69)
Immigration status <sup>b</sup>			
1st generation (immigrant)	19 (41)	17 (12)	20 (29)
2nd generation (1 or 2 parents born outside Canada)	27 (59)	22 (16)	29 (43)
3rd generation (non- immigrant)	54 (119)	61 (43)	51 (76)
High social and/or material deprivation	71 (155)	77 (55)	68 (100)
<b>Maltreatment history (at child welfare entry)<sup>b</sup></b>			
Physical neglect, yes	23 (50)	15 (11)	25 (39)
Sexual abuse, yes	28 (60)	42 (29)	21 (31)
Psychological abuse, yes	56 (123)	55 (39)	57 (84)
Physical abuse, yes	56 (122)	61 (43)	53 (79)
Neglect, yes	83 (183)	83 (59)	83 (124)
Parental history			
Parental history of mental health problems, Yes	77 (169)	86 (61)	73 (108)
Child welfare trajectory			
Placement during child welfare involvement (yes )	78 (170)	93 (66)	70 (104)
		Median, [IQR] <sup>c</sup>	
Age at child welfare involvement <sup>b</sup>	12, [7-13]	12, [ 6-13]	12, [7-13]
Duration of child welfare involvement (years) <sup>b</sup>	4.4, [3.4-5.5]	4.6, [3.6-5.8]	4.3, [3.3-5.5]
<sup>a</sup> 12 missing data points, (3 for ED users and 9 for non-ED users)			
<sup>b</sup> 7 missing data points (3 for ED users and 4 for non-ED users)			
<sup>c</sup> Inter-quartile range			

### **Mental Health Diagnosis**

Most ED visits (75%) were made by youth who had at least one diagnosed mental disorder at the time of their visit. A minority (20%) of ED contacts resulted in a new psychiatric diagnosis for the youth.

### **Placement**

In terms of placement history, 61% of all ED visits occurred after a youths' first placement outside of the home. Individuals whose ED visit represented their first contact with the mental health system were less likely to have had a placement.

### **Treatment following ED**

We next examined how many youth received treatment within 30 days of their ED contact, based on the Canadian Psychiatric Association's benchmark for treatment initiation (47). For individuals not currently in treatment at the time of their ED visit (N=87), treatment was initiated within 30 days of their ED contact in 25% of cases.

### **Repeated ED visit**

In our sample, 53% of all ED visits were return visits by an individual within one year of a previous ED contact.

<b>Table 2. Reasons for, and initiators of, contacts with the emergency department (ED) by sex</b>			
	All contacts (N=157) % (n)	Male youth contacts (N=44) % (n)	Female youth contacts (N=113) % (n)
Top reason for ED consultation			
Suicidal ideation	36.9 (58)	22.7 (10)	42.5 (48)
Substance use	14.0 (22)	34.1 (15)	6.2 (7)
Suicide attempt	11.1 (19)	9.1 (4)	13.3 (15)
Externalizing symptoms	9.5 (15)	15.9 (7)	7.1 (8)
Self-harm	7.6 (12)	6.8 (3)	7.9 (9)
Trauma	6.4 (10)	-	8.9 (10)
Person who initiated ED contact <sup>a</sup>			
Police	35.1 (47)	43.5 (17)	31.5 (30)
Child welfare staff	26.8 (36)	30.7 (12)	25.2 (24)
Parent	17.9 (24)	5.1 (2)	23.1 (22)
Youth	11.9 (16)	2.5 (1)	15.8 (15)
School staff	8.2 (11)	17.9 (7)	4.2 (4)
<sup>a</sup> 23 missing data points, (5 male and 18 female)			

<b>Table 3. Demographic and clinical predictors of emergency department (ED) Use</b>	
Demographic Characteristics	Adjusted OR [95% CI]
Sex	
Female	1.46 [0.71, 2.97]
Male	1.00 [reference]
Visible minority status	
Visible minority	1.14 [0.64-2.01]
Non-visible minority	1.00 [reference]
Immigration status	
Immigrant	1.40 [0.65-3.00]
Non-immigrant	1.00 [reference]
Social and Material Deprivation	
High	1.38 [0.65-2.93]
Low	1.00 [reference]
History of Adversity	
Sexual Abuse	2.76 [1.49-5.11]
Physical Abuse	0.97 [0.49-1.94]
Psychological Abuse	0.99 [0.49-1.97]
Physical Neglect	0.81[0.31-2.14]
Parental history of mental illness	2.82 [1.06-4.17]
Placement	6.47 [2.21-18.99]
OR = Odds ratio	
CI = Confidence intervals	

## 2. Trajectories to the ED

### 2.1 Trajectory classes - Latent class analysis

Fit statistics suggested a model with three classes as having the best fit (supporting analysis available from the authors). Based on these results, three classes of ED trajectories were categorized (See Figure 1).

The first class (49% of cases) represents a trajectory with high child welfare involvement. All youth in this class had been placed outside the family home at least once at the time of their ED visit. ED visits in this class were predominantly initiated by child welfare workers. Reasons for ED contact were largely suicidal ideation or attempts.

The second class (34% of cases) represents a trajectory with high police involvement. Youth in this class had low rates of mental health service use prior to their ED contact. ED visits were predominantly for substance use and externalized symptoms; and were most likely to be initiated by police.

The third class (17% of cases) represents a trajectory with high parental involvement. Youth in this class had not experienced a placement outside the family home; and contact with ED was initiated by parents or youth themselves. Youth in this trajectory had high rates of mental health service use in the year preceding their ED visit. Most commonly, ED contacts were made for suicidal ideation or attempts.

Considering the values of LR Logworth, all the trajectory variables were statistically significant classifiers of latent classes for the selected three-class model, with the timing of the first placement proving to be the most influential factor in segmenting clusters. (Supporting analysis available from the authors)

### 2.2 Recurrence of ED visits – Kaplan Meier survival curves

A Kaplan-Meier time-to-event analysis was conducted to compare the rates of recurrence within 12 months of the index ED visit. Results indicate that significantly fewer recurrent visits occurred for Class 2 Pathways (high police involvement, 12% recurrence within 1 year), compared to the other two groups (Log-Rank  $\chi^2=13.32$ ,  $p=.001$ ). The other two groups (Class 1 and Class 3) had similar rates of recurrence (41% and 43%, respectively). However, Class 3 (high parental involvement) had the fastest time to recurrence (mean 145 days; Figure 2).

## Discussion

This study examined the use of emergency departments for mental health problems in young people over the course of their involvement with child welfare services. The high rates of ED presentations for youth mental health problems is of growing concern (49). Understanding the risk factors

**Table 4. Characteristics at the time of emergency department (ED) visit**

Characteristics	N=157 visits	
	% (n)	
In mental health treatment at time of ED visit		
Yes	44 (69)	
No	56 (88)	
At least 1 mental health diagnosis already received		
Yes	75 (118)	
No	25 (39)	
At least 1 placement experienced		
Yes	61 (96)	
No	39 (61)	
Number of contacts in 12 months prior to ED visit		
0-1	44 (69)	
2-3	36 (56)	
4+	20 (32)	
New mental health diagnosis given at ED		
Yes	20 (31)	
No	80 (126)	
Treatment initiated within 30 days of ED visit		
Yes	24 (38)	
No	76 (119)	
Recurrence of ED visit		
Within 30 days	10 (15)	
Within 31-365 days	23 (36)	
> 365 days	20 (31)	
No recurrence	47 (74)	

and characteristics of ED presentations in the specific population of child welfare involved youth may permit a better organization of services for these young people. In our sample, a third of all youth had at least one ED visit for mental health problems over the course of their child welfare involvement.

Youth in the general population often first seek help from the ED, with estimates of almost 50% of youth visiting an ED without any prior contact with outpatient mental health services (49, 50). Strikingly, our results found that only 16% of our sample had their first mental healthcare contact

Figure 1. Trajectories to the emergency department (ED) by latent class analysis cluster

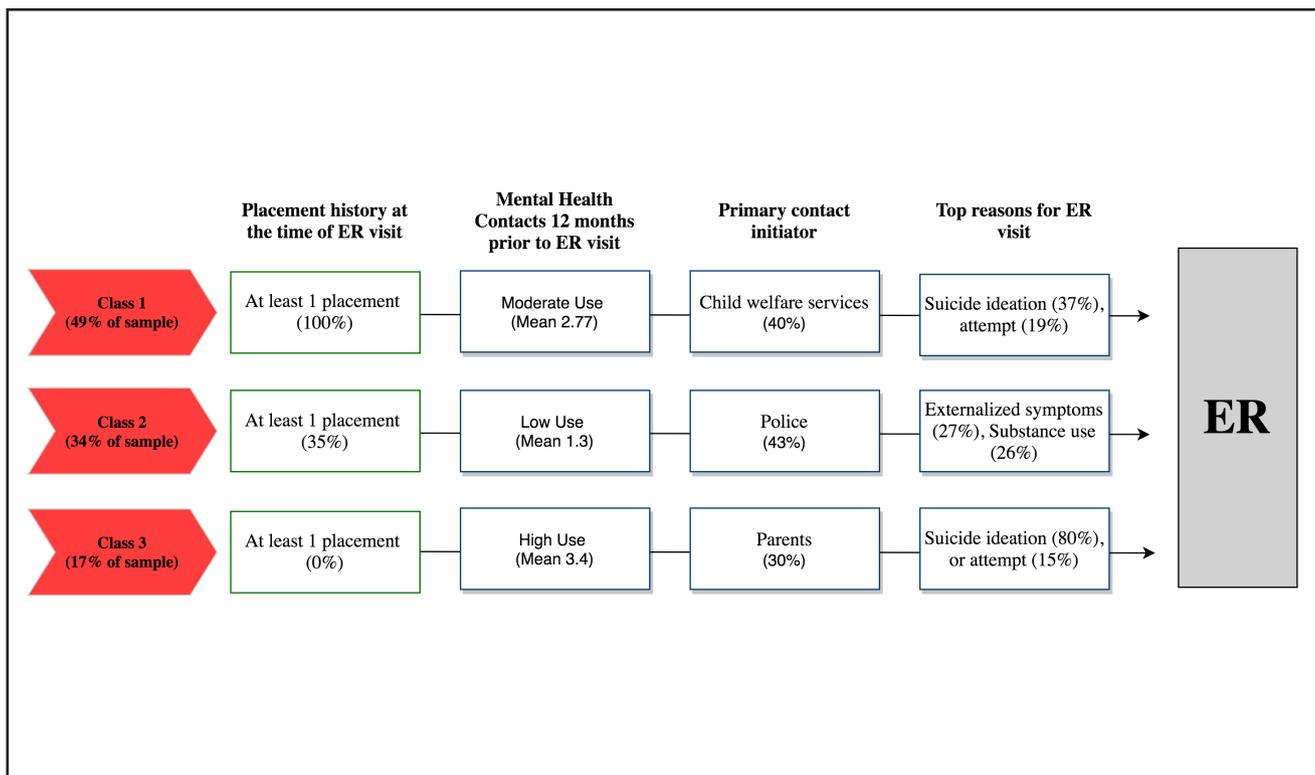
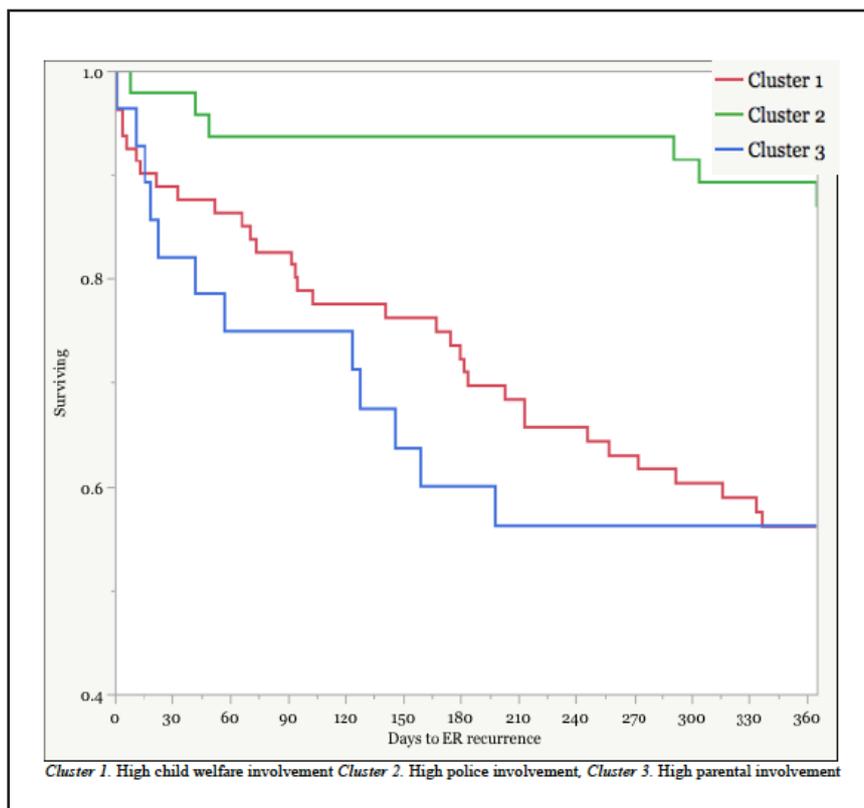


Figure 2. Kaplan-Meier time-to-event curve indicating time to emergency department (ED) recurrence by latent class analysis cluster



at the ED, and the vast majority of visits (67%) were made by youth who were currently in treatment or had been seen in outpatient care in the 30 days prior to their ED visit. This suggests that in our sample, the use of the ED may not represent a failure in recognizing mental health conditions before a crisis, but most likely, that a crisis, or the perception of a crisis, may have emerged at least partly as a result of a lack of coordinated, continuous care. One potential clinical implication could entail capacity-building for any youth-serving professionals, including police and child welfare workers, to identify which mental health situations are urgent; and improved training in de-escalation and suicide risk assessment.

One challenge in the provision of continuous mental health care for youth in whose cases child welfare services are involved is the patchwork of systems of care involved. In the USA, studies found that most youth in child welfare services received mental health services from three or more different settings, often at the same time (51, 52). The high rates of repeated visits in our sample, along with treatment often not commencing rapidly after an ED visit, suggest that in Canada, the ED may also represent a further loop in the maze of mental health services received by youth followed by child welfare services.

The police bringing individuals to EDs is representative of an established, and at times contentious, role of police services in responding to mental health emergencies (53, 54). This role has garnered negative attention both from the perspectives of police (55, 56) and individuals with mental health problems (57). Among youth populations, police are often called upon to de-escalate familial disputes or to help with crisis situations. Furthermore, both families and youth have sometimes described police involvement during a mental health crisis as stigmatizing and distressing (58). Yet, at least in our study, ED contact initiated by the police was least likely to result in a repeat ED visit, suggesting that even “negative” pathways to care can have at least some positive outcomes. Overall, a deeper focus is needed on the reasons for and repercussions of police involvement in youth mental health crises.

Our results showed a higher proportion of females in the ED user group, especially among repeat ED users. This is consistent with many studies from the general youth population (12, 30), which has been linked to the higher rates of self-harm and suicidal ideation in adolescent females (59, 60). This was also notable in our sample, as suicidal ideation represented the top reason for ED visits, and this was predominantly driven by females. The overall prominence of suicidality is a major concern for youth involved in child welfare. As demonstrated by our latent class analysis,

the trajectory to the ED followed by the largest number of youth was the one in which child welfare services workers brought youth to the ED for suicidal thoughts and behaviours. This points to a need for child welfare professionals to be well versed in risk assessment and for suicide prevention strategies to be embedded as essential components of child welfare services.

In addition, ED use was also more likely among youth with a history of sexual abuse, which was more common amongst females in our sample. This complex intersection between such adversities and ED use is significant as many youth involved in the child welfare system have a complex history of trauma, with high exposure to adverse events during childhood (61, 62). As such, trauma-informed approaches to both suicide prevention and mental health interventions in child welfare may be beneficial.

In our study, youth with a history of being placed outside the home were more likely to frequent EDs for mental health problems. This finding replicates other work on the association between placement instability and emergency mental healthcare use (38). Placements outside the family home often entail emotional complications, and studies have demonstrated an increase in psychiatric symptoms and behavioural problems in the 12 months following such placements (63, 64). On the other hand, youth with complex needs may be likelier to have disrupted family ties and thus require placements; these very needs may also increase their likelihood of requiring emergency services. Further, it has been shown that youth placed outside of kinship care are likelier to receive mental health services than those who stay in their family homes (39, 65, 66). This suggests that placement itself may serve to trigger evaluations that identify mental health needs and thereby, initiate the pathway to mental health care. The confluence of these findings points to a need for child welfare services to monitor the emotional and psychiatric needs of youth in placement, who are at heightened risk for psychiatric emergencies.

Our study has certain limitations. Due to the nature of our dataset, we lacked clinical information such as severity of symptoms. This limited our ability to determine whether ED visits were for urgent psychiatric problems or for unmet non-urgent needs. Further, while we examined associations between specific variables and ED use, we could not capture mediation or moderation effects, primarily due to sample size limitations. For example, high levels of suicidal behaviour may be mediating the relationship between gender and ED use. Additional research is therefore necessary to examine indirect relationships between the factors identified in this paper. For the latent class analysis, our relatively small sample size precluded us from adding multiple

classification variables, thus limiting our understanding of other possible differences between trajectories.

Efforts are currently underway in Quebec (67) to re-assess critical policy and practice standards related to best practices for youth in child welfare settings. Our study underlines that these efforts must have a greater focus on the mental health needs of this population so as to reduce their adverse outcomes. Furthermore, our results speak to the need for stronger coordination between child welfare, youth mental health services and EDs.

## Data Access

Proposals to access data from this study can be submitted to the corresponding author and may be made available upon data sharing agreement.

## Conflicts of Interest

The authors have no conflicts to disclose.

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