



## RESEARCH ARTICLE

# Emergency Department Referrals for Adolescent Urgent Psychiatric Consultation: Comparison of Clinical Characteristics of Repeat-presentations and Single-presentation

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## Abstract

**Objective:** a) to examine the demographic and clinical characteristics of repeat-presentations to an adolescent urgent psychiatric clinic, and b) to compare them with single-time presentation. **Method:** This 18-month retrospective study compared repeat-presenters to age and gender matched single-time presenters. Demographic variables included age gender and ethnicity. Clinical variables included reason for referral, family history, diagnosis, recommendations and compliance. Data were analyzed using descriptive statistics, McNemar's Chi-square tests for matched pairs, and conditional logistic regression. **Results:** Of 624 assessments 24% (N=151) were repeat-presentations. Compared with single-presentation, repeat-presentation group had a higher proportion of Aboriginal youth (X2 (1) = 108.28 p < 0.01), a higher proportion in special educational placement (X2 (1) = 6.82, p < 0.01), a higher proportion with a family history of anxiety disorders (X2 (1) = 10.62, p = 0.01) and substance use disorder (X2 (1) = 18.99, p < 0.01). Conditional logistic regression results suggested that repeat-presentation group had higher odds of past hospital admission (OR: 3.50, p < 0.01) higher odds of family history of mood disorders (OR: 4.86, p < 0.01) and of antisocial disorders (OR: 4.97, p = 0.02), and lower odds of recommendation compliance (OR: 0.10, p < 0.01). **Conclusion:** Repeat-presentations for urgent psychiatric consultation constitute a quarter of referrals to the urgent psychiatric clinic. Identifying and addressing factors that contribute to repeat-presentations may, assist in improving treatment compliance by ensuring focused interventions and service delivery for these youth. In turn, this will improve access to the limited urgent services for other youth.

**Key Words:** repeat-presentation, adolescents, psychiatry, urgent consult, mental health crisis, repeat-presentation, adolescent, psychiatry, urgent consult

## Résumé

**Objectif:** a) Examiner les caractéristiques démographiques et cliniques des visites répétées à une clinique psychiatrique d'urgence pour adolescents et b) les comparer à celles d'une visite unique. **Méthode:** Cette étude rétrospective sur 18 mois a comparé les visiteurs répétés avec des visiteurs uniques appariés selon l'âge et le sexe. Les variables démographiques comprenaient l'âge, le sexe et l'origine ethnique. Les variables cliniques étaient notamment la raison de l'aiguillage, les antécédents familiaux, le diagnostic, les recommandations et l'observance. Les données ont été analysées à l'aide de statistiques descriptives, de tests du chi carré de McNemar pour paires appariées, et de la régression logistique conditionnelle. **Résultats:** Sur les 624 évaluations, 24% (N = 151) étaient des visites répétées. Comparé aux visiteurs uniques, le groupe des visites répétées avait une proportion plus élevée de jeunes autochtones (X2 (1) = 108,28, p < 0,01), une proportion plus élevée de placements en éducation spécialisée (X2 (1) = 6,82, p < 0,01), et une proportion plus élevée de sujets ayant des antécédents familiaux de troubles anxieux (X2 (1) = 10,62, p = 0,01) et de troubles d'utilisation de

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Submitted: April 17, 2017; Accepted: September 16, 2017

substances ( $X^2(1) = 18,99, p < 0,01$ ). Les résultats de la régression logistique conditionnelle suggéraient que le groupe des visites répétées avait des probabilités plus élevées d'hospitalisations passées (RC 3,50,  $p < 0,01$ ), des probabilités plus élevées d'antécédents familiaux de troubles de l'humeur (RC 4,86,  $p < 0,01$ ) et de troubles antisociaux (RC 4,97,  $p = 0,02$ ), et des probabilités plus faibles d'observance des recommandations (RC 0,10,  $p < 0,01$ ). **Conclusion:** Les visites répétées pour une consultation psychiatrique urgente constituent un quart de l'aiguillage à la clinique psychiatrique d'urgence. Identifier et aborder les facteurs qui contribuent aux visites répétées peut aider à améliorer l'observance du traitement en assurant des interventions ciblées et la prestation de services à ces jeunes. Cela améliorera ensuite l'accès aux services d'urgence limités pour les autres jeunes.

**Mots clés:** *visites répétées, adolescents, psychiatrie, consultation urgente, crise de santé mentale*

Over the last decade, Canada and the USA have seen a significant increase in General Emergency Department (ED) and Pediatric Emergency Department (PED) visits by children and youth for mental health problems. PED have become the primary portal for access to mental health services and a quarter of all ED and PED visits are for mental health problems (Chun, Katz, Duffy, & Gerson, 2015; Newton et al., 2010; Sheridan et al., 2015). A recent study of mental health service use amongst children and youth in Ontario reported an increase of 32.5% for 2006-2011 (Gandhi et al 2016). A study examining the relationship between ED use and connection to outpatient mental health care, reported that those who had a second visit to ED, had a five-time higher chance of connection with outpatient mental health care and that more than half the presentations were for non-suicidal, non-psychotic disorders at the first and repeat visits (Frosch, dosReis, & Maloney, 2011). Some of the factors that are known to contribute to increase in ED visits include inadequate community mental health resources, long wait-times for access to mental health services (Hamm et al., 2010; Sheridan et al., 2015) and a chronic shortage of child and adolescent psychiatrists to serve these patients (Gloff, LeNoue, Novins, & Myers, 2015).

Although a number of studies have examined the characteristics of adolescents who visit the ED for suicide related behaviors (SRB) or aggression (Chun et al., 2015), only a few studies have focused on repeat-presentations to child and adolescent Psychiatric Urgent/crisis clinics. One of the few studies of repeat-utilization of child psychiatric emergency services was an 18-month retrospective chart review of youth <19 years of age (N=556) referred for emergency psychiatric consultation, 24.6% of these were repeat-presenters. There was a statistically significant association between repeat-presentation and admission to hospital, poor follow-up compliance and likelihood of involvement with Child welfare agencies. This study found that interventions in the emergency room did not appear to change the way repeat-presenters used emergency services (Cole, Turgay, & Mouldey, 1991).

In Canada, most urban hospital ED' have access to some emergency/urgent/crisis child and adolescent psychiatric consultation service, yet there is little research on the

patterns of utilization of these services and their impact on patient outcomes.

The site for our study was the Child and Adolescent Mental Health Urgent Consult Clinic (CAMHUCC), a hospital based multidisciplinary urgent psychiatric assessment and brief intervention clinic. CAMHUCC is an ambulatory clinic, located in the division of Child and adolescent psychiatry and serves emergency departments within the South East Local Health Integration Network (SELHIN) and the remote James Bay communities. At present CAMHUCC provides three urgent consults a day for adolescents 12 to 17 years of age to be used by the ED physicians. In addition, one consult a day is allocated for community pediatricians, school boards and children's mental health agencies. Not all referrals are from the ED, almost a quarter of the referrals to the CAMHUCC are from community pediatricians and children's mental health services, and these do not differ from ED referrals in reason for referral. Pediatricians and community mental health services adhere to our collaboratively developed, formal referral process to access CAMHUCC. The clinic receives approximately 500 referrals per year, assessment is provided within 48 hours of referral, Monday to Friday. The brief intervention component of CAMHUCC includes medication stabilization, individual/family crisis intervention and further triage to the most appropriate clinic or services.

ED physicians refer almost all youth who present with suicidal ideation or threats to CAMHUCC except, in case of high lethality attempt requiring medical observation/stabilization. In our ED there is no child and adolescent psychiatry interventions, patients presenting to the ED are either given an appointment in the CAMHUCC or the On-call psychiatry team is consulted. This team is primarily staffed by general psychiatry residents and adult psychiatrists, a Child and adolescent psychiatrist maybe on call three times a month). The psychiatry on-call team may discharge the patient, give an appointment in CAMHUCC or admit to the inpatient ward (<1% of ED presentations). Due to the number of visits in the ED and PED, there is an ongoing pressure by them to increase the number of urgent psychiatric consults in the CAMHUCC.

The present study was conducted in an effort to examine ways to increase access by reducing the number of inappropriate referrals to CAMHUCC. As repeat-presentations constitute a significant proportion of referrals, we focused on this group, which, if reduced, would allow for increased access and more importantly, address the factors that lead to repeat-presentation. Repeat-presentations may be an indicator of patient complexity, inadequate resources for implementation of previous recommendations, geographical distance from services or, family psycho-social factors that interfere with follow through and lead to crisis oriented help seeking. Thus, the aim of our study was to examine the demographic and clinical characteristics of repeat-presentations as compared to single-presentations in an effort to identify and address factors that contribute to repeat-presentations.

## Methods

This was an 18-month retrospective study of adolescents 12 to 17-year-old who were referred more than once, to the CAMHUCC from 1<sup>st</sup> Jan 2014 to 30<sup>th</sup> June 2015. CAMHUCC is located within the division of child and adolescent psychiatry outpatients and provides urgent psychiatric assessment in the hospital or through telepsychiatry for remote and rural emergency departments within the SELHIN and James Bay Coastal communities. The criteria for referral to CAMHUCC had been communicated in person and in written brochures to ED Physicians, Pediatricians, school boards and Children's mental health services. The latter two can access the allocated community consults of the CAMHUCC by faxing a written request, these are reviewed by the team and appropriate action is taken depending on acuity and severity of complaints. Ethics approval for this study was provided by the Queen's University Research Ethics Board.

## Data Collection

All patients who presented more than once in the 18-month study period, formed the study group (SG). The Comparison group (CG) consisted of randomly selected, age and gender matched patients who had a single-presentation to CAMHUCC during the same period. The clinic database gathers information on the following variables: age, gender, ethnicity, living situation (with biological family or under the care of child welfare agency), referral source, reason for referral, family psychiatric history, and special education plan, bullying victimization, and substance use/abuse, physical and/or sexual abuse, past admissions, diagnosis, recommendations and post assessment compliance. As preliminary review of data showed that some diagnosis had only one or two occurrences, thus for the data analysis we collapsed diagnoses into five broad diagnostic groups: Adjustment Disorder, Anxiety Disorders, Mood Disorders,

Externalizing Disorders (Oppositional Defiant Disorder, Attention Deficit-Hyperactivity Disorder, Conduct Disorder and Substance Use Disorders), and Others (Autism Spectrum Disorder, Eating Disorders and Psychotic Disorders). Treatment recommendations included: referral to Children's Mental Health Agency (CMHA), brief follow-up in CAMHUCC (four weeks), referral to one of the other outpatient clinics or admission to inpatient psychiatry.

## Statistical Analysis

All data were anonymized before analysis. Frequency and percent distribution was reported for categorical variables, while range mean and standard deviation was reported for continuous variables. McNemar's Chi-square tests were used to assess association between dichotomous variables of interest. Conditional logistic regression was used to assess association between dichotomous and categorical variables captured in the CAMHUCC database. Odds ratios of the study group relative to the control group were used to determine strength of association for both demographic and clinical variables of interest. A *p* value of  $\leq .05$  was used to determine statistical significance. Statistical analyses were performed using Stata version 14 (StataCorp LP., 2015).

## Results

During the study period 624 patients were assessed by CAMHUCC, of these 151 patients had one or more repeat-presentation to the clinic (SG). CG consisted of 151, age and gender matched patients, who had a single presentation during the same 18 months. Participants age ranged from 12 years to 17 years. The average age of the participants was 14.44, *SD* =  $\pm 1.91$  years and 64% were females. In the SG 18 out of the 151 youth (11.9%) identified as aboriginal: one lived in a remote northern community, seven in group homes and ten with their families within the SELHIN. In the CG eight youth (5.29%) identified as aboriginal: one lived in a northern community, one in a group home and six with their family in the SELHIN. Table 1 presents the results of the frequency distribution and McNemar Chi-square test for both groups.

Conditional logistic regression results of comparison of SG with CG suggests that in comparison to CG members, SG had 3.5 times higher odds of past admission to hospital, 4.86 higher odds of a family history of psychiatric diagnosis; 68% greater odds of having a family history of disruptive/antisocial disorders, 60% greater odds of a diagnosis of disruptive behavior disorders and 90% lower odds of treatment compliance.

<b>Table 1. Clinical characteristics</b>		
	Multiple presentations (n=151)	Single presentations (n=151)
Aboriginal	11.92%**	5.96%
Living arrangement		
With both parents	56.95%	63.58%
Other caregivers	43.05%**	36.42%
Academic Level		
Applied/Academic	56.95%	63.58%
Special Education Plan	43.05%**	36.42%
Reason for Referral		
Self-harm/suicide	58.94%	57.62%
Aggression	15.98%	15.23%
Anxiety	9.93%	14.57%
Depression	15.23%	12.58%
Referral source		
Pediatricians	21.19%	25.17%
Community mental health/school	13.25%	23.18%
Emergency Department	65.56%	51.66%
Family History		
Mood disorders	63.58%*	52.98%
Anxiety disorders	42.38%**	32.45%
Externalizing/antisocial disorders	56.95%	45.70%
psychotic disorders	12.58%	13.91%
Bullying victimization	53.35%	52.32%
Substance use/Abuse	37.75%**	28.48%
Physical Abuse	19.87%**	13.25%
Sexual Abuse	22.52%**	15.89%
Past Admission	14.91%**	3.97%
Diagnosis		
None	2.65%	6.62%
Others	15.89%	19.87%
Adolescent adjustment disorder	18.54%	22.52%
Anxiety disorder	19.21%	21.19%
Mood disorder	11.26%	8.16%
Externalizing Disorder	32.45%	21.19%
Recommendations		
Brief follow-up	56.29%	53.64%
Admission	15.89%	11.26%
Referral to CMHA	21.85%	23.84%
Referral to internal OP	5.96%	11.26%
Recommendation Compliance	45.70%	90.07%
** McNemar's X Significant at p< 0.01.		
*McNemar's X Significant at p=0.03.		

## Discussion

This study examined the demographic and clinical characteristics of adolescents who presented more than once to a hospital based urgent psychiatric clinic, and compared them to those who presented once. Some of our study results, such as age, gender, reason for referral and diagnosis were similar to previous studies of urgent psychiatric clinic presentation for mental health crisis (Lee & Korczak 2010; Roberts, Booi, Axas, & Repetti, 2016). Unlike previous studies, Aboriginal females were over-represented in our SG. A possible explanation may be, the number of private group homes in the clinic's catchment, some of which, exclusively serve Aboriginal adolescents from remote communities. These group homes are used by Children's Aid societies across the province for youth with chronic suicide related behaviors in the context of neurocognitive vulnerabilities, deprivation, neglect, abuse and multiple placement breakdowns. These youth have equal access to all hospital based and community resources, which include brief intervention at CAMHUCC, other hospital based specialty clinics and culturally sensitive, individual and groups interventions in the community. Youth compliance with recommendations and follow-up remains challenging for the group home staff and the clinic. Another explanation for this is the access to CAMHUCC Urgent consults over the Ontario Telehealth Network (OTN) for the EDs in the James Bay Coastal communities. These ED struggle with scarcity of appropriate children's mental health supports to provide services, and to ensure follow through with youth and families who have many psychosocial vulnerabilities.

Our SG differed from the CG in higher rate of sexual abuse, substance use and learning disabilities amongst the youth, and positive family psychiatric history of substance abuse/antisocial disorders and mood disorders. Combined together these factors not only confer biopsychosocial vulnerabilities in the youth, but parental psychopathology effect their ability to provide consistent structure and compliance with treatment recommendations, leading to crisis oriented help seeking. The higher rate of past admission in our study group, are similar to those reported in other studies (Cole et al., 1991) and could be a function of above mentioned factors and, the long wait-times in our ambulatory clinics due to staffing shortages during the study period. That there was no difference between the two groups in referral for treatment following CAMHUCC assessment is explicable, repeat-presenters to CAMHUCC had a previous visit and had been referred to CMHA or to hospital based clinics if deemed necessary. The SG did not differ from CG in the reason for referral, clinic assigned diagnosis and disposition, almost a quarter of both group were referred onto CMHA. In our region these agencies have worked in close collaboration with the division of child and adolescent psychiatry and the school boards to develop programs for externalizing disorders, and programs for youth who have experienced any type of abuse and may have comorbid substance use/

abuse. We did not expect a similar rate of repeat-presentation for CAMHUCC as reported for General ED in Canada (Newton et al., 2010) as at the establishment of CAMHUCC in 2012, we had provided extensive education to ED physicians, Pediatricians, Children Mental Health Agencies, and school boards on triage and appropriate use of the expedited CAMHUCC services. Thus repeat-presentation in our study may be an indicator of the low threshold for urgent referrals in the ED triage due to staff turnover, crisis orientated help seeking for psychosocial crises by families and despite the efforts of CMHS, the lack of engagement and follow through with appropriate intervention recommended at initial referral. The significant difference between SG and CG on treatment compliance highlights not only family and youth factors but also some of the gaps in adequate resources to ensure follow-up after consultations.

The results of this study are being used to develop interventions to reduce repeat-referrals to the CAMHUCC. These interventions involve formal resident seminars, with case examples of repeat-presentations and an algorithm for triage. The algorithm provides direction such as, quick review of outcome of past Urgent consult (these are available on the hospital medical record system), establishing whether recommendations from the previous urgent assessment were followed or not, triage to most appropriate community mental health resources, redirection to outpatient physicians/treatment team. We have realized that ED staff and Pediatricians need yearly refresher education in formal seminar and in written brochure so that they adhere to the criteria for use of CAMHUCC. For community agencies, quarterly meetings are held for discussion of referrals and information sharing about appropriate use of the Urgent consults. At the time of writing this article, data is being gathered to track changes in referrals patterns and study whether the above have an impact on the referrals. We think the number of repeat-presentations can be reduced by above strategies. We have evidence form a previous study of efficacy of these interventions in reducing inappropriate referrals to ED and admission to the ward (Parker et al., 2003)

## Acknowledgements / Conflicts of Interest

The authors have no financial relationships to disclose. The authors would like to thank Nicholas Axas MSW and Leanne Repetti RN for maintaining the data base.

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