

This is the accepted version of the following article: Fleury MJ, Imboua A, Grenier G. Barriers and facilitators to high emergency department use among patients with mental disorders. A qualitative investigation. Community Ment Health J. 2024 Feb 21. doi: 10.1007/s10597-024-01239-w

Abstract

This qualitative study explored reasons for high emergency department (ED) use (3+ visits/year) among 299 patients with mental disorders (MD) recruited in four ED in Quebec, Canada. A conceptual framework including healthcare system and ED organizational features, patient profiles, and professional practice guided the content analysis. Results highlighted insufficient access to and inadequacy of outpatient care. While some patients were quite satisfied with ED care, most criticized the lack of referrals or follow-up care. Patient profiles justifying high ED use were strongly associated with health and social issues perceived as needing immediate care. The main barriers in professional practice involved lack of MD expertise among primary care clinicians, and insufficient follow-up by psychiatrists in response to patient needs. Collaboration with outpatient care may be prioritized to reduce high ED use and improve ED interventions by strengthening the discharge process, and increasing access to outpatient care.

Keywords: high emergency department use; mental disorders; barriers to care; care facilitators; service use; quality of care.

Acknowledgments

We gratefully acknowledge the support of the Canadian Institutes of Health Research (CIHR). We would also like to thank all the participants who contributed to this research, the steering committee, and the research team.

Statements and Declarations

Competing Interests

The authors report no conflicts of interest.

Barriers and facilitators to high emergency department use among patients with mental disorders: a qualitative investigation

Introduction

Emergency departments (ED) are a key component of the healthcare system, as they are one of the very few services widely accessible (i.e., 24/7) to patients in need (Kromka & Simpson, 2019). ED use is also an important indicator of the quality of healthcare systems. Defined as 3+ visits to ED per year (Brennan et al., 2014; Gaulin et al., 2019), high ED use strongly contributes to ED overcrowding (Burns, 2017). Patients with mental disorders (MD), including substance-related disorders (SRD), are known to be among the most frequent ED users (Vandyk et al., 2013). A multicenter longitudinal study conducted in 2008-2010 evaluating ED use among 1.76 million adults in the US found that, compared to patients without MD, those with MD were 4.7 times more likely to be high ED users (Brennan et al., 2014). Other studies found that high ED users with MD accounted for between 38% to nearly half of ED visits for mental health reasons, this while only representing 8% to 17% of all ED users (M.-J. Fleury et al., 2019; Schmidt, Ekstrand, & Bengtsson Tops, 2018). Patients with MD are often affected by co-occurring physical illnesses (Lin et al., 2015) and suicidal behaviors (Gili et al., 2019), which increases their risk of becoming high ED users. The high ED use of patients with MD may also be due to problems in access, continuity, or adequacy of outpatient care (Aagaard et al., 2014; Li et al., 2022). For about 45% of patients, ED is also the entry point to healthcare services, and may in fact be the only resource available to them (M. J. Fleury, M. Fortin, et al., 2019; Kurdyak et al., 2021). But as it is one of the costliest healthcare service (Heyland & Johnson, 2017), ED should not replace outpatient care, particularly for such vulnerable patients. Some ED visits might be prevented if alternative care was made more available. A better understanding of barriers and facilitators to high ED use among patients with

MD may contribute to recommendations that could help improve ED's response to these patients' needs.

While numerous quantitative investigations based on medical records have been published, relatively few qualitative studies provide reasons for the repeated use of ED by patients with MD (Aagaard et al., 2014; Digel Vandyk et al., 2018; Li et al., 2022; Poremski et al., 2020; Schmidt, Ekstrand, & Tops, 2018; Vandyk et al., 2019). These studies often report high ED use as being inevitable (Digel Vandyk et al., 2018), attributing it to a lack of knowledge regarding care alternatives (Parkman et al., 2017a), limited access to care (Digel Vandyk et al., 2018), or the incapacity of outpatient care to respond to the patients' needs (Poremski et al., 2020). High ED use was also associated to patients being involuntarily admitted to ED due to suicidal behaviors, violence, intoxication, acts of public nuisance (McCormack et al., 2015; Poremski et al., 2020; Vandyk et al., 2019), or because they were referred there by a care provider or relative (Wise-Harris et al., 2017). High ED users were usually identified as patients with few support networks to help them cope with MD (Poremski et al., 2020; Wise-Harris et al., 2017). Patients reportedly used ED as a last resort, when feeling threatened by their health conditions (Parkman et al., 2017b; Vandyk et al., 2019; Wise-Harris et al., 2017). ED was often perceived as a safe and secure place for patients with multiple health issues and social problems, including unstable housing (Parkman et al., 2017a, 2017b; Poremski et al., 2020; Wise-Harris et al., 2017). Some patients also said they felt stigmatized by ED clinicians, or that they received poor care (Wise-Harris et al., 2017). In quantitative investigations, predictors of high ED use were mostly associated with being male (M. J. Fleury, L. Rochette, et al., 2019; Schmidt, 2018), younger (Boyer et al., 2011; Sirotich et al., 2016), of lower socioeconomic status (Moulin et al., 2018), and diagnosed with schizophrenia

(Kaltsidis et al., 2020; Vu et al., 2015), SRD (Moulin et al., 2018; Vu et al., 2015), or personality disorders (Chang et al., 2014; Richard-Lepouriel et al., 2015).

The few existing qualitative studies were based on small samples of high ED users (Digel Vandyk et al., 2018; Poremski et al., 2020), recruited patients from too few ED settings (Poremski et al., 2020; Schmidt, Ekstrand, & Tops, 2018), or focused on some specific MD diagnoses (e.g., personality disorders [(Vandyk et al., 2019)], alcohol-related disorders only [(Parkman et al., 2017b)]). Moreover, we found no previous studies that used a conceptual framework to study the reasons for high ED use from the perspective of patients with MD; such a framework would allow us to structure findings in a more comprehensive way and recommend more targeted service improvements. Previous literature suggests that healthcare system features, patient profiles, professional practice, and organizational characteristics within ED may reveal multiple reasons for high ED use. Using a framework for studying high ED use may also guide decision-makers by highlighting deployment strategies in outpatient care and professional practices, and informing us on patient behaviors, ultimately contributing to the development of personalized care and the reduction of unmet needs. Based on 299 patients with MD recruited in four large ED located in Quebec (Canada), this study aimed to explore reasons for high ED use, so we can formulate recommendations that could improve care for this vulnerable population.

Methods

Study context

In Quebec, most health and social services, including medical and some psychosocial services, are public (Ministère de la Santé et des Services Sociaux, 2017). Primary mental health care relies on medical clinics staffed by general practitioners and community healthcare centers that mainly provide psychosocial services. As complements to the mental healthcare system, helplines, crisis centers, suicide prevention centers, and detox centers are mostly run by community-based

1
2
3
4 organizations, with counseling services provided by psychologists working mainly in the private
5
6 system. Specialized MD care is provided by the psychiatric departments of general or psychiatric
7
8 hospitals, or in addiction treatment centers for patients with SRD (Ministère de la santé et des
9
10 services sociaux (MSSS), 2022). Patients access public services for MD in community healthcare
11
12 centers or psychiatric specialized care, through one-stop services provided by these community
13
14 centers. However, receiving the appropriate outpatient services can be a lengthy process
15
16 (Champagne et al., 2018; Fleury et al., 2016; Ministère de la Santé et des Services sociaux (MSSS),
17
18 2021; Vérificateur général du Québec, 2023).
19
20
21
22

23 ***Study setting and data collection***

24
25 Data for this exploratory qualitative study were drawn from a larger, mixed-methods study on high
26
27 ED users with MD involving four large ED of various types located in Quebec's healthcare
28
29 networks, serving roughly two million inhabitants – about one fourth of the province's population.
30
31 The first ED was in a university-affiliated psychiatric hospital. The second was in a psychiatric
32
33 hospital merged with a general hospital; most patients were admitted in the latter before being
34
35 transferred to the psychiatric hospital ED, which was located nearby. The third was a psychiatric
36
37 ED in a university-affiliated general hospital, whose patients were also referred to the psychiatric
38
39 ED by the general ED, with both being in the same location. The fourth was a general ED located
40
41 in a general hospital that included mental health clinicians.
42
43
44
45
46
47

48 Data were collected between March 1, 2021 and May 13, 2022. Participants had to be at
49
50 least 18 years old, able to communicate in French or English, and sufficiently functional to
51
52 complete a structured interview. If a participant was not sufficiently functional (i.e., too intoxicated
53
54 or disorganized), the interview was postponed. Participants were required to grant the research
55
56 team access to their medical records; they had to be diagnosed with a MD, including SRD, and be
57
58
59
60
61
62
63
64
65

high ED users, defined as 3+ visits to ED due to mental health conditions within the 12 months preceding their interview (M. J. Fleury, L. Rochette, et al., 2019; Gaulin et al., 2019). Recruitment was conducted randomly based on patient medical records – though taking into account the time of year when ED was used. More specifically, when selecting patients from each network, ED clinicians made sure that the sample was balanced by including patients who made ED visits at different periods of the year (e.g., winter, spring). The coordinates of the first 450 patients willing to take part in the study were transmitted to the research team, as they were deemed potential participants. The research coordinator then contacted each of them to validate their willingness to participate in the study, and scheduled a one-hour structured telephone interview featuring closed- and open-ended questions. With a total answering time of about 20 minutes, these open-ended questions had been validated by a steering committee of ED managers and clinicians. They probed reasons for high ED use, and what patients liked or disliked the most about ED use and outpatient services, including professional practice issues that could explain their high ED use. The steering committee was set up to help with study design and recruitment. Two interviewers conducted the interviews using LimeSurvey, while being closely monitored by the research team. The qualitative responses were recorded, then transcribed verbatim.

The interviews included a survey covering a broad range of sociodemographic and clinical characteristics that were used to articulate patient profiles: sex, age group, education, civil status, occupation (e.g., unemployed), household income (\$Can/year), type of housing (e.g., supervised), suicidal behaviors (attempt or ideation), and service use patterns (e.g., having a case manager). Patients were also asked if they had consulted outpatient services before deciding to go to an ED. These data were self-reported and mostly based on multiple choice questions – or, in some cases, standardized scales.

Medical records were also used to identify patient health diagnoses, based on the ED database (BDCU) and inpatient/hospitalization database (MED-ECHO), as framed by the International Classification of Diseases, Tenth Revision, for Canada (ICD-10-CA) (codes detailed in Appendix 1). Referring to exclusive groups, principal MD included serious MD (schizophrenia spectrum and other psychotic disorders, bipolar disorders, personality disorders), common MD (e.g., anxiety, depressive and adjustment disorders), and SRD (alcohol and drug use, including induced use, intoxication, or withdrawal), in that order. As SRD tend to be underdiagnosed in medical records (Huynh et al., 2021), two standardized scales were included in the interviews and merged with results from medical records: the Alcohol Use Disorders Test (AUDT) (Bohn et al., 1995) and the Drug Abuse Screening Test-20 (Skinner, 1982). Chronic physical illnesses were identified based on the Charlson and Elixhauser Comorbidity indexes (Simard et al., 2018). High ED use was measured based on the ED database (BDCU). Data from medical records were merged with survey responses. Data from the survey and medical records were collected for the 12-month period preceding each patient's interview. Patients provided consent to participate in the study prior to completing their interviews and received a modest financial compensation. The study followed the Consolidated Criteria for Reporting Qualitative Studies (COREQ) (Tong et al., 2007). The multi-site protocol was approved by the ethics board of the Douglas Mental Health University Institute.

Analyses

Descriptive analyses were produced for the quantitative data, while content analysis (Braun & Clarke, 2006) was performed on the qualitative data. The latter followed 6 steps: (1) becoming familiar with the data; (2) generating initial codes and an analysis grid; (3) combining codes into themes; (4) reviewing themes and verbatims for analysis consistency and completeness; (5)

1
2
3
4 presenting and describing themes clearly, with relevant quotes; (6) interpreting the data. A
5
6 conceptual framework (**Figure 1**) based on previous implementation models (Damschroder et al.,
7
8 2009; Fixsen et al., 2005; Greenhalgh et al., 2004) guided the content analysis, featuring the main
9
10 barriers and facilitators to the implementation and deployment of innovations in healthcare
11
12 services. Adapted from a previous study on barriers and facilitators to care in ED (M. J. Fleury, G.
13
14 Grenier, et al., 2019), this framework included four dimensions contributing to high ED use:
15
16 healthcare system features outside ED (e.g., access to services, adequacy of care); patient profiles
17
18 (e.g., biopsychosocial problems, need for prompt care); professional practice (e.g., related to
19
20 primary care with general practitioners or specialized care with psychiatrists); and ED
21
22 organizational characteristics (e.g., access to care or adequacy of care in ED). The analysis
23
24 accounted for the importance of each theme reported by patients (number, percentage). The rigor
25
26 of the study was enhanced by the composition of the research team, which integrated ED clinicians
27
28 with diverse expertise, by strategies that included adequate training and close monitoring of the
29
30 research agents, and by the steering committee's validation of instruments. The initial steps of
31
32 identifying, grouping, and refining codes to fit the analysis grid involved a 90% inter-rater
33
34 agreement procedure for 10% of the verbatim to minimize the impact of personal biases and
35
36 assumptions. Saturation of the data was reached. A reflective journal was kept throughout the
37
38 analytical process, and the team researchers, many of them with great ED use expertise, met to
39
40 discuss individual considerations and identify possible blind spots.
41
42
43
44
45
46
47
48
49

50
51 **(Insert Figure 1 here)**
52

53 **Results**

54 **Description of participants**

55
56 Of the 450 ED users referred to the study, 50 could not be reached and 300 accepted to participate,
57
58 for a 75% response rate. One patient withdrew from the study. Of the 299 patients in the final
59
60
61
62
63
64
65

sample, 55% were women, 39% were between 30 and 49 years old; 57% had a post-secondary education; 82% were single, 46% unemployed; 47% had a household income of less than \$20,000 (Canadian dollars), and 58% lived in rental housing (**Table 1**). In the 12 months before their interview, 44% had received a principal diagnosis of serious MD, 23% personality disorders, 24% common MD, 9% SRD without MD, while 54% reported suicidal behaviors, 45% co-occurring chronic physical illnesses, 38% MD-SRD, and 22% MD-SRD-chronic physical illnesses. Most patients (85%) reported they did not seek help from outpatient care for their MD before going to the ED. Finally, 58% of patients had a case manager.

(Insert Table 1 here)

Barriers and facilitators explaining high ED use

Table 2 shows barriers and facilitators explaining high ED use among patients with MD, including overall negative or positive experiences with either outpatient services, mental health clinicians, or ED services. **Table 3** features quotes of patients as they describe the main barriers and facilitators to their high ED use. Regarding healthcare system features, most patients (56%) reported more negative experiences than positive ones with outpatient care. Roughly half the patients said the main reasons for their high ED use involved insufficient access to services (52%) and inadequacy of outpatient care (55%). Though identified by fewer patients (20%), continuity of care was considered protective against high ED use. Most patients reported long wait times for access to outpatient care, often exceeding 6 months, during which no alternative services were offered. Psychosocial follow-up care in community healthcare centers and access to family physicians or general practitioners in walk-in clinics, as well as to psychiatrists, was particularly hard to obtain. Patients had to deal with lengthy procedures for accessing outpatient care, with no or few services available during evenings, weekends or overnight. Help was also lacking from community-based organizations, including a lack of assistance for strengthening community

1
2
3
4 integration or social networks. Patients reported poor communication and collaboration between
5
6 primary and specialized care providers, including a failure to share medical records within the
7
8 healthcare network. Patients also felt stigmatized, especially those with a criminal record and/or
9
10 SRD, saying the health networks often did little to address the situation. They remembered being
11
12 transferred too hastily from outpatient care to ED while in crisis. Conversely, patients identified
13
14 barriers to high ED use that included frequent and flexible follow-up care, patient-centered
15
16 biopsychosocial approaches (including best practices in medication management), and self-
17
18 management tools (including crisis resolution techniques).
19
20
21
22

23
24 **(Insert Table 2 here)**
25

26 Patient profiles that justified high ED use were mainly associated with acute health and social
27
28 issues. About one quarter of patients reported using ED for suicidal ideation or self-injury, social
29
30 problems (e.g., financial, housing or food difficulties) or crisis situations (e.g., death or separation
31
32 of a loved one), intoxication or psychotic episodes, and medication issues (e.g., side effects). In
33
34 particular, patients without a usual physician, either family physician or psychiatrist, had to use
35
36 ED for medication renewals. Nearly one third of patients identified the lack of information
37
38 concerning their conditions, of services offered by community-based organizations, and of options
39
40 to facilitate crisis management and recovery as justifications for their high ED use. Roughly one
41
42 fifth of participants had used ED involuntarily, as they were brought there either by the police,
43
44 through court order, or by a relative. A few others (5%) mentioned using ED “out of habit”, or
45
46 because their medical records were at that hospital. But what mainly drove patients to ED was
47
48 their need for prompt access to care and rapid and adequate support, neither of which were
49
50 available in outpatient care.
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Overall, few patients found professional practice to be a reason for their high ED use. Less than one fifth of them expressed concerns regarding the attitude of clinicians, the quality or adequacy of care, or issues around accessibility. Over half the patients (54%) reported more negative experiences than positive ones with clinicians. Specifically, they criticized general practitioners and crisis centers for their lack of expertise on MD, especially complex and severe MD. Patients felt that care professionals tended to refer them to ED too swiftly when they were in crisis or needed access to a psychiatrist. Patients also thought general practitioners lacked interest in treating MD, or in listening to their needs and concerns. They also offered too few psychotherapy sessions, which were mostly available through psychologists working in the private sector yet scarcely accessible to patients without insurance. Even patients with insurance faced yearly thresholds in monetary terms and in the number of sessions covered, both of which often fell short of their needs. Psychiatrists were criticized for not providing sufficient follow-up, for not making themselves available when patients were in crisis, and for not sufficiently coordinating care with other psychosocial resources. A minority of participants reported having a weak therapeutic alliance with their psychiatrist: listening skills, giving patients information about their conditions, treatment options (including medication), and involvement in recovery planning were all considered less than optimal. Hospitalized patients felt they did not receive enough individual or group therapy, and faced the possibility of premature discharge without sufficient follow-up care, contributing to the revolving door syndrome. By contrast, addiction services, intensive case management, and assertive community treatment were perceived as protective against ED use by the few patients who were provided these services. Patients felt these services gave them strong alliances with clinicians, who listened to them without judgment, were readily available when

1
2
3
4 needed, and fully responded to their needs, including by resolving crises. Addiction services were
5
6 especially found to be more available after hospital discharge.
7
8

9 Regarding ED organizational features, patients expressed more overall satisfaction (72%) than
10 dissatisfaction with the care received in these settings. However, most criticized ED's discharge
11 process for leaving them without adequate referrals or alternatives for follow-up care. They felt
12 ED staff were not knowledgeable enough about available resources in the community. Conversely,
13
14 most patients viewed ED clinicians as highly competent, responsive to their needs, and felt they
15 had received adequate treatment in ED even though the wait was too long to see a physician. They
16 perceived ED to be understaffed, and clinicians frequently overworked or unavailable. They
17 mostly disliked requiring a referral from the general ED of a general hospital before being
18 transferred to the psychiatric ED. The lack of beds in ED sometimes required patients to wait
19 several days on stretchers before being transferred to inpatient units or psychiatric care. Nearly
20 half found that ED staff lacked empathy – especially patients with serious MD, who felt staff
21 stigmatized them and didn't listen to them. Some reported being restrained too soon and kept under
22 close supervision. More than a third mentioned they didn't receive sufficient explanation in the
23 ED regarding their MD conditions, prescribed medications, and treatment options; they also lacked
24 emotional support. About one quarter reported high physician turnover in ED and insufficient
25 collaboration among them, resulting in differing diagnoses and treatments for the same patient
26 from one physician to another. Some patients considered the ED environment not friendly,
27 comfortable, or safe enough, notably due to a lack of surveillance (especially at night), lack of
28 adequate rooms or quiet spaces, or insufficient separation between patients with serious MD or in
29 crisis and patients with milder conditions.
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56

57
58 **(Insert Table 3 here)**
59
60
61
62
63
64
65

Discussion

This study explored perceived barriers and facilitators to high ED use among patients with MD. These patients were quite vulnerable, which partly justifies their repeated ED use, and their profiles resembled those of high ED users found in previous research (Armoon et al., 2022; Buhumaid et al., 2015; Slankamenac et al., 2020). Roughly half had serious MD, suicidal behaviors, and chronic physical illnesses, while more than a third had co-occurring MD-SRD. Compared to the general Quebec population, about four times more patients with MD lived alone (82% vs. 17%) (Statistics Canada, 2017), nearly twice as many were unemployed (36% vs. 64%) (Statistics Canada, 2017), a third less owned their own homes (20% vs. 61%) (Statistics Canada, 2017), and their annual median income was less than one third that of the Canadian population (less than \$20,000 vs. \$60,000 in Canadian dollars) (Statistics Canada, 2017). Very few (15%) had consulted an outpatient service before deciding to use ED, accounting for their more negative experiences with outpatient care and clinicians in the treatment of MD. However, their experience with overall care provided in ED was quite positive, further justifying their high ED use. Patients focused more on reporting barriers than facilitators to care, as they experienced high levels of unmet needs. The barriers mentioned in relation to outpatient care were more numerous, with much improvement needed in ED care as well. Patients commented less on the dimensions involving patient profiles and professional practice.

Providing appropriate care to high ED users brings major challenges to the mental healthcare system, as the health issues this population faces are often too complex to manage in primary care. Patients, and especially those with serious MD, personality disorders or SRD, highlighted the general practitioners' lack of expertise, comfort, or interest in providing them with follow-up care – a factor that contributes to high ED use, according to the literature (Castillejos Anguiano et al., 2019; Fleury et al., 2021; Wakeman et al., 2016). In Quebec, access to family physicians remains

1
2
3
4 a key issue. In 2022, about 23% of the general population don't have one (Institut de la statistique
5 du Québec, 2023). However, general practitioners are the main providers used when having a MD
6
7 (Norton et al., 2018; Stephenson, 2023). More than patients with MD only, those with co-occurring
8
9 MD and chronic physical illnesses were found to have less chances of receiving mental health
10
11 services (Jolles et al., 2015) or adequate MD treatment (Menear et al., 2014) by general
12
13
14
15
16 practitioners in primary care settings.
17

18
19 Study participants reported using ED because they perceived it to be the most accessible and
20
21 appropriate service for managing health conditions requiring immediate care. While ED are used
22
23 by close to half of patients with incident MD as their first point of contact for treating their MD
24
25 (M. J. Fleury, M. Fortin, et al., 2019; Kurdyak et al., 2021), ED are also used as a last resort by the
26
27 most vulnerable populations when access to outpatient care is quite restricted (Nesper et al., 2016).
28
29 ED clinicians, however, may perceive repeated ED use as a failure in treatment, potentially leading
30
31 to a lack of sensitivity or empathy on their part as well as stigma against high ED users, as reported
32
33 in previous studies (Digel Vandyk et al., 2018; Wise-Harris et al., 2017). Few of the study patients
34
35 commented on the efficacy of professional practice overall (i.e., technical aspects of care)
36
37 (Campbell et al., 2000), even in psychiatric care. This may be explained by the fact that few of
38
39 them received continuous outpatient care, so more criticisms were aimed at the clinicians' attitude
40
41 (lack of empathy, poor listening skills, failure to involve patients in decisions concerning their
42
43 treatment, etc.). A better therapeutic alliance between patients and outpatient clinicians may reduce
44
45 unjustified ED use. Facilitators identified by patients highlighted the key role of the
46
47 clinician/patient therapeutic alliance, of frequent and flexible follow-up care, of developing
48
49 patient-centered approaches (Langberg et al., 2019) that respond more fully to patient needs, and
50
51 of crisis and self-management tools. Patient profiles, especially patient in crises involving suicidal
52
53
54
55
56
57
58
59
60
61
62
63
64
65

behaviors or intoxication, accounted for considerable ED use, which could possibly have been avoided if they had the support of a case manager in such situations. Almost half of the high ED users in the study (42%) did not have access to case management. Having a case manager could definitely be recommended to reduce ED use.

Healthcare system features and aspects of ED organization that patients reported to explain high ED use were mainly related to insufficient accessibility, adequacy and continuity of care, including lack of collaboration between ED and other providers. Numerous patients were forced to use ED to overcome the lack of outpatient services, thus compounding their high ED use. While previous Quebec mental health reforms were specifically aimed at improving access to services, long waitlists remained for both psychiatric care and psychosocial services, this in spite of the fact mental health teams were deployed in Quebec's community healthcare centers, and that case management teams were reinforced (Fleury et al., 2016; Ministère de la Santé et des Services sociaux (MSSS), 2021). And although Quebec's public health insurance does not cover services provided by private psychologists (Bartram, 2019), many initiatives were deployed to encourage greater access to psychotherapy (Vasiliadis et al., 2015) and to reinforce the deployment of stepped-care initiatives (Gouvernement du Québec, 2022; Roberge et al., 2015). Meanwhile, the opening hours and services of community-based organizations like crisis and suicide prevention centers or self-help groups, which could substantially help high ED users, have often been reduced due to underfunding (Réseau communautaire en santé mentale (COSME), 2019; Vérificateur général du Québec, 2023). Concerning adequacy and continuity of care, literature has repeatedly emphasized the importance of close patient monitoring and of patient-centered or recovery-oriented approaches (Dell et al., 2021) as ways of preventing high ED use, especially for patients with serious MD or co-occurring MD-SRD-chronic physical illnesses (Barker et al., 2020; Bischof

et al., 2021). Collaborative care (Kappelin et al., 2022) may also be more vigorously promoted in the follow-up of high ED users, this in order to better respond to their multiple needs and to improve integrated patient care and teamwork. Increasing the patients' social networks through rehabilitation and daytime activities might also be suggested to better integrate them into their communities, social determinants being key to the recovery of patients with MD (Podogrodzka-Niell & Tyszkowska, 2014; Reid et al., 2019).

Organizational aspects of ED could also be improved, like promoting a better attitude of staff towards patients (e.g., less stigmatization) and deploying strategies to increase follow-up care after ED discharge. Among the practices best known for helping reduce repeated ED use are assertive community treatment (Penzenstadler et al., 2019), intensive case management (Tsai et al., 2022), permanent supportive housing for homeless individuals with MD (Aubry et al., 2020), short-stay crisis units (Anderson et al., 2022), intensive home treatment (Lamb et al., 2020), and community crisis services (Siskind et al., 2013). Other initiatives involving care plans (Abello et al., 2012), peer support (Mulvale et al., 2019), and brief interventions (Stanley et al., 2015) have also shown promising results in terms of reducing ED use, and could be further tested in different ED settings (Gabet et al., 2023). Staff competence and knowledge regarding the services most appropriate for patient care, and care coordination are also key for effective teamwork in ED, as is continuing cross-training for staff (Perreault et al., 2009). These initiatives may also be more widely implemented.

Limitations

Some study limitations are worth mentioning. First, while high ED users were often affected by stigma, it is possible that some participants may have preferred not to disclose pertinent information regarding their experiences in ED or other healthcare services. Second, the responses

1
2
3
4 of some high ED users may have reflected memory bias. Third, as all ED in this study included a
5
6 psychiatric care unit, were located in large urban territories and operated under a public healthcare
7
8 system, the results cannot be generalized to other types of hospitals, territories or contexts. Fourth,
9
10 men and youth patients were underrepresented in the sample, and the study was based exclusively
11
12 on the patients' perception of their high ED use. Fifth, the perspectives of ED clinicians and
13
14 relatives of high ED users were not explored, although their perceptions would be very pertinent
15
16 and may have differed from those of the high ED users themselves. Finally, the various barriers
17
18 and facilitators to high ED use that were identified, as well as their respective impact, cannot be
19
20 considered equivalent.
21
22
23
24

25 26 **Conclusion**

27
28 This study was innovative in that it identified barriers and facilitators to high ED use based on the
29
30 perspectives of a large sample of patients with MD. Overall, patients identified more barriers than
31
32 facilitators in accessing outpatient care or for adequacy of care. For the most part, ED were
33
34 operating in silo, that is, insufficiently connected to outpatient care, whether psychiatric or primary
35
36 care. This context was found to be inappropriate in ways that favored the revolving door syndrome
37
38 among high ED users. Improving ED interventions in collaboration with outpatient care may thus
39
40 be prioritized to reduce high ED use, though ED should not replace outpatient care for these most
41
42 vulnerable patients. Better funding of outpatient mental health services, more training and
43
44 collaborative care among general practitioners in the treatment of MD might also be suggested,
45
46 along with more robust anti-stigma campaigns and incentives to increase MD treatment, especially
47
48 in primary care. Enhanced referral protocols, follow-up care after ED use and transfer processes
49
50 to outpatient care, care plans and case management programs should be highly recommended for
51
52 high ED users, with a view towards breaking the cycles that lead to high ED use.
53
54
55
56
57
58
59
60
61
62
63
64
65

References

- Aagaard, J., Aagaard, A., & Buus, N. (2014). Predictors of frequent visits to a psychiatric emergency room: a large-scale register study combined with a small-scale interview study. *International Journal of Nursing Studies*, 51(7), 1003-1013. <https://doi.org/10.1016/j.ijnurstu.2013.11.002>
- Abello, A., Jr., Brieger, B., Dear, K., King, B., Ziebell, C., Ahmed, A., & Milling, T. J., Jr. (2012). Care plan program reduces the number of visits for challenging psychiatric patients in the ED. *American Journal of Emergency Medicine*, 30(7), 1061-1067. <https://doi.org/10.1016/j.ajem.2011.07.002>
- Anderson, K., Goldsmith, L. P., Lomani, J., Ali, Z., Clarke, G., Crowe, C., Jarman, H., Johnson, S., McDaid, D., Pariza, P., Park, A. L., Smith, J. A., Stovold, E., Turner, K., & Gillard, S. (2022). Short-stay crisis units for mental health patients on crisis care pathways: systematic review and meta-analysis. *BJPsych Open*, 8(4), e144. <https://doi.org/10.1192/bjo.2022.534>
- Armoon, B., Cao, Z., Grenier, G., Meng, X., & Fleury, M. J. (2022). Profiles of high emergency department users with mental disorders. *American Journal of Emergency Medicine*, 54, 131-141. <https://doi.org/10.1016/j.ajem.2022.01.052>
- Aubry, T., Bloch, G., Brcic, V., Saad, A., Magwood, O., Abdalla, T., Alkhateeb, Q., Xie, E., Mathew, C., Hannigan, T., Costello, C., Thavorn, K., Stergiopoulos, V., Tugwell, P., & Pottie, K. (2020). Effectiveness of permanent supportive housing and income assistance interventions for homeless individuals in high-income countries: a systematic review. *Lancet Public Health*, 5(6), e342-e360. [https://doi.org/10.1016/S2468-2667\(20\)30055-4](https://doi.org/10.1016/S2468-2667(20)30055-4)
- Barker, L. C., Sunderji, N., Kurdyak, P., Stergiopoulos, V., Gonzalez, A., Kopp, A., & Vigod, S. N. (2020). Urgent Outpatient Care Following Mental Health ED Visits: A Population-Based Study. *Psychiatric Services*, 71(6), 616-619. <https://doi.org/10.1176/appi.ps.201900466>
- Bartram, M. (2019). Income-based inequities in access to mental health services in Canada. *Canadian Journal of Public Health*, 110(4), 395-403. <https://doi.org/10.17269/s41997-019-00204-5>
- Bischof, G., Bischof, A., & Rumpf, H. J. (2021). Motivational Interviewing: An Evidence-Based Approach for Use in Medical Practice. *Deutsches Ärzteblatt International*, 118(7), 109-115. <https://doi.org/10.3238/arztebl.m2021.0014>
- Bohn, M. J., Babor, T. F., & Kranzler, H. R. (1995). The Alcohol Use Disorders Identification Test (AUDIT): validation of a screening instrument for use in medical settings. *Journal of Studies on Alcohol*, 56(4), 423-432. <http://www.ncbi.nlm.nih.gov/pubmed/7674678>
- Boyer, L., Dassa, D., Belzeaux, R., Henry, J. M., Samuelian, J. C., Baumstarck-Barrau, K., & Lancon, C. (2011). Frequent visits to a French psychiatric emergency service: diagnostic variability in psychotic disorders. *Psychiatric Services*, 62(8), 966-970. https://doi.org/10.1176/ps.62.8.pss6208_0966
- Braun, V., & Clarke, V. (2006). Using thematic analyses in psychology. *Qualitative Research in Psychology*, 3(2), 423-432.
- Brennan, J. J., Chan, T. C., Hsia, R. Y., Wilson, M. P., & Castillo, E. M. (2014). Emergency department utilization among frequent users with psychiatric visits. *Academic Emergency Medicine*, 21(9), 1015-1022. <https://doi.org/10.1111/acem.12453>
- Buhumaid, R., Riley, J., Sattarian, M., Bregman, B., & Blanchard, J. (2015). Characteristics of Frequent Users of the Emergency Department with Psychiatric Conditions. *Journal of Health Care for the Poor and Underserved*, 26(3), 941-950. <https://doi.org/10.1353/hpu.2015.0079>
- Burns, T. R. (2017). Contributing factors of frequent use of the emergency department: A synthesis. *International Emergency Nursing*, 35, 51-55. <https://doi.org/10.1016/j.ienj.2017.06.001>
- Campbell, S. M., Roland, M. O., & Buetow, S. A. (2000). Defining quality of care. *Social Science & Medicine*, 51, 1611-1625.

- 1
- 2
- 3
- 4 Castillejos Anguiano, M. C., Bordallo Aragon, A., Aguilera Fernandez, D., & Moreno Kustner, B. (2019).
5 Perceptions about mental illness among general practitioners. *International Journal of Mental*
6 *Health Systems*, 13, 27. <https://doi.org/10.1186/s13033-019-0284-9>
7
- 8 Champagne, F., Contandriopoulos, A. P., Ste-Marie, G., & Chartrand, E. (2018). *L'accessibilité aux services*
9 *de santé et aux services sociaux au Québec. Portrait de la situation*.
- 10 Chang, G., Weiss, A. P., Orav, E. J., & Rauch, S. L. (2014). Predictors of frequent emergency department
11 use among patients with psychiatric illness. *General Hospital Psychiatry*, 36(6), 716-720.
12 <https://doi.org/10.1016/j.genhosppsych.2014.09.010>
13
- 14 Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering
15 implementation of health services research findings into practice: a consolidated framework for
16 advancing implementation science. *Implementation Science*, 4, 50. [https://doi.org/10.1186/1748-](https://doi.org/10.1186/1748-5908-4-50)
17 [5908-4-50](https://doi.org/10.1186/1748-5908-4-50)
18
- 19 Dell, N. A., Long, C., & Mancini, M. A. (2021). Models of mental health recovery: An overview of systematic
20 reviews and qualitative meta-syntheses. *Psychiatric Rehabilitation Journal*, 44(3), 238-253.
21 <https://doi.org/10.1037/prj0000444>
22
- 23 Digel Vandyk, A., Young, L., Macphee, C., & Gillies, K. (2018). Exploring the Experiences of Persons Who
24 Frequently Visit the Emergency Department for Mental Health-Related Reasons. *Qualitative*
25 *Health Research*, 28(4), 587-599.
- 26 Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation Research: A*
27 *synthesis of the literature*. University of South Florida, Louis de la Parte Florida Mental Health
28 Institute, The National Implementation Research Network (FMHI Publication # 231).
- 29 Fleury, M.-J., Fortin, M., Rochette, L., Lesage, A., Vasiliadis, H.-M., Huyn, C., Grenier, G., & Pelletier, E.
30 (2019). *Surveillance de l'utilisation des urgences au Québec par les patients ayant des troubles*
31 *mentaux* (Vol. 31). Institut national de santé publique du Québec (INSPQ).
- 32 Fleury, M. J., Fortin, M., Rochette, L., Grenier, G., Huynh, C., Pelletier, E., & Vasiliadis, H. M. (2019).
33 Assessing quality indicators related to mental health emergency room utilization. *BMC Emergency*
34 *Medicine*, 19(1), 8. <https://doi.org/10.1186/s12873-019-0223-8>
35
- 36 Fleury, M. J., Grenier, G., Farand, L., & Ferland, F. (2019). Use of Emergency Rooms for Mental Health
37 Reasons in Quebec: Barriers and Facilitators. *Administration and Policy in Mental Health*, 46(1),
38 18-33. <https://doi.org/10.1007/s10488-018-0889-3>
39
- 40 Fleury, M. J., Grenier, G., Gentil, L., & Roberge, P. (2021). Deployment of the consultation-liaison model in
41 adult and child-adolescent psychiatry and its impact on improving mental health treatment. *BMC*
42 *Family Practice*, 22(1), 82. <https://doi.org/10.1186/s12875-021-01437-5>
43
- 44 Fleury, M. J., Grenier, G., Vallee, C., Aube, D., Farand, L., Bamvita, J. M., & Cyr, G. (2016). Implementation
45 of the Quebec mental health reform (2005-2015). *BMC Health Services Research*, 16(1), 586.
46 <http://www.ncbi.nlm.nih.gov/pubmed/27756297>
- 47 Fleury, M. J., Rochette, L., Grenier, G., Huynh, C., Vasiliadis, H. M., Pelletier, E., & Lesage, A. (2019). Factors
48 associated with emergency department use for mental health reasons among low, moderate and
49 high users. *General Hospital Psychiatry*, 60, 111-119.
50 <https://doi.org/10.1016/j.genhosppsych.2019.07.006>
51
- 52 Gabet, M., Armoon, B., Meng, X., & Fleury, M. J. (2023). Effectiveness of emergency department based
53 interventions for frequent users with mental health issues: A systematic review. *American Journal*
54 *of Emergency Medicine*, 74, 1-8. <https://doi.org/10.1016/j.ajem.2023.09.008>
55
- 56 Gaulin, M., Simard, M., Candas, B., Lesage, A., & Sirois, C. (2019). Combined impacts of multimorbidity
57 and mental disorders on frequent emergency department visits: a retrospective cohort study in
58 Quebec, Canada. *Canadian Medical Association Journal*, 191(26), E724-E732.
59 <https://doi.org/10.1503/Canadian medical association journal.181712>
60
61
62
63
64
65

- Gili, M., Castellvi, P., Vives, M., de la Torre-Luque, A., Almenara, J., Blasco, M. J., Cebria, A. I., Gabilondo, A., Perez-Ara, M. A., Miranda-Mendizabal, M., Lagares, C., Pares-Badell, O., Piqueras, J. A., Rodriguez-Jimenez, T., Rodriguez-Marin, J., Soto-Sanz, V., Alonso, J., & Roca, M. (2019). Mental disorders as risk factors for suicidal behavior in young people: A meta-analysis and systematic review of longitudinal studies. *Journal of Affective Disorders*, 245, 152-162. <https://doi.org/10.1016/j.jad.2018.10.115>
- Gouvernement du Québec. (2022). *S'unir pour un mieux-être collectif. Plan d'action interministériel en santé mentale 2022-2026*. Direction des communications du ministère de la Santé et des Services sociaux
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Quarterly*, 82(4), 581-629. <https://doi.org/10.1111/j.0887-378X.2004.00325.x>
- Heyland, M., & Johnson, M. (2017). Evaluating an Alternative to the Emergency Department for Adults in Mental Health Crisis. *Issues in Mental Health Nursing*, 38(7), 557-561. <https://doi.org/10.1080/01612840.2017.1300841>
- Huynh, C., Kisely, S., Rochette, L., Pelletier, E., Jutras-Aswad, D., Larocque, A., Fleury, M. J., & Lesage, A. (2021). Using administrative health data to estimate prevalence and mortality rates of alcohol and other substance-related disorders for surveillance purposes. *Drug and Alcohol Review*. <https://doi.org/10.1111/dar.13235>
- Institut de la statistique du Québec. (2023). Proportion de la population inscrite auprès d'un médecin de famille. https://statistique.quebec.ca/docs-ken/vitrine/occupation-vitalite-territoire/documents/services_proximite_03.pdf.
- Jolles, M. P., Haynes-Maslow, L., Roberts, M. C., & Dusetzina, S. B. (2015). Mental health service use for adult patients with co-occurring depression and physical chronic health care needs, 2007-2010. *Medical Care*, 53(8), 708-712. <https://doi.org/10.1097/MLR.0000000000000389>
- Kaltsidis, G., Bamvita, J. M., Grenier, G., & Fleury, M. J. (2020). Predictors of Frequent Emergency Department Utilization for Mental Health Reasons. *Journal of Behavioral Health Services & Research*, <https://doi.org/10.1007/s11414-020-09695-4>
- Kappelin, C., Carlsson, A. C., & Wachtler, C. (2022). Specific content for collaborative care: a systematic review of collaborative care interventions for patients with multimorbidity involving depression and/or anxiety in primary care. *Family Practice*, 39(4), 725-734. <https://doi.org/10.1093/fampra/cmab079>
- Kromka, W., & Simpson, S. (2019). A Narrative Review of Predictors of Adult Mental Health Emergency Department Return Visits and Interventions to Reduce Repeated Use. *Journal of Emergency Medicine*, 57(5), 671-682. <https://doi.org/10.1016/j.jemermed.2019.08.005>
- Kurdyak, P., Gandhi, S., Holder, L., Rashid, M., Saunders, N., Chiu, M., Guttman, A., & Vigod, S. (2021). Incidence of Access to Ambulatory Mental Health Care Prior to a Psychiatric Emergency Department Visit Among Adults in Ontario, 2010-2018. *JAMA Network Open*, 4(4), e215902. <https://doi.org/10.1001/jamanetworkopen.2021.5902>
- Lamb, D., Lloyd-Evans, B., Fullarton, K., Kelly, K., Goater, N., Mason, O., Gray, R., Osborn, D., Nolan, F., Pilling, S., Sullivan, S. A., Henderson, C., Milton, A., Burgess, E., Churchard, A., Davidson, M., Frerichs, J., Hindle, D., Paterson, B., . . . Johnson, S. (2020). Crisis resolution and home treatment in the UK: A survey of model fidelity using a novel review methodology. *International Journal of Mental Health Nursing*, 29(2), 187-201. <https://doi.org/10.1111/inm.12658>
- Langberg, E. M., Dyhr, L., & Davidsen, A. S. (2019). Development of the concept of patient-centredness - A systematic review. *Patient Education and Counseling*, 102(7), 1228-1236. <https://doi.org/10.1016/j.pec.2019.02.023>

- 1
- 2
- 3
- 4 Li, H., Glecia, A., Arisman, K., Peternelj-Taylor, C., Holtslander, L., & Leidl, D. (2022). Mental Health and
- 5 Addiction Related Emergency Department Visits: A Systematic Review of Qualitative Studies.
- 6 *Community Mental Health Journal*, 58(3), 553-577. <https://doi.org/10.1007/s10597-021-00854-1>
- 7
- 8 Lin, W. C., Bharel, M., Zhang, J., O'Connell, E., & Clark, R. E. (2015). Frequent Emergency Department Visits
- 9 and Hospitalizations Among Homeless People With Medicaid: Implications for Medicaid
- 10 Expansion. *American Journal of Public Health*, 105 Suppl 5, S716-722.
- 11 <https://doi.org/10.2105/AJPH.2015.302693>
- 12
- 13 McCormack, R. P., Hoffman, L. F., Norman, M., Goldfrank, L. R., & Norman, E. M. (2015). Voices of
- 14 homeless alcoholics who frequent Bellevue Hospital: a qualitative study. *Annals of Emergency*
- 15 *Medicine*, 65(2), 178-186 e176. <https://doi.org/10.1016/j.annemergmed.2014.05.025>
- 16
- 17 Menear, M., Duhoux, A., Roberge, P., & Fournier, L. (2014). Primary care practice characteristics
- 18 associated with the quality of care received by patients with depression and comorbid chronic
- 19 conditions. *General Hospital Psychiatry*, 36(3), 302-309.
- 20 <https://doi.org/10.1016/j.genhosppsych.2014.01.013>
- 21
- 22 Ministère de la Santé et des Services sociaux (MSSS). (2021). *Évaluation des soins et des services en santé*
- 23 *mentale. Québec: Gouvernement du Québec.*
- 24
- 25 Ministère de la santé et des services sociaux (MSSS). (2022). *Le Plan d'action interministériel en santé*
- 26 *mentale 2022-2026 - S'unir pour un mieux-être collectif.* Publications du ministère de la Santé et
- 27 des Services sociaux. MSSS.
- 28
- 29 Ministère de la Santé et des Services Sociaux, M. (2017). *Le système de santé et de Services sociaux au*
- 30 *Québec, en bref.* www.msss.gouv.qc.ca.
- 31
- 32 Moulin, A., Evans, E. J., Xing, G., & Melnikow, J. (2018). Substance Use, Homelessness, Mental Illness and
- 33 Medicaid Coverage: A Set-up for High Emergency Department Utilization. *Western Journal of*
- 34 *Emergency Medicine*, 19(6), 902-906. <https://doi.org/10.5811/westjem.2018.9.38954>
- 35
- 36 Mulvale, G., Wilson, F., Jones, S., Green, J., Johansen, K. J., Arnold, I., & Kates, N. (2019). Integrating mental
- 37 health peer support in clinical settings: Lessons from Canada and Norway. *Healthcare*
- 38 *Management Forum*, 32(2), 68-72. <https://doi.org/10.1177/0840470418812495>
- 39
- 40 Nesper, A. C., Morris, B. A., Scher, L. M., & Holmes, J. F. (2016). Effect of Decreasing County Mental Health
- 41 Services on the Emergency Department. *Annals of Emergency Medicine*, 67(4), 525-530.
- 42 <https://doi.org/10.1016/j.annemergmed.2015.09.007>
- 43
- 44 Norton, J., David, M., Gandubert, C., Bouvier, C., Gutierrez, L. A., Frangeuil, A., Macgregor, A., Oude
- 45 Engberink, A., Mann, A., & Capdevielle, D. (2018). [Ability of French General Practitioners to detect
- 46 common mental disorders identified using the Patient Health Questionnaire: Has this changed
- 47 with the introduction of gatekeeping and registration with a chosen doctor?]. *Encephale*, 44(1),
- 48 22-31. <https://doi.org/10.1016/j.encep.2016.07.009> (Detection par le medecin generaliste des
- 49 troubles psychiatriques courants selon l'auto-questionnaire diagnostique le Patient Health
- 50 Questionnaire : dix ans apres, le dispositif du medecin traitant a-t-il modifie la donne ?)
- 51
- 52 Parkman, T., Neale, J., Day, E., & Drummond, C. (2017a). How Do People Who Frequently Attend
- 53 Emergency Departments for Alcohol-Related Reasons Use, View, and Experience Specialist
- 54 Addiction Services? *Substance Use and Misuse*, 52(11), 1460-1468.
- 55 <https://doi.org/10.1080/10826084.2017.1285314>
- 56
- 57 Parkman, T., Neale, J., Day, E., & Drummond, C. (2017b). Qualitative exploration of why people repeatedly
- 58 attend emergency departments for alcohol-related reasons. *BMC Health Services Research*, 17(1),
- 59 140. <https://doi.org/10.1186/s12913-017-2091-9>
- 60
- 61 Penzenstadler, L., Soares, C., Anci, E., Molodynski, A., & Khazaal, Y. (2019). Effect of Assertive Community
- 62 Treatment for Patients with Substance Use Disorder: A Systematic Review. *European Addiction*
- 63 *Research*, 25(2), 56-67. <https://doi.org/10.1159/000496742>
- 64
- 65

- 1
- 2
- 3
- 4 Perreault, M., Wiethaeuper, D., Perreault, N., Bonin, J. P., Brown, T. G., & Brunaud, H. (2009). [Cross
- 5 training program in Montreal's south west: best practices and training in a context of continuum
- 6 of services in mental health care and addiction treatment]. *Santé Mentale au Québec*, 34(1), 143-
- 7 160. <http://www.ncbi.nlm.nih.gov/pubmed/19475198>
- 8
- 9 Podogrodzka-Niell, M., & Tyszkowska, M. (2014). [Stigmatization on the way to recovery in mental illness
- 10 - the factors associated with social functioning]. *Psychiatria Polska*, 48(6), 1201-1211.
- 11 <https://doi.org/10.12740/PP/20364>
- 12
- 13 Poremski, D., Wang, P., Hendriks, M., Tham, J., Koh, D., & Cheng, L. (2020). Reasons for Frequent
- 14 Psychiatric Emergency Service Use in a Large Urban Center. *Psychiatric Services*, 71(5), 440-446.
- 15 <https://doi.org/10.1176/appi.ps.201800532>
- 16
- 17 Reid, C., Clark, N., Landy, A., & Alonso, M. (2019). The lived experience of recovery: The role of health work
- 18 in addressing the social determinants of mental health. *Canadian Journal of Community Mental*
- 19 *Health*, 38(4), 45-61.
- 20 Réseau communautaire en santé mentale (COSME). (2019). *La nécessité de mieux reconnaître, soutenir et*
- 21 *financer les organismes communautaires en santé mentale. Mémoire du Réseau communautaire*
- 22 *en santé mentale (COSME) présenté dans le cadre de la consultation sur un nouveau Plan d'action*
- 23 *gouvernemental en matière d'action communautaire*. COSME.
- 24
- 25 Richard-Lepouriel, H., Weber, K., Baertschi, M., DiGiorgio, S., Sarasin, F., & Canuto, A. (2015). Predictors
- 26 of recurrent use of psychiatric emergency services. *Psychiatric Services*, 66(5), 521-526.
- 27 <https://doi.org/10.1176/appi.ps.201400097>
- 28
- 29 Roberge, P., Fournier, L., Brouillet, H., Delorme, A., Beaucage, C., Cote, R., Demers, P., Gervais, M.,
- 30 Laflamme, F., Latulippe, L., Marchand, A., Patry, S., Pelchat, S., Provencher, M. D., Provost, J. R.,
- 31 Robitaille, D., & Cloutier, A. M. (2015). A provincial adaptation of clinical practice guidelines for
- 32 depression in primary care: a case illustration of the ADAPTE method. *Journal of Evaluation in*
- 33 *Clinical Practice*, 21(6), 1190-1198. <https://doi.org/10.1111/jep.12404>
- 34
- 35 Schmidt, M. (2018). Frequent visitors at the psychiatric emergency room - A literature review. *Psychiatric*
- 36 *Quarterly*, 89(1), 11-32. <https://doi.org/10.1007/s11126-017-9509-8>
- 37
- 38 Schmidt, M., Ekstrand, J., & Bengtsson Tops, A. (2018). Clinical profiles and temporal patterns of
- 39 psychiatric emergency room visitors in Sweden. *Nordic Journal of Psychiatry*, 72(3), 197-204.
- 40 <https://doi.org/10.1080/08039488.2017.1417477>
- 41
- 42 Schmidt, M., Ekstrand, J., & Tops, A. B. (2018). Self-Reported Needs for Care, Support and Treatment of
- 43 Persons Who Frequently Visit Psychiatric Emergency Rooms in Sweden. *Issues in Mental Health*
- 44 *Nursing*, 39(9), 738-745. <https://doi.org/10.1080/01612840.2018.1481471>
- 45
- 46 Simard, M., Sirois, C., & Candas, B. (2018). Validation of the Combined Comorbidity Index of Charlson and
- 47 Elixhauser to Predict 30-Day Mortality Across ICD-9 and ICD-10. *Medical Care*, 56(5), 441-447.
- 48 <https://doi.org/10.1097/MLR.0000000000000905>
- 49
- 50 Sirotich, F., Durbin, A., & Durbin, J. (2016). Examining the need profiles of patients with multiple
- 51 emergency department visits for mental health reasons: a cross-sectional study. *Social Psychiatry*
- 52 *and Psychiatric Epidemiology*, 51(5), 777-786. <https://doi.org/10.1007/s00127-016-1188-5>
- 53
- 54 Siskind, D., Harris, M., Kisely, S., Brogan, J., Pirkis, J., Crompton, D., & Whiteford, H. (2013). A retrospective
- 55 quasi-experimental study of a community crisis house for patients with severe and persistent
- 56 mental illness. *Australian & New Zealand Journal of Psychiatry*, 47(7), 667-675.
- 57 <https://doi.org/10.1177/0004867413484369>
- 58
- 59 Skinner, H. A. (1982). The drug abuse screening test. *Addictive Behaviors*, 7(4), 363-371.
- 60 <http://www.ncbi.nlm.nih.gov/pubmed/7183189>
- 61
- 62 Slankamenac, K., Heidelberger, R., & Keller, D. I. (2020). Prediction of Recurrent Emergency Department
- 63 Visits in Patients With Mental Disorders. *Frontiers in Psychiatry*, 11, 48.
- 64 <https://doi.org/10.3389/fpsy.2020.00048>
- 65

- Stanley, B., Brown, G. K., Currier, G. W., Lyons, C., Chesin, M., & Knox, K. L. (2015). Brief Intervention and Follow-Up for Suicidal Patients With Repeat Emergency Department Visits Enhances Treatment Engagement. *American Journal of Public Health*, 105(8), 1570-1572. <https://doi.org/10.2105/AJPH.2015.302656>
- Statistics Canada. (2017). Canada [Country] and Canada [Country] (table). Census Profile, 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/download-telecharger/comp/page_dl-tc.cfm?Lang=E. (assessed May 24, 2023).
- Stephenson, E. (2023). Troubles mentaux et accès aux soins de santé mentale. *Regard sur la société canadienne- Statistique Canada, no 75-006-X au catalogue*.
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349-357. <https://doi.org/10.1093/intqhc/mzm042>
- Tsai, J., Huang, M., Petering, R., & Tiderington, E. (2022). Graduation practices and outcomes in intensive case management programs for severe mental illness: A systematic review. *Psychiatric Rehabilitation Journal*, 45(1), 61-70. <https://doi.org/10.1037/prj0000487>
- Vandyk, A., Bentz, A., Bissonette, S., & Cater, C. (2019). Why go to the emergency department? Perspectives from persons with borderline personality disorder. *International Journal of Mental Health Nursing*, 28(3), 757-765. <https://doi.org/10.1111/inm.12580>
- Vandyk, A. D., Harrison, M. B., VanDenKerkhof, E. G., Graham, I. D., & Ross-White, A. (2013). Frequent emergency department use by individuals seeking mental healthcare: a systematic search and review. *Archives of Psychiatric Nursing*, 27(4), 171-178. <https://doi.org/10.1016/j.apnu.2013.03.001>
- Vasiliadis, H.-M., Dezetter, A., Lesage, A., & Drapeau, M. (2015). Améliorer l'accès aux psychothérapies au Québec et au Canada : Réflexions et expériences de pays francophones. *Santé Mentale au Québec*, 40(4), 15-30.
- Vérificateur général du Québec. (2023). *Rapport du vérificateur général à l'Assemblée nationale pour l'année 2022-2023. Chapitre 4; Santé mentale: efficacité du continuum de soins et de services pour les usagers ayant des troubles mentaux graves*. Québec: Vérificateur général du Québec à l'Assemblée nationale.
- Vu, F., Daeppen, J. B., Hugli, O., Iglesias, K., Stucki, S., Paroz, S., Canepa Allen, M., & Bodenmann, P. (2015). Screening of mental health and substance users in frequent users of a general Swiss emergency department. *BMC Emergency Medicine*, 15, 27. <https://doi.org/10.1186/s12873-015-0053-2>
- Wakeman, S. E., Pham-Kanter, G., & Donelan, K. (2016). Attitudes, practices, and preparedness to care for patients with substance use disorder: Results from a survey of general internists. *Substance Abuse*, 37(4), 635-641. <https://doi.org/10.1080/08897077.2016.1187240>
- Wise-Harris, D., Pauly, D., Kahan, D., Tan de Bibiana, J., Hwang, S. W., & Stergiopoulos, V. (2017). "Hospital was the Only Option": Experiences of Frequent Emergency Department Users in Mental Health. *Administration and Policy in Mental Health*, 44(3), 405-412. <https://doi.org/10.1007/s10488-016-0728-3>

Figure 1. Analytical framework: barriers and facilitators to high emergency department (ED) use among patients with mental disorders (MD), including substance-related disorders (SRD)

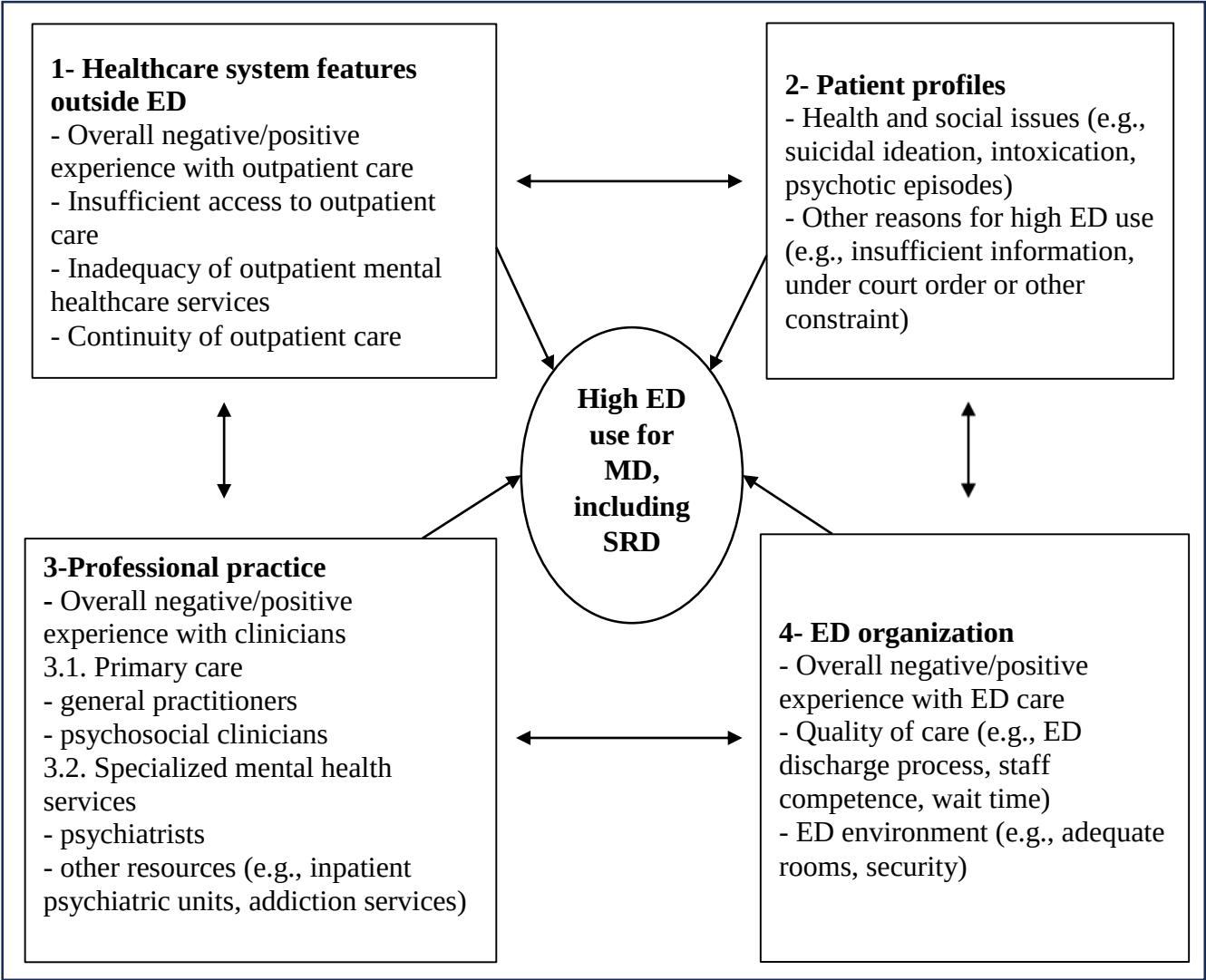


Table 1. Characteristics of patients (n=299)

	n	%
Sociodemographic characteristics (measured in the 12 months before interviews)		
Sex		
Women	165	55.18
Men	134	44.82
Age		
16-29 years	92	30.77
30-49 years	117	39.13
50+ years	90	30.1
Education		
High school or less	130	43.48
Post-secondary education	169	56.52
Civil status		
Single, separated, divorced or widow	246	82.27
Couple	53	17.73
Occupation		
Worker or student	130	43.48
Unemployment	139	46.49
Retired	30	10.03
Household income (CAN \$/year)		
0-19,000	141	47.16
20-39,000	84	28.09
40,000+	74	24.75
Type of housing		
Privately owned	60	20.07
Rental housing	173	57.86
Supervised housing ^a	66	22.07
Clinical characteristics (measured in the past 12 months)		
Principal mental disorders (MD) ^b		
Serious MD	133	44.48
Personality disorders	68	22.74
Common MD	72	24.08
Substance-related disorders (SRD) without MD	26	8.70
Suicidal behaviors (attempt or ideation)	161	53.85
Chronic physical illnesses ^c	136	45.48
Co-occurring MD-SRD	113	37.79
Co-occurring MD-SRD-chronic physical illnesses	66	22.07
Patients who consulted outpatient services just before using ED	45	15.00
Service use patterns (measured over the preceding 12 months)		

Having a case manager	174	58.19
^a Supervised housing included different types of housing such as group homes, residential care, and supported apartments.		
^b Based on medical records, principal MD included in this order of importance: serious MD (schizophrenia spectrum and other psychotic disorders, and bipolar disorders); personality disorders; common MD (anxiety, depressive, adjustment, and attention deficit/hyperactivity disorders), and SRD (alcohol or drug-related disorders (use, induced and intoxication)).		
^c Based on medical records, chronic physical illnesses included: chronic pulmonary disease, cardiac arrhythmia, tumor with or without metastasis, renal disease, fluid electrolyte disorder, myocardial infarction, congestive heart failure, metastatic cancer, dementia, stroke, neurological disorder, liver disease, pulmonary circulation disorder, coagulopathy, weight loss, paralysis, AIDS/HIV.		

Table 2: Barriers and facilitators to high emergency department (ED) use for patients with mental disorders (MD) including substance-related disorders (SRD)

Dimensions		TOTAL n=299 (%)
1. Healthcare system features outside ED		
<i>Overall negative experience with outpatient care</i>		167 (56%)
<i>Overall positive experience with outpatient care</i>		123 (41%)
<i>Insufficient access to outpatient care</i> (all barriers)		156 (52%)
	Long wait time for accessing follow-up care ^a	
	No alternative care offered while on a wait list ^a	
	Complex procedures for accessing mental health services ^a	
	Limited availability of services during evenings, overnight, and weekends ^a	
	Lack of funding for community-based organizations to reach and follow up more patients ^a	
	Insufficient resources to help patients break isolation or integrate into the community ^a	
<i>Inadequacy of outpatient mental healthcare services</i> (all barriers)		164 (55%)
	Insufficient communication or collaboration between primary care and specialized mental health services ^a	
	Insufficient development of computerized systems for information exchange between organizations regarding patient medical records ^a	
	Insufficient knowledge and promotion of available services especially in community-based organizations, and lack of guidance to acquire this knowledge ^a	
	Too easy referrals or transfers to ED when patients are in crisis (e.g., psychosis, suicidal ideation, SRD)	
<i>Continuity of outpatient care</i> (all facilitators)		61 (20%)
	Frequent and flexible follow-up care with the same clinician, adapted to patient needs ^a	
	Global (biopsychosocial) approach to services, centered on comprehensive patient needs and development of autonomy ^a	
	Deployment of medication best practices and self-management tools ^a	
2. Patient profiles (all barriers)		
<i>Health and social issues</i>		
	Suicidal ideations or self-injury	87 (29%)
	Social problems: job loss; financial, housing or food difficulties; lack of support to develop autonomy; or crisis (e.g., death of a loved one, separation, conflict)	79 (26%)
	Intoxication	64 (21%)
	Psychotic episodes	62 (21%)
	Renewal or adjustment of medication, mainly for patients without a physician, either family physician or psychiatrist	44 (15%)
<i>Other reasons for high ED use</i>		
	Insufficient information related to: understanding of MD (symptoms, triggers, limitations), available services (especially community-based), and options to facilitate crisis management and recovery	84 (28%)

	Involuntary ED use among patients under constraint by the police, court-order, or those admitted by a relative	68 (23%)
	ED use from habit, or because the hospital holds the patient's medical records	15 (5%)
3. Professional practice		
Overall negative experience with clinicians		160 (54%)
Overall positive experience with clinicians		139 (46%)
3.1 Primary care (all barriers)		
General practitioners	Systematic referral of patients with suicidal behaviors or in crisis to ED	57 (19%)
	Insufficient expertise in management of MD, especially complex or severe MD	45 (15%)
	Insufficient consideration or interest in MD and in listening to patient needs and concerns	39 (13%)
	Limited psychotherapy sessions offered	27 (9%)
Psychosocial clinicians	<i>Psychologists working in private practice</i> : high service cost, yearly threshold for reimbursement, and limited number of consultations for insured patients	33 (11%)
	<i>Crisis centers</i> : insufficient experience in managing crisis situations related to complex or severe MD. Frequent referral to ED for access to a psychiatrist	39 (13%)
3.2 Specialized mental health services (all barriers, excepted for few services – identified: *)		
Psychiatrists	Insufficient frequency or availability of follow-up care for patients in the event of crisis	66 (22%)
	Insufficient communication or explanation related to patient mental health conditions, treatment options and involvement of the psychiatrist in treatment	60 (20%)
	Insufficient collaboration with psychosocial clinicians to provide comprehensive treatment	36 (12%)
	Insufficient attention to medication issues: adjustment or change of medication due to side effects	33 (11%)
Other resources	<i>Inpatient psychiatric units (hospitalization)</i> : Insufficient group or individual therapy, and lack of post-hospitalization follow-up; discharge sometimes given prematurely	36 (12%)
	<i>Addiction services</i> : strong therapeutic alliance; dedicated, nonjudgmental clinicians who listen and respond to patient needs; easy access to addiction services after hospitalization*	42 (14%)
	<i>Intensive case management or assertive community treatment</i> : strong therapeutic alliance (patients felt welcome and listened to); flexibility to schedule crisis appointments; patient-centered care approach, including self-management tools for preventing crises*	36 (12%)
4. ED organization (all barriers, except for a few services*)		
Overall negative experience with ED care		84 (28.0)
Overall positive experience with ED care		215 (72.0)
Quality of care (all barriers)		
	Inadequate ED discharge process: no referral or alternative care for patients; insufficient knowledge of services for MD, especially those offered by community-based services	170 (57%)
	Highly competent staff, responsive to patient needs, and adequate treatment*	154 (52%)

	Excessively long wait time for consultation with ED physicians, including psychiatrists. Understaffed ED (clinicians overworked or unavailable). Referral required from the general ED for consultation in the psychiatric ED of a general hospital. Lack of beds, requiring patients to wait several days on stretchers before transfer to inpatient units or to psychiatric care	156 (52%)
	Lack of empathy toward patients, especially those with serious MD who feel stigmatized by staff and not listened to; too rapid restraint and close supervision of patients	138 (46%)
	Insufficient explanations of patient mental health conditions, prescribed medication, and treatment options. Insufficient emotional support	115 (38%)
	High physician turnover in ED, and insufficient collaboration among them. Differing diagnosis and treatment of the same patient from a physician to another	76 (25%)
ED environment (all barriers)		
	Lack of adequate rooms, or quiet spaces in ED separating patients with more serious MD, or those in crisis, from patients with milder conditions. Patients feeling unsafe or abandoned	74 (25%)

^a These were components of the larger sub-dimensions of the healthcare system features outside ED.

Table 3: Examples of quotations from study participants regarding barriers and facilitators to high emergency department (ED) use for patients with mental disorders (MD) including substance-related disorders (SRD)

1. Healthcare systems features outside of ED

Insufficient access to outpatient care (all barriers)

Long wait time to access follow-up care:

Waiting 2 to 4 months to get an appointment with a psychologist when a person is not mentally well, it's unacceptable. [Prompt access] is absolutely critical. (JS5001- ED-CHU^a)

Complex procedures for accessing mental health services:

First you have to go through a mental health access point in primary care. Once you're past that hurdle, there's still a waiting time, and it can be considerable. It takes a long time to receive care anywhere, be it in addiction treatment centers or psychiatric outpatient clinics (ML4029-ED-CHG^b).

Limited availability of services in the evenings, weekends, and overnight:

There were no other services open at that time. The crisis center was closed, and there was nothing at 2-3 a.m. except for the emergency department. At least that's available when you're not doing well (SM5035-ED-CH^a).

Inadequacy of outpatient mental health care services (all barriers)

Insufficient communication or collaboration between primary and specialized care:

There's a problem with the healthcare system. Where can you go to see doctors or psychologists? How do you get follow-ups and therapy? There should be teams that talk to each other, that communicate regarding patients. The emergency department doesn't cater to our needs, except the most urgent ones. I'd say that on the whole, the system leaves us to our own devices. (MCM5067- ED-CHU^a)

Insufficient knowledge about and promotion of available services, especially in community-based organizations, and lack of guidance to acquire such knowledge:

You have to know about community services, know that they exist. Often, we learn at the very last moment, when it's too late, that ah, there's this service you could have used! (LSM4040 ED-CHG^b)

Health professionals too quick to refer or transfer patients in crisis to ED (e.g., psychosis, suicidal ideations, substance-related disorders):

I feel that if I go to a walk-in clinic, they'll just tell me to go to hospital emergency instead. So it's a waste of my time." (TS1120-ED-P^c)

They don't offer concrete solutions. It's all talk and no action. Whatever they do, it's never improved my quality of life. I go to the community healthcare center every week to talk to a social worker, but still in my life, nothing changes. I've never been given actual tools that I could use to improve my quality of life. (EP2032-ED-P-CHG^d)

Continuity of outpatient care (all facilitators)

Frequent and flexible follow-up care with the same clinician, adapted to patient needs:

I didn't stay on the waiting list for too long before I got intensive case management. I've been seeing the same clinician for two and a half years now. It's really positive, there's a kind of continuity, and there's something reassuring about that. (GC4007-ED-CHG^b)

I'm very satisfied, they [assertive community treatment team] have good service. They come to my home 3 times a week, and it gives me a sense of security to know that they're there. (JB2004-ED-P-CHG^d)

2. Patient profiles (all barriers)

Health and social issues

Suicidal ideation or self-injury:

I mostly come to the ER because I have paranoid ideas and thoughts of suicide. (SDJ1010-ED-P^c)

Social problems:

I had just been diagnosed with an unspecified psychotic disorder, and it took a long time for them to find me a place to live. I went to the ER, and then when I was discharged from the hospital, I ended up on the street. (MQ4050-ED-CHG^b)

Renewal or adjustment of medication, mainly for patients without either a family physician or a psychiatrist:

We'd try a medication. It wouldn't work, so they'd send me back. It was complicated. The side effects were unbearable. There aren't many options left for me except the ER. (MC50135-ED-CHU^a)

Other reasons for high ED use

Involuntary ED use among patients under constraint by the police, by court order, or those admitted through a relative:

It's not me who decides to go to the ER. It's the people around me, the crisis center, my ex, my mom, whatever. It's not my decision, it's their decision. (SI4025-ED-CHG^b)

Using ED out of habit, or because the hospital holds the patient's medical records:

I don't know of any other services in my neighborhood that I could go to. Plus, all my records are at the psychiatric hospital. (AK1066-ED-P^c)

3. Professional practice

3.1. Primary care

General practitioners (all barriers)

Insufficient expertise in management of MD especially complex or severe MD:

I explained my feelings to my family physician, but she was not competent or knowledgeable enough to understand what I needed. (AV5046-ED-CH^a)

Insufficient consideration for or interest in treating MD, or to listen to the patient's needs and concerns:

I feel like my family doctor treats patients like numbers. (CM1050-ED-P^c)

And when you finally see a doctor, you don't have much time with them before you get pushed away. They don't listen, really. From that standpoint, it's awful. (DL1067-ED-P^c)

Psychosocial clinicians (all barriers)

Psychologists working in private practice:

I guess I could have gone to see a psychologist in private practice, but I didn't have insurance and wasn't able to pay for the consultation. The emergency department, for me, was the logical way to get care. (EC4008-ED-CHG^b)

Crisis centers:

Every time I voiced a specific need or brought up my diagnosis [personality disorder], they [the crisis center] would straight out refuse to help me, saying that I didn't need services. But the fact is, I really needed them. I felt they didn't listen to me, didn't take me seriously. Instead of helping me calm down, they would infuriate me even more! (GC4007-ED-CHG^b)

3.2. Specialized mental health services

Psychiatrist (all barriers)*Insufficient frequency or availability of follow-up care for patients during crisis events:*

I have a psychiatrist, but it takes 3 to 4 weeks to see her. If I'm in crisis, that's just too long of a wait. (JB5056-ED-CHU^a)

Insufficient attention given to medication issues (adjustment or change of medication due to side effects):

I had to deal with a psychiatrist who was over-medicating me. He didn't understand my situation at all, and prescribed me meds that gave me a lot of side effects. (ERD1118-ED-P^c)

Other resources (all barriers, except for a few services*)

Inpatient psychiatric units (hospitalization):

I was discharged too quickly. That was on March 9, then I went back to the hospital on March 13 for the same psychosis episode. I was pretty much left to my own devices, with no resources to help. (CL50145-ED-CHU^a)

Addiction treatment centers:

They have a better understanding of my alcohol problem. For sure, if I see someone who doesn't have addiction training and who hasn't dealt with these kinds of problems, the level of understanding, the quality of listening, the empathy and compassion won't be the same than with someone who's cognizant of these issues and regularly deals with people who struggle with addiction. (AP4049 ED-CHG^b)*

Assertive community treatment:

I'm very pleased. They (the ACT team) have known me now for 4 years, and they know right away if there's something wrong. They're very efficient. I appreciate it very much. I have a very good relationship with my support team. (JB2004-ED-P-CHG^d)*

4. ED organization (all barrier excepted for a few services*)

Quality of care*Inadequate ED discharge process)no referral or alternative care for patients; insufficient knowledge of services for MD, especially those offered by community-based services):*

When I left the ER, they didn't refer me to any other resources. They just gave me the number of the crisis center, and I had to contact them myself to get help. (GT50169-ED-CHU^c)

Excessively long wait time for consultation with ED physician, including psychiatrist:

When you arrive [at the ED] in the evening, you don't see a psychiatrist until the next day. You stay isolated for almost 24 hours. They just park us in a corner, alone with our feelings of distress. They give us pills to help us sleep, that's about it. (ML4029-ED-CHG^b)

Highly competent staff, responsive to patient needs, and adequate treatment:

I appreciate the fact that, in the ED where I was treated, they understood and helped me. (BBL1023 ED-P^c)*

Insufficiently explaining to patient details about their mental health conditions, the medication they've been prescribed, and their treatment options. Insufficient emotional support:

They didn't really listen to me, they didn't take care of me, they just sent me away. They said, "Here, take this and get out". The week after, I was back in the ER. (JD4014-ED-CHG^b)

Healthcare environment

Lack of adequate rooms or quiet spaces in ED. Not separating patients with more serious MD or in crisis from those with milder conditions. Patients feeling unsafe or abandoned:

Everyone is bunched up together. Sometimes there's really heavy cases, and it gets hard to bear. It's very anxiety-inducing for people who aren't having a psychotic episode. (NRG4051-ED-CHG^b)

I Was there because I was depressed and anxious, and I saw people who couldn't control themselves. It made me feel worse. (ZA2038-ED-P-CHG^d)

^aED-CHU: At this site, the psychiatric ED was located at a general university hospital; patients had to be referred to the psychiatric ED from the general ED.

^bED-CHG: At this site, the ED was integrated within a general hospital where staff included psychiatric personnel.

^cED-P: At this site, the ED was integrated within a large, university-affiliated psychiatric hospital with a mission that included teaching and research.

^dED-P-CHG: At this site, the ED was also integrated within a psychiatric hospital that was merged with a general hospital; before being referred to the psychiatric ED, most patients had to go to the ED of the general hospital first, which was at a completely different location.

Appendix 1: Codes for mental disorders including substance-related disorders and chronic physical illnesses according to the International Classification of Diseases, Tenth revision

Diagnoses	<i>International Classification of Diseases, Tenth Revision, Canada (ICD-10-CA)</i>
Mental disorders (MD) ^a	
<i>Serious MD</i>	
Schizophrenia spectrum and other psychotic disorders	F20* (schizophrenic disorders); F22* (persistent delusional disorders); F23 (acute and transient psychotic disorders); F24* (induced delusional disorder); F25* (schizoaffective disorders); F28* (other psychotic disorder not due to a substance or known physiological condition); F29* (unspecified psychosis not due to a substance or known physiological condition); F448 (other dissociative and conversion disorders); F481 (depersonalization - derealization syndrome)
Bipolar disorders	F300-F302, F308, F309 (manic episode); F310-F317, F318, 319 (bipolar episode)
<i>Personality disorders</i>	F600 (paranoid personality disorder); F61 (mixed and other personality disorders); F340 (cyclothymic disorder); F341 (dysthymic disorder); F601 (schizoid personality); F603 (borderline personality disorder); F605 (obsessive-compulsive personality disorder); F604 (histrionic personality disorder); F607 (dependent personality disorder); F602 (antisocial personality disorder); F609 (unspecified personality disorder); F21 (schizotypal personality); F606 (avoidant personality disorder); F608 (other specified personality disorders); F681 (factitious disorder); F688 (other specified disorders of adult personality and behaviour); F69 (unspecified disorder of adult personality and behaviour)
<i>Common MD</i>	
Depressive disorders	F320- F323 (major depressive disorder, single episode); F328 (other depressive episodes); F329 (depressive episode, unspecified); F330-F334 (major depressive disorder, recurrent); F338 (other recurrent depressive disorders); F339 (recurrent depressive disorder, unspecified); F348 (other persistent mood [affective] disorders); F380, F381 (persistent mood [affective] disorder, unspecified); F388 (other specified mood [affective] disorders); F39 (unspecified mood [affective] disorders); F412* (mixed anxiety and depressive disorder)*
Anxiety disorders	F40 (phobic anxiety disorders); F41 (other anxiety disorders); F42 (obsessive-compulsive disorder); F45 (somatoform disorders); F48 (other neurotic disorders); F93, F94 (disturbance of emotions specific to childhood and adolescence)
Adjustment disorders	F430 (acute stress reaction); F431 (post-traumatic stress disorder); F432 (adjustment disorders); F438 (other reactions to severe stress); F439 (reaction to severe stress, unspecified)
Attention deficit/hyperactivity disorder	F900; F901; F908; F909 (attention deficit/hyperactivity disorder)
Suicide attempt ^{a, b}	X60-Y09, Y870, Y871, Y35-Y36, Y890, Y891
<i>Substance-related disorders ^a</i>	
Alcohol-related disorders	F101*, F102* (alcohol abuse or dependence); F103, F104* (alcohol withdrawal); F105-F109, K700*-K704*, K709*, G621*, I426, K292*, K852, K860, E244, G312, G721, O354 (alcohol-induced disorders); F100*, T510, T511*, T518, T519 (alcohol intoxication)
Cannabis-related disorder	F121, F122 (cannabis abuse or dependence); F123-F129 (cannabis-induced disorders); F120, T407 (cannabis intoxication)
Other drug-related disorders than cannabis	F111, F131, F141, F151, F161, F181, F191, F112, F132, F142, F152, F162, F182, F192 (drug abuse or dependence); F113-F114, F133-F134, F143-F144, F153-F154, F163-F164, F183-F184, F193-F194 (drug withdrawal) F115-F119,

	F135-F139, F145-F149, F155-F159, F165-F169, F185-F189, F195-F199 (drug-induced disorders); F110, F130, F140, F150, F160, F180, F190, T400-T406, T408, T409, T423, T424, T426, T427, T435, T436, T438, T439, T509, T528, T529 (drug intoxication)
Chronic physical illnesses^{a, c}	
Renal failure	I120, I131, N18, N19, N250, Z49, Z940, Z992
Cerebrovascular illnesses	G45, G46, I60-I69
Neurological illnesses	G10–G12, G13, G20, G21–G22, G254, G255, G312, G318, G319, G32, G35, G36, G37, G40, G41, G931, G934, R470, R56
Endocrine illnesses (hypothyroidism; fluid electrolyte disorders and obesity)	E00, E01, E02, E03, E890; E222, E86, E87; E66
Any tumor with or without metastasis (solid tumor without metastasis; lymphoma)	C00–C26, C30–C34, C37–C41, C43, C45–C58, C60–C76, C77–C79, C80; C81–C85, C88, C900, C902, C96
Chronic pulmonary illnesses	I278, I279, J40–J47, J60–J64, J65, J66, J67, J684, J701, J703
Diabetes complicated and uncomplicated	E102–E108, E112–E118, E132–E138, E142–E148; E100, E101, E109, E110, E111, E119, E130, E131, E139, E140, E141, E149
Cardiovascular illnesses (congestive heart failure; cardiac arrhythmias; valvular illnesses; peripheral vascular illnesses; myocardial infarction; hypertension and pulmonary circulation illnesses)	I099, I110, I130, I132, I255, I420, I425–I429, I43, I50, P290; I441–I443, I456, I459, I47–I49, R000, R001, R008, T821, Z450, Z950; A520, I70–I72, I730, I731, I738, I739, I771, I790, K551, K558, K559, Z958, Z959; I05–I08, I091, I098, I34–I39, Q230–Q233, Q238, Q239, Z952, Z953, Z954I210–I214, I219, I220, I221, I228, I229, I252; I101, I100, I11, I1500, I1501, I1510, I1511, I1521, I1581, I1590, I1591, I674; I26, I27, I280, I288, I289
Other chronic physical illness categories (blood loss anemia; ulcer illnesses; liver illnesses; AIDS/HIV; rheumatoid arthritis/collagen vascular illnesses, coagulopathy; weight loss, paralysis; deficiency anemia)	D500; K257, K259, K267, K269, K277, K279, K287, K289; B20–B24; D65–D68, D691, D693–D696; B18, I85, I864, I982, K700–K703, K709, K711, K713–K715, K716, K717, K721, K729, K73, K74, K754, K760, K761, K763, K764, K765, K766, K768, K769, Z944; L900, L940, L941, L943, M05, M06, M08, M120, M123, M30, M31, M32–M35, M45, M460, M461, M468, M469; G041, G114, G80, G81, G82, G83; E40–E46, R634, R64, D51–D53, D63, D649; D501, D508; D509

^a The Canadian Tenth Revision (ICD-10-CA) was used in MED-ECHO (*Maintenance et exploitation des données pour l'étude de la clientèle hospitalière*, hospitalization database) and in BDCU (Banque de données communes des urgencies, emergency department (ED) database). Diagnoses related to the two databases were considered, and all data were integrated each year, for each patient. MED-ECHO includes several diagnoses: primary diagnosis and numerous secondary diagnoses. For the databases used in this study, MD were considered as primary diagnoses only, but substance-related disorders (SRD) as both primary and secondary diagnoses, considering that SRD are often underdiagnosed. ^b Diagnostic codes for suicide attempt were registered in the MED-ECHO database. ED use for reasons of suicide ideation or attempt were reported by triage nurses in ED and registered in the BDCU database. As they are not diagnostic codes, they were not reported in this table. ^c The list of chronic physical illnesses is based on an adapted and validated version of the Elixhauser Comorbidity Index, integrating the Charlson Index, which consists of 32 major categories of physical illnesses (see reference in the methods section). For this list of chronic physical illnesses, three categories of MD and two categories of SRD (identified with an asterisk (*)) were also included under MD-SRD, thus appearing twice.