Review

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Unveiling the Patterns: Exploring Social and Clinical Characteristics of Frequent Mental Health Visits to the Emergency Department—A Comprehensive Review

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Abstract: Background: Frequent presenters (FPs) define a group of individual who visit hospital emergency department (ED) frequently for urgent care. Many among the group present with main diagnosis of mental health conditions. This group of individual tend to use ED resources disproportionally and significantly affect overall healthcare outcome. No previous reviews have examined the profiles of FPs with mental health conditions. **Aims:** This study aims to identify the key socio-demographic and clinical characteristics of patients who frequently present to ED with mental health primary diagnosis by performing systemic review from existing literature. **Method:** PRISMA guideline was used. PubMed, PsycINFO, Scopus and Web of Science (WOS) were searched in May 2023. A manual search on reference list of included articles were conducted at same time. Covidence was used to perform extraction and screening, completed by two authors independently. Inclusion and exclusion criteria were defined. **Results:** The abstracts of 3341 non-duplicate articles were screened with 40 full texts assessed for eligibility. 20 studies were included from 2004-2022 conducted in 6 countries with total patient number of 25688 (52% male, 48% female, mean age 40.7 years old). 27% were unemployed, 20% married, 41% homeless, and 17% had tertiary or above education. 44% had history of substance abuse or alcohol dependence. Top 3 diagnosis are found to be anxiety disorders (44%), depressive disorders (39%) and schizophrenia spectrum and other psychotic disorders (33%). **Conclusion:** On average, FPs are middle aged and equally prevalent in both gender. Current data lacks representation for gender diverse group. They are significantly associated with high rate of unemployment, homelessness, lower than average education level, and being single. Anxiety disorder, depressive disorder, and schizophrenia spectrum disorders are the most common clinical diagnosis associated with the group.

Keywords: emergency department; frequent presenter; frequent presentation; socio-demographic characteristics; clinical characteristics

1. INTRODUCTION

Hospital emergency department (ED) is the first point of contact when people seek urgent medical care. In Australia, there were 8.8 million ED visits in 2021-2022, with a total population of under 26 million [1]. Other than the well-known physical health emergencies like myocardial infarction or stroke, mental health services are provided in ED as well. Mental health related presentations accounted for 3.5% of all ED presentations in Australian public health system in 2020-2021 [2]. A group of individual commonly known as the 'frequent presenter' (FP) repeatedly present themselves to ED seeking emergency care. Many have labelled this group of patients as 'frequent flyers'[3]. They are well known for disproportionally occupying the emergency medical resources

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and contributing to the increasingly overcrowded ED [4,5]. They place a significant strain on emergency medical resources, and many frontline healthcare workers have struggled to come up with solutions to reduce their number of presentations [6]. On the other hand, people who present to ED with mental health complaints tend to face longer waiting hours and poorer care compared to those with organic diseases [7]. To better address the situation, policy makers need to first understand the need profile for this group of patients, and initiate strategies tailor to their social and clinical characteristics. Numerous studies have been published in the past investigating key features of FPs with mental health conditions. This systemic review aims to identify and consolidate the key socio-demographic and clinical characteristics of FPs with a mental health primary diagnosis from existing literature, to provide a starting point for future engagement.

2. METHOD

A systemic search and review of published studies on frequent presenters with mental health conditions to hospital ED was conducted based on Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines [8].

Search terms are designed to combine both medical subject headings (MeSH) with common terms used for frequent presenters and/or frequent presentations. 4 platforms including PubMed, PsycINFO, Scopus and Web of Science (WOS) were searched in May 2023. MeSH terms were only utilized when searching on PubMed. Table 1 below listed the full search strategy. The term 'mental health' was not included in the search strategy in order to include studies on general frequent presentations as well. This is considering that some articles might discuss mental health frequent presentations separately but choose not to include them in title or abstract.

Table 1. Search strategy.

Platform		Search Strategy
PubMed	#1	"Emergency Service, Hospital"[Mesh] OR ED OR hospital
	#2	"multiple presentation" OR "multiple attendance" OR "multiple visits" OR "repeated presentation" OR "repeated attendance" OR "repeated visits" OR "frequent presentation" OR "frequent presenter" OR "frequent attendance" OR "frequent representation" OR "frequent visitor" OR "frequent flyer" OR "frequent users" OR "recurrent presentation" OR "recurrent visits" OR "re-presentation"
	#3	#1 AND #2
PsycINFO Scopus WOS	#1	"emergency department" OR ED OR "emergency care" OR hospital
	#2	"multiple presentation" OR "multiple attendance" OR "multiple visits" OR "repeated presentation" OR "repeated attendance" OR "repeated visits" OR "frequent presentation" OR "frequent presenter" OR "frequent attendance" OR "frequent representation" OR "frequent visitor" OR "frequent flyer" OR "frequent users" OR "recurrent presentation" OR "recurrent visits" OR "re-presentation"
	#3	#1 AND #2

The initial search results were exported to Covidence for screening and full-text review.

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Studies were included if they:

- were original studies that analysed aspects of trends, patterns, and characteristics of frequent presentations to ED with mental health diagnosis
- defined 'frequent presentation' as 3 or more ED visits annually or equivalent
- were published between Jan 2000 and April 2023 (23 years approximately)
- were in English.

Studies were excluded if they:

- were on paediatric population
- were based in military or non-civilian hospital
- were reviews or editorials
- were not peer-reviewed
- did not have full text available
- limited the scope of psychiatric conditions

Articles published prior to Jan 2000 were excluded as the criteria for psychiatric diagnosis and clinical approach have changed significantly over time. The included time frame should generate enough publications for the purpose of this review. Paediatric focused studies were excluded because many of the socio-demographic characteristics of adults are not applicable to paediatric population. In addition, frequent presentation in paediatric population is strongly influenced by family factors [9], which is beyond the scope of this review. The consent process of this cohort lies on their parents or legal guardian, which could jeopardize the accuracy of data collected.

The following process was completed by two authors independently. After full text review has been completed, included studies were assessed using National Heart, Lung, and Blood Institute (NHLBI) Study Quality Assessment Tools [10]. Reference list of the full text studies were screened and added for further screening if deemed appropriate. Data extraction was carried out onto a standardized Excel sheet which included: (1) basic study information (primary author, year of publication, country in which the study was conducted, diagnostic criteria); (2) features related to FP (definition of FP, FP number as % of total ED visitor number *vs* number of visits made by FP as % of total visits, sample size, FP admission rate); (3) socio-demographic characteristics (gender, age, employment status, marriage status, homelessness, education level); and (4) mental health conditions (top 3 diagnosis, substance use and alcohol dependence history). After initial data extraction, available data were combined to provide an overview of social and clinical characteristics of FPs. The studies provided different aspects of social and clinical characteristics of the patients included, thus the overall value was calculated based on corresponding available data only.

3. RESULTS

Initial search as detailed in the Method section generated 6022 studies, with 2681 identified by Covidence as duplicates. An additional 2 studies were added from citation searching. 3341 studies were screened through title and abstract screening, with 3297 irrelevant studies eliminated. 46 articles have been assessed with full-text review, and 26 excluded, with the majority reason being: did not provide or meet frequent presentation criteria (n=15). The process has been summarised in PRISMA [8] flowchart in Figure 1. 20 studies were included for the purpose of this review.

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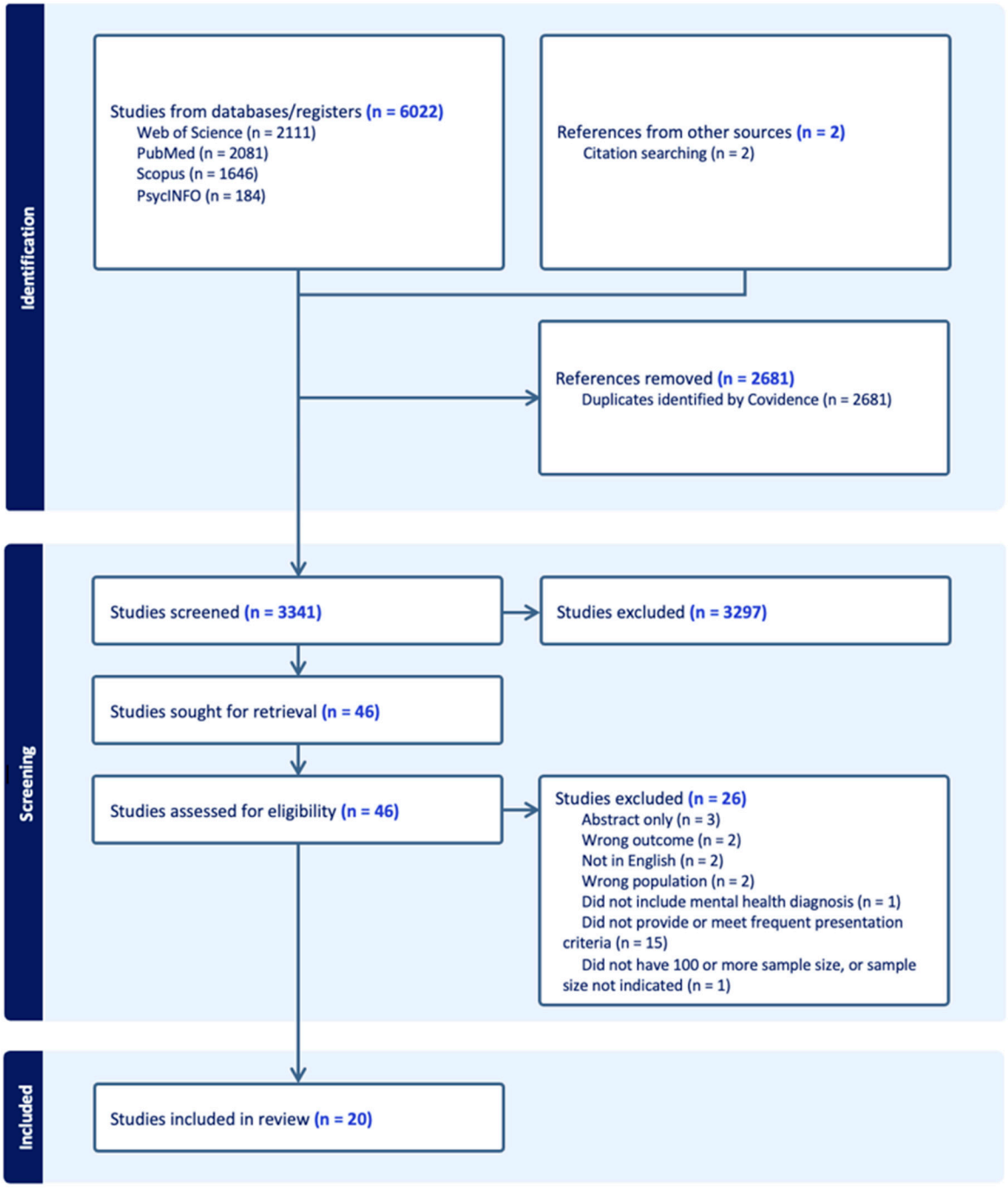

Figure 1. PRISMA.

All 20 studies can be rated as 'Good' based on NHLBI Study Quality Assessment Tools.

Among the 20 studies included published between 2004 and 2022, 6 were from US, 6 from Canada, 4 from Europe and 4 from Australia. 19 studies were retrospective in design and obtained patient data from ED patient record system or equivalent, among which, 1 study [11] combined this data with additional patient interview. Additionally, 1 study [12] is prospective in design and actively recruited patients.

Sample size and FP definition

Many studies included more than one sample group with different presentation frequencies as comparison. For the purpose of this review, only the groups that met the inclusion criteria of '3 or more times per year or equivalent' were included in the analysis. The criteria defined in studies that

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met this criterium varied, ranging from minimum ≥ 3 visits/year to maximum of ≥ 10 visits/year. Despite argument [13] that ≥ 4 visits/year should be adopted as universal definition of frequent presentation, and 3 Australian studies included used this as inclusion criterium, multiple recent studies [14–16] with large sample size defined frequent presentations as ≥ 3 visits/year. Thus, this definition is chosen to maximize the number of articles and FPs that can be included.

The studies included had sample FP size ranging from 13 to 10,969. Overall, 25,688 FP were included in this review, with mean sample size of 1284. Some studies have demonstrated a significant burden to ED from this group of patients, as demonstrated by FP number as percentage of total ED visitor number (0.1%-4.4%) vs. number of total visits made by FP as % of total visits (2.0%-8.5%).

Social profile

19 studies (n=19) provided gender of the patients, 52% were male and 48% were female. 1 patient was classified as identifying as neither male nor female. 19 studies included age of the patients, with some expressed as mean or median, others divided by age group. Notably there are different ways of assigning age groups, this review has adopted the most commonly used method (<20, 20-40, 41-60 and 60+). 15% of overall patients have age under 20, 47% falls under 20-40, 25% with age 41-60, and 13% aged 60 above. Most studies limited their patient group to aged 12 or 18 and above. 1 study only investigated young population aged 8-26, which was omitted from population-wise calculations other than gender and FP admission rate. Overall, the average age was 40.7 years.

As for socio-demographic characteristics, on average 27% of sampled patients were employed (6-54%, n=9), 20% married (6-31%, n=5), 41% homeless (16-78%, n=8) and 17% have education level as tertiary or above (7-47%, n=4).

Clinical profile

19 studies included patients' diagnosis, with 14 specified the diagnostic criteria used - either ICD 9/10 or DSM IV/V. Notably, some studies have combined certain common diagnosis (such as anxiety and depression) together. For the purpose of this review, the diagnostic category listed under Table 1 is based on DSM-V [17]. The top three diagnostic category were summarized from each study, with final calculation of top three most diagnosed condition for frequent presenters being: anxiety disorder (44%), depressive disorders (39%) and schizophrenia spectrum and other psychotic disorders (33%). Other common diagnostic category 'including bipolar and related disorders', 'substance-related and addictive disorders' and 'personality disorders'. Substance abuse history, including alcohol dependence was reported by 15 studies, with prevalence of 44% among frequent presenters.

Table 2. Characteristics of included studies.

Primary author	Publication year	Country	Diagnostic criteria	FP number as % of total ED visitor number *vs* number of visits made by FP as % of total visits	FP definition	Sample FP size	FP Admission Rate	Socio-demographic characteristics n(%)												Top 3 Diagnosis: Category(%)
								Gender			Age				Employment status	Marriage status	Homelessness	Education level	Substance abuse history*	
								Male	Female	Others	<20	20-40	41-60	60+	Employed	Married	Yes	Above secondary	Yes	
Arfken[12]	**2004**	**US**	**NA**	**NA**	**≥ 6v/yr**	**74**	**30%**	74%	26%	NA	Mean 40.6				NA	NA	60%	NA	35%	2(70%), 8(35%)
Pasic[18]	2005	US	ICD-10	4.4% vs NA	≥ 4v/qr	204	NA	74%	26%	NA	Mean 36.9				45%	NA	78%	NA	34%	8(22%), 2(15%), 4&5(15%)
Ledoux[19]	2005	Belgium	DSM-IV	NA	≥ 4v/16m	100	NA	70%	30%	NA	Mean 33.6				19%	NA	NA	NA	NA	NA
Brunero[20]	2007	Australia	ICD-9	1.5% vs 5.6%	≥ 4v/yr	13	46%	62%	38%	NA	8%	62%	30%	0	NA	NA	NA	NA	NA	4&5(39%), 2(15%)
											Mean 33									
Mehl-Madrona[11]	2008	US	DSM-III-R	NA	≥ 6v/yr	200	NA	41%	59%	NA	18%	34%	21%	27%	NA	NA	NA	NA	31%	4(24%), 8(19%), 5(16%)
Wooden[21]	2009	Australia	ICD-10	0.47% vs 4.5%	≥ 1v/m	54	NA		NA		Mean 42.8				NA	NA	NA	NA	NA	9(33%), 2(25%), 4&5(23%)
Vandyk[22]	2014	Canada	NA	0.1% vs 3%	≥ 5v/yr	70	NA	66%	34%	NA	60%		34%	6%	19%	9%	24%	NA	67%	2(30%), 3(20%), 8(20%)
Brennan[23]	2014	US	ICD-9	3.3% vs 8.5%	≥ 4v/yr	2394	NA	57%	43%	NA	NA				NA	NA	NA	NA	26%	2(56%), 3(54%), 5(48%)
Chang[24]	2014	US	NA	NA	≥ 4v/yr & ≥ 3v/2m	167	NA	56%	44%	NA	37%		53%	11%	NA	31%	23%	NA	53%	3(69%), 8(46%), 5(23%)
Vu[25]	2015	Switzerland	NA	0.9% vs NA	≥ 5v/yr	220	NA	55%	45%	NA	Mean 51.5				54%	NA	NA	19%	61%	8(61%), 4(47%), 5(34%)
Richard-Lepouriel[26]	2015	Switzerland	DSM-IV	NA	≥ 3v/yr	210	NA	49%	51%	NA	Mean 38.7				16%	25%	NA	NA	52%	8(52%), 3(49%), 9(40%)
Sirotich[27]	2015	Canada	NA	NA	≥ 2v/6m	146	NA	43%	57%	NA	Mean 42.1				18%	NA	18%	NA	29%	3(52%), 2(30%), 8(39%)
	2015	US			≥ 4v/yr	126	22%	64%	36%	NA	33%		67%		NA	NA	37%	NA	81%	

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Buhumaid[28]			DSM-IV	0.27% vs 2.0%							Mean 43.5						2(63%), 4(42%), 3(15%)
Meng[29]	2017	Canada	ICD-10	NA	≥ 10v/yr	34	NA	65%	35%	NA	Mean 40		15%	NA	50%	21%	65%	8(53%), 5(26%), 4(12%)
Fleury[14]	2019	Canada	ICD-9/10	NA	≥ 3v/yr	10969	NA	53%	47%	NA	NA		NA	NA	NA	NA	46%	5(50%), 4(45%), 2(34%)
Slankamenac[30]	2020	Switzerland	NA	NA	≥ 4v/yr	45	NA	62%	38%	NA	Mean 42.7		13%	28%	16%	47%	36%	8(44%), 9(22%), 2(11%)
Casey[31]	2021	Australia	ICD-10	NA	≥ 4v/yr	200	NA	53%	46.5%	0.5%	13% 58% 28% 2% Mean 33.4		6%	6%	NA	7%	NA	9(15%), 2(14%), 3(9%)
Gentil[15]	2021	Canada	ICD-9/10	NA	≥ 3v/yr	3121	NA	54%	46%	NA	NA		NA	NA	NA	NA	41%	5(56%), 7(43%), 4(48%)
Armoon[16]	2022	Canada	ICD-9/10	NA	≥ 3v/yr	5510	NA	47%	53%	NA	NA		NA	NA	NA	NA	48%	4&5(85%), 2&3(57%)
Cullen[32]	2022	Australia	ICD-10	NA	≥ 4v/yr	1831	41%	43%	57%	NA	Range 8-26 only		NA	NA	NA	NA	NA	5(15%), 4(9%)
Combined Data: calculated with corresponding available data only						25688	26%	52%	48%	NA	15% 47% 25% 13% 52% 48% Mean 40.7		27%	20%	41%	17%	44%	5(44%), 4(39%), 2(33%)

FP: frequent presenter; m: month; qr: quarter; yr: year; v: visits; NA: not mentioned in the study or not applicable; *: including alcohol dependence, if available.

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Category based on DSM-V[17]:
1: Neurodevelopmental Disorders
2: Schizophrenia Spectrum and Other Psychotic Disorders
3: Bipolar and Related Disorders
4: Depressive Disorders
5: Anxiety Disorders
6: Obsessive-Compulsive and Related Disorders
7: Trauma- and Stressor-Related Disorders
8: Substance-Related and Addictive Disorders
9: Personality Disorders
10: Other diagnosis listed under DSM-5

4. DISCUSSION

This review summarized the existing studies on FPs with mental health condition in the 21st century. Despite significant differences in terms of sample size, FP definition, and aspects of patient characteristics investigated among studies, this review attempted to assess and summarize social-demographic and clinical characteristics of FPs with mental health conditions on a population basis, to be able to inform future development of evidence-based interventions to improve the quality of care and reduce the burden on the healthcare system.

Profiles of FPs

Most studies have included basic profiles such as gender and age. Overall, there is slightly higher proportion of male FPs (52%), with 14 studies reported more male than female in their cohort. On a population basis, despite female has higher prevalence of mental health conditions than their male counterpart, female tends to have more internalizing disorders (such as depressive disorders, anxiety disorders), whereas male tends to have more externalizing disorders (including attention-deficit, conduct, and substance use disorder), which could potentially explain the relatively higher frequency of ED visits by male [33,34]. Meanwhile, males are less likely to seek mental health help compared to their female counterparts and more likely to become acutely unwell[35,36], thus resulting in ED presentations.

Majority studies only reported the number or percentage of one gender (male or female), with the presumption that gender is a binary concept. Only 1 study [31] has included male, female and a third category for gender diverse group. This could partially be due to lack of awareness from researchers, clinicians, or a lack of precise and inclusive gender data on existing electronic health record (EHR) system [37,38]. However, research has showed that gender diverse group in general reports more mental health conditions than their homosexual and cisgender counterparts [39].

Age wise, 20-40 years old was identified as the most prevalent age group (47%), with population average of 40.7 years. This is reasonable as data has shown that mental and behavioural conditions peak at 15-34 years age group (52.8%), and steadily decline as people get older [34]. But interestingly the peak and median age at onset for any mental disorder were 14.5 years and 18 years [40]. This might be suggesting that many of the symptoms tend to be poorly controlled as people grow to middle age and resulting in frequent presentation. Meanwhile, research in Japan has indicated that people aged 20-39 years tend to have the least help-seeking behaviour, leading to severe psychological distress with potentially acute presentations [41]. As people grow older however, there tends to be an increase in self-reported mental health symptoms caused by physical illness as people's resilience to disease reduce [42].

Socio-demographic characteristics

Previous studies have identified income, residence, education, marital and employment status as the principal socio-demographic factors associated with mental disorders [43,44]. In this review, employment status, homelessness, marital and education status were included for analysis.

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Overall employment rate was 27% among the FP group. Unemployment has long been established as more prevalent among people with mental health disorders. According to report published by OECD in 2012 [45], people with severe mental disorders (SMD) are 6-7 times more likely to be unemployed (45-55%) than people without; and those with common mental disorders (CMD) 2-3 times (30-40%). The OECD data is used as comparison in this review (where available) considering that all studies included were conducted in OECD countries. Unemployment has been associated with increase in the probability of poor mental health, with the association most prominent in the long-term unemployment group [46]. Unemployed people commonly report the feeling of worthlessness, anhedonia, and are more commonly diagnosed with chronic depression and anxiety [47]. However, research is less clear on whether there's a causal relationship between the two factors, and if there is, which resulted in the other [48,49].

Financial difficulty as a result of unemployment causes homelessness [50,51], with 41% of the group recorded as homeless at least once when they presented to ED. Whereas the most recent homeless data reported by OECD countries ranges between 0.01 and 0.86% of nation's total population [52]. Among the 6 countries included in this review, despite the US topped in homelessness chart with Switzerland being the lowest, it is not reflective of the population homeless data in neither countries as both US and Switzerland homeless rate were 0.18% in 2020 [52]. Australia on the other hand, has 0.48% population homeless, the highest among the 6 countries [52]. Study has indicated that homelessness is both a cause and a result of mental health conditions [53].

People with education level of tertiary and above among the group was 17%, significantly lower than OECD average 31-47% from 2004 to 2021 for 25-34 years-old age group and 18-30% in the same period for 55-64 years-old [54]. Study has shown that better education helps with better access to psychosocial resources, such as sense of control, resilience, and cultural activities, which all contribute to good mental health [55].

Marital status is another major socio-demographic factor. On a population basis, the amount of adults ages 25 to 54 who are married fell from 67% in 1990 to 53% in 2019 in the US [56]. This is still significantly higher than FP group's marriage rate of 20%. Study has found that marriage could provide psychological benefits and is a protective factor for mental health [57–59]. However, it can be contradictory as sometimes unstable marriage and early marriage can increase the distress [60].

Clinical characteristics

Statistically, it is unsurprising that anxiety disorder (44%) and depressive disorders (39%) top the diagnostic charts as they are also the first and second most prevalent mental health conditions in the US, with population annual prevalence of 19.1% and 8.4% respectively [61]. However, schizophrenia spectrum and other psychotic disorders which represent 33% of frequent presentations have much lower population prevalence between 0.25% and 0.64% [61]. It is unsurprising that schizophrenia represents a tiny portion of population with mental health conditions but present so often. Schizophrenia can present with a wide range of positive and negative symptoms [62], such as hallucinations, delusions, and disturbances in thought and behaviour. Meanwhile, 40% schizophrenia patients are also affected by depression, 65% affected by anxiety symptoms [63,64]. All of which contribute to high presentation rate in this group of patients, despite represent a small portion of psychiatry diagnosis in community. The presentation rate is lower than depression and anxiety could be explained by the established community-based care models for schizophrenia that partially reduce the emergency presentations to hospital [65].

In many cases, those who presented to ED were brought in by law enforcement agencies against their free will, due to patients' lack of insight [66]. Some presentations of schizophrenia, such as acute psychosis, require timely hospital treatment with multidisciplinary input, which has been associated with lower rehospitalization rates and improved psycho-social skills [67].

Why do FPs present so often? The low SES only contributes to people's long-term stress, but only 1 study [19] briefly mentioned acute stressors prompt their ED visits, including mourning, conflict family member and craving. The need profile that leads them to ED is more complicated and usually multifactorial. Study conducted in US found that the most common secondary diagnosis for

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those with depression who present to ED were anxiety, alcohol abuse and nondependent tobacco use disorder [68]. Meanwhile, a significant amount of ED users with depression present with attempted suicide, which frequently require admission [69]. On top of that, for every 10% increase in depression severity, there is 10% rise in the relative rate of subsequent ED visits and hospitalization [70]. Patients with anxiety disorders frequently present with panic disorders, which is a reasonable for ED visits and require clinicians to rule out organic diseases. They also tend to have more frequent outpatient visits and mental health visits but fewer major and moderate medical problems than their non-panic peers[71]. Studies have also found that prevalence of comorbid anxiety disorders range from 40.5-53.2% in patients with bipolar disorder (BD) [72,73].

Another frequent diagnosis of FPs reported by frontline ED staff is borderline personality disorder (BPD). However, only 3 studies have identified personality disorder as top 3 diagnosis. A Spanish study [74] has identified that 9% of total visits to psychiatric emergency services involved a diagnosis of BPD, among which 63% were female, 33% had depression or anxiety, 45% with substance use disorder, and 28% presented with disruptive behaviour. Study in Australia [75] has found similar results with 15% of BPD patients have concurrent schizophrenia or mood disorder. However, on hospital record, BPD patients only represent less than 2% of total ED presentations in general hospital, despite perception that people with BPD are disproportionately reliant on emergency services [75]. Study, has found that many psychiatrists are not willing to disclose or document the diagnosis of BPD due to stigma and uncertainty [76]. Meanwhile, frontline ED staff have less training in this field than mental health specialists and might not have enough time to explore the diagnosis. In addition, BPD patients usually present with diagnosis that is more severe and easier to diagnose, such as the abovementioned substance use disorder, depression, anxiety, and schizophrenia, which are commonly documented. Substance abuse, including alcohol dependence are widely known to be more prominent in people with mental health conditions. An estimated 2% of the world population are dependent on alcohol or an illicit drug [77], with lifetime prevalence of 6.5% for alcohol and 8.9% for substance [78], much lower than the 44% from FP cohort. 7 studies have included substance-related and addictive disorders as their top 3 diagnosis. Over half patients with substance and alcohol dependence are associated with co-occurring mental health conditions such as mood disorder, depression and anxiety, and schizophrenia [79,80], which further contributed to their ED visits on top of their acute toxication episodes.

Influence on care

Many studies have acknowledged the strain on medical workforce from the FP group with mental health conditions. As illustrated in Table 2, this group of patients tend to use ED resources disproportionally more (as demonstrated by 'FP number as % of total ED visitor number *vs* number of visits made by FP as % of total visits') compared to the general population. Despite frequent presentations, their overall admission rate of 26% is very similar to that of the general population – 28% in Australia [1], 20% in US [81]. Often people have longer stay in ED causing obstacle for other patients in genuine needs to come for help. In Australian settings, 10% of ED mental health presentations had length of stay longer than 16 hours in 2020-2021, much longer than the same measure for all ED presentations of 9 hours [2]. The Australian Medical Association (AMA) reported in 2022 that those with mental health admission requirement are waiting on average of up to 28 hours before admission due to lack of hospital bed [82]. Some visits could be easily prevented with community supports such as GPs, mental health nurses, peer workers or even family supports. People with mental health distress often finds it hard to navigate complex community resources, so they seek ED care where 24 hours care available.

Many frontline ED staff have labelled the FP group as 'frequent flyers' out of frustration, which partially stem from the lack of management knowledge, despite recognizing them being vulnerable [6]. From patients' perspective, many have complained a lack of empathy from treating team and felt unappreciated or misunderstood[83]. From medical system's perspective, difficulties in resolving the current situation create a 'revolving-door' service circle [84], thus results in more presentations and frustration on both sides of the medical service, in addition to the financial cost on public medical

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insurance. Meanwhile, in full-service hospitals, critical emergency resources could be drained away by community manageable mental health presentations from more urgent conditions such as myocardial infarctions or strokes, which might result in an overall reduction in healthcare outcome.

Suggestions

Many models to address the FP issue have been proposed in the past [85]. General mental health presentations are a result of acute stressors on top of their long-term socio-demographic disadvantage and clinical conditions. Dedicated mental health triage service and emergency psychiatrists can help reduce bed-block and reserve the critical medical resources for patients with organic emergencies. ED staff training can include basic knowledge on dealing with frequent presenting patients thus reduce frustration. Interventions with inter-professional approach has proven beneficial in FP's care, with reduction in ED presentation frequencies [86]. For FP with mental health conditions, multi-disciplinary treating team can include patient's treating psychiatrist, psychologist, mental health nurse, social worker, and other healthcare professionals relevant to patient's condition.

On a community level, case-based management and patient-centred approach can tailor to specific patient's needs, with higher rate of patient satisfaction, better clinical outcome, reduction in ED visits and admissions [87,88]. Nursing models such as the Buurtzorg [89] could be expanded to provide mental health support and social welfare services at a local level. In Australia, the Royal Commission into Victoria's Mental Health System [90] (the Commission) has recommended to integrate mental health and wellbeing services into local communities with regionalized governance body. In case of mental health crisis, the Commission recommended 24 hours telehealth services that provides triage and emergency supports. It could be complemented by outreach services from peer workers on site and followed up by mental health professionals. Community wellbeing centres and domestic violence services can provide safe spaces and crisis respite facilities, which play the role of hospital ED to reduce unnecessary presentations thus improve the overall quality of care in ED. Social housing programs, financial assistance for unemployed, and better education infrastructure could reduce incidence of mental health conditions by addressing the identified risk factors for frequent presentations. Involuntary treatment orders should always be considered as measure of last resort, with thorough police training delivered by clinicians. Mental health services and law enforcement agencies could also engage in community education on related regulations to promote awareness.

Limitations and implications on future research

There are several limitations of this review. First, as mentioned above, few studies have included gender diverse grouping in their patient profile. Given the prevalence of mental health issues among the group [39], future studies and electronic health record should take this into account. Second, there is significant differences in frequent presentation definition among different studies. Most studies have defined frequent presentation as 3 or 4 more visits per year, with some others defined the criteria on monthly basis. As such, patients with different presentation frequencies were analysed together in this review. However, those who present 10 times a year more may have a different social or clinical profile to those who present 4 times a year. Standardized approach to define frequent presentations should be adopted in the future. In addition, studies sampled limited and different aspects of socio-demographic or clinical profile on their respective patient cohort. This review only included the most relevant aspects, but there are many others worth analysing such as patients' source of referral, primary care usage and admission history in the past. Moreover, most studies did not include the acute stressors that prompt patients' ED visits. Future studies could include as many aspects of patients' profile as possible. This could be helpful in identifying the immediate need and predisposing factor of their presentations. Different diagnostic tools used also add on to the difficulties in standardized analysis. A gold standard and regulated version of mental health diagnostic tool should be developed and implemented. The goal of these strategies is to facilitate mental health care on a community level to reduce the number of presentations, thus promote the overall healthcare outcome.

5. CONCLUSION

Frequent presenters with mental health condition utilize the emergency medical services disproportionally compared to the general public. This review is one of the first studies that summarized the profile, socio-demographic and clinical characteristics of FPs with mental health conditions. On average, FPs are middle aged and equally prevalent in both gender. Current data lacks representation for gender diverse group. They are significantly associated with high rate of unemployment, homelessness, lower than average education level, and being single. Anxiety disorder, depressive disorder, and schizophrenia spectrum disorders are the most common clinical diagnosis associated with the group. This review serves as starting point for those looking to develop a care model addressing the frequent presentation issue and improving the overall health outcomes from emergency department utilization.

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