Characteristics of Frequent Users of an Acute Psychiatric Inpatient Unit: A Five-Year Study in Portugal

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Objective: This study examined demographic and clinical characteristics of frequent users of a psychiatric inpatient unit in Portugal. *Methods:* Data (2004–2008) for 1,348 consecutive psychiatric inpatients were reviewed. Frequent users (N=137), who had at least three admissions in the study period, were compared with nonfrequent users (N=1,211) on age, gender, race-ethnicity, diagnosis, and compulsory admissions. Data were analyzed with chi square and Student's t tests. *Results:* Frequent users accounted for 29% of admissions. They were significantly younger than nonfrequent users (39±14 versus 44±17, p<.001), and a larger proportion had compulsory admissions (28% versus 14%, p<.001). The frequent user group also had significantly higher rates of bipolar disorder (61% versus 46%, p<.001) and schizophrenia (29% versus 18%, p<.003). *Conclusions:* Understanding characteristics of frequent users can inform development of appropriate services. Research should address other variables related to frequent admissions, including socioeconomic factors, general medical and psychiatric comorbidities, and treatment compliance. (*Psychiatric Services* 64:192–195, 2013; doi: 10.1176/appi.ps.000782012)

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In the years since the deinstitutionalization of psychiatric patients, a small subset of patients with an above-average number of admissions to acute psychiatric inpatient units has been recognized in clinical practice and described in the literature (1–11). These frequent users, sometimes referred to as "revolving-door patients," account for a substantial proportion of total admissions and health care costs and pose a challenge to both their families and mental health workers (1,2).

The phenomenon of frequent readmission seems to be stable over time (1,3) and occurs even in areas with extensive community mental health centers (2,4) and despite optimal medication and psychoeducation (5). There is little consensus on the definition of frequent users—definitions have ranged from three or more admissions in one year (3) to three or more lifetime admissions (6), but most authors define frequent use as more than three or four admissions in a five- to ten-year period (5).

Frequent users tend to be younger (2–5) and to have a primary diagnosis of schizophrenia (1,5,7), affective disorder (1,4,7), or personality disorder (3,4). Most studies indicate that frequent users are predominantly male (2,5,7,8). Some studies of frequent users have reported that black patients account for the largest percentage (7), and some report the same for white patients (1). Results also conflict in terms of which type of admission accounts for the largest percentage among frequent users—voluntary (4) or involuntary admissions (10).

Socioeconomic disadvantage (2,3) and the severity of the patient's psychiatric illness (5,10) appear to be associated with an increased number of admissions. Frequent users have been shown to have a lower level of education (3); to be more likely to be unmarried (3,5,10), unemployed (3,7), and homeless (3); and to have fewer contacts with family members (2). Illness severity is reflected in their younger age at first admission (3,6), chronic course of illness (3,5,6), disability (1,3,9), treatment resistance (9), psychotic symptoms (2,9), and disturbed or aggressive behavior (9,11).

Reported predictors of readmission include a greater number of previous admissions (2–4,7) and longer hospital stays (4,5,7,10). Additional factors include noncompliance with treatment (8,9), substance use (3,8,9), and premature discharge because of the need to make beds available (9), which may diminish opportunities for a sustained recovery (12).

The aim of this study was to compare demographic and clinical characteristics of frequent users and nonfrequent users of a Portuguese acute psychiatric inpatient unit.

Methods

This study was conducted in a psychiatric department of a public general hospital that offers comprehensive community services. The Portuguese health care system is almost entirely state funded, covers the entire population, and is similar to the United Kingdom's national health system.

The psychiatric department's main goal is to provide care for patients with the most severe mental illnesses by coordinating care between several functional units (inpatient unit, day hospital program, multidisciplinary community mental health teams, and liaison psychiatry), multiple programs and interventions (outpatient clinics, day care centers, home visits, first psychotic episode intervention, and rehabilitation and psychoeducation programs), and collaborative care with local primary care services. Local nongovernmental organizations and municipalities are also involved in the effort to ensure continuity of care. The hospital's psychiatric department was one of the first to implement the model of care established by the 2007 Portuguese National Mental Health Plan (13). It serves a highly urban and multiethnic population of over 300,000 people in the suburbs of Lisbon, Portugal. Over 10% of residents are legal immigrants (4% from Cape Verde, 2% from Brazil, 1% from Guinea-Bissau, 1% from Angola, 1% from other African countries, and 1% from other European countries). An undetermined number of illegal immigrants also use the psychiatric service.

A 29-bed acute psychiatric inpatient ward is located in the general hospital and provides standard psychiatric inpatient care that includes clinical evaluation, psychopharmacological treatment, nursing care, and occupational therapy. Patients are then discharged to the community level of care after stabilization of the acute symptoms.

Retrospective data for all patients consecutively admitted to the acute psychiatric inpatient unit from January

Table 1

Diagnoses of frequent and nonfrequent users of an acute psychiatric inpatient unit

Diagnosis	Frequent users (N=137)		Nonfrequent users (N=1,211)		
	N	%	N	%	p
Bipolar disorder	84	61	561	46	.001
Schizophrenia and other nonaffective psychoses	44	32	334	28	.026
Schizophrenia (alone)	39	29	216	18	.003
Depressive episode	3	2	94	8	.016
Personality disorder	2	2	40	3	.239
Dementia	0	—	33	3	.050
Organic condition	1	1	31	3	.182
Other psychiatric disorder	3	2	100	8	.011
Missing	0	—	18	1	.150

2004 to December 2008 were reviewed by using a computerized database. Assessed variables included age, gender, race-ethnicity, diagnosis, number of admissions, and compulsory admissions.

The mean number of admissions per patient was 1.50 ± 1.15. Frequent users were defined as having admissions more than one standard deviation above the average ($1.50+1.15=2.65$), meaning at least three admissions in the five-year period; nonfrequent users had fewer than three admissions. The two groups were compared on the variables described above.

Major diagnostic categories were defined according to *ICD-10* criteria. Diagnoses were made on the basis of several psychiatric interviews conducted regularly by a senior psychiatrist and through clinical discussion in the weekly rounds of the unit and the community mental health teams. Only the main diagnosis at discharge was entered into the database.

The group "schizophrenia and other nonaffective psychoses" included the diagnoses of schizophrenia, delusional disorder, and acute and transient psychotic disorders. For bipolar disorders, a spectrum definition, broader than the *ICD-10* criteria, was used (14); it includes hypomanic or manic episodes associated with antidepressant or stimulant use and depressive episodes of patients with baseline hyperthymic or cyclothymic temperament.

"Organic conditions" referred to medicosurgical diagnoses that required transfer of patients to another hospital department. "Other psychiatric diagnosis" included mental retardation; substance use disorder (coded as the main reason for the admission and including alcohol and heroin dependence and psychosis induced by alcohol); anorexia nervosa; Asperger's syndrome; generalized anxiety, panic, somatoform, and obsessive-compulsive disorders; and malingering. "Missing diagnosis" was coded when the diagnosis was absent in the medical record.

The study was approved by the hospital institutional review board. Data were made anonymous, and confidentiality was assured. Statistical analysis was performed with SPSS for Windows, version 14.0, and statistical significance was tested with chi square tests and Student's t tests for nominal and continuous variables, respectively.

Results

In the five-year period, 1,348 patients accounted for 2,018 admissions. A total of 632 patients (47%) were men, and 716 (53%) were women. The mean$\pm$SD age of the sample was 43.96 ± 16.56. A total of 1,075 patients (80%) were Caucasian, and 273 (20%) were non-Caucasian.

The mean number of annual admissions was 564 ± 46, and the mean length of stay was 20.1 ± 20.7 days. The frequent-user group included 137 (10%) patients, who accounted for 584 (29%) admissions. Frequent users

were significantly younger than non-frequent users (39±14 versus 44±17 years, p<.001). A larger proportion of frequent users had compulsory admissions (28% versus 14%, p<.001). No significant differences were found in relation to gender; 50% (N=563) of the frequent users were male, compared with 46% (N=68) of the nonfrequent users. The groups also did not differ in ethnicity; 77% (N=105) of frequent users were Caucasian, compared with 80% (N=970) of nonfrequent users.

Table 1 presents diagnostic data for the frequent and nonfrequent users. The percentages of patients with diagnoses of bipolar disorder and schizophrenia and other nonaffective psychoses were significantly larger among frequent users; the between-group difference was particularly notable in the subgroup with schizophrenia alone (that is, excluding delusional and acute and transient psychotic disorders). The percentages of patients with a depressive episode and with other psychiatric diagnoses were significantly larger among nonfrequent users. The two groups did not differ significantly in terms of personality disorders (mainly cluster B), dementia, organic conditions, or missing diagnosis.

Discussion

Although frequent users accounted for only 10% of the patients admitted during the five-year study period, they were responsible for almost a third (29%) of admissions during that period. This finding has important clinical and economic implications. Our study found that frequent users of inpatient care were significantly younger than nonfrequent users, which is consistent with the general consensus (2–5). In addition, most frequent users had a diagnosis of bipolar disorder or schizophrenia or other nonaffective psychosis; the difference between frequent and nonfrequent users was even more pronounced when the analysis compared patients with schizophrenia alone. These results are consistent with previous studies (1,7) and highlight the severity of primary illness as a major predictor of readmission. The presence of psychotic symptoms, poor insight, and poor

treatment adherence, along with a chronic course of the illness and unfavorable social conditions might account for these results, as previously suggested (3,5,9).

Other studies have highlighted the elevated prevalence of personality disorders among revolving-door patients (3,4). However, this was not the case in our study. It may be that due to the use of broader criteria for bipolar disorder in our study, some patients with personality disorders according to *ICD-10* were given diagnoses of bipolar disorder—in particular, those with a personal and family history of affective disorders (14).

Compulsory admissions were significantly more common among frequent users, as found in previous studies (10). An earlier study conducted in the same psychiatric department found that black patients had a higher percentage of compulsory admissions than white patients (15), and black patients were overrepresented in our sample. Although our study found no racial-ethnic differences between the frequent and nonfrequent users, it may be that unfavorable clinical outcomes are more likely among black patients.

This retrospective study is one of the largest to explore the demographic and clinical characteristics of frequent users of an acute psychiatric inpatient unit. Unlike other similar studies, which focused on specific diagnostic groups, this study included general psychiatric inpatients. Limitations include the retrospective design and the lack of information on other social, clinical, and treatment variables. In addition, although other studies have examined the predictive value of length of stay (4,5,7,10) and the number of previous admissions (2–4,7) as markers of the revolving-door phenomenon, our data did not allow us to investigate these factors.

Conclusions

Frequently admitted patients present major social, economic, and treatment challenges. To anticipate and interrupt the revolving-door cycle, it is important for services to identify potential frequent users. Mental health teams that assess or treat young patients with severe bipolar disorder, schizophrenia, or other psychosis and with a history of

compulsory admission should keep this in mind. This study was conducted in a department that has a strong community intervention philosophy and offers patients diverse alternatives to admission, including a day hospital program, day care centers, and easy access to outpatient clinics.

Future research is needed to clarify other factors associated with frequent admissions to psychiatric units, such as socioeconomic factors, comorbid general medical and psychiatric conditions, and treatment compliance. Research should also examine the model of inpatient psychiatric care itself in order to ensure better organization of treatment and services for this vulnerable population.

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