

Frequent Visitors to Psychiatric Emergency Services: Staff Attitudes and Temporal Patterns

Cynthia L. Arfken, PhD
Lori Lackman Zeman, PhD
Lindsay Yeager, BA
Edward Mischel, MSW
Alireza Amirsadri, MD

Abstract

Providing quality psychiatric emergency services is becoming more difficult as utilization rates soar, especially by individuals who are frequent visitors. To address this issue, a staff survey and analysis of admission patterns were conducted. Staff were more likely to believe that frequent visitors sought care because they had difficulty accessing alternative services, had basic needs unmet, were substance abusers, wanted inpatient admission, and were noncompliant with treatment plans. The 1999 temporal admission pattern documented that frequent visitors' admissions were higher during the first week of the month and inclement weather. Surprisingly, the infrequent visitors' admissions also were higher during the first week of the month. Together, these findings suggest that, in this urban location, frequent visitors are disadvantaged individuals lacking support and alternative treatment settings who use psychiatric emergency services to meet basic needs.

Introduction

Providing quality psychiatric emergency services is becoming more difficult as utilization rates soar, especially by individuals who are frequent visitors. Since the passage of the 1963 Community Mental Health Center Act, psychiatric emergency service has changed from being primarily a hospitalization gatekeeper to being the first line of care in crisis and the sole provider for some of those most disadvantaged in society.^{1,2}

Address correspondence to Cynthia L. Arfken, PhD, Assistant Professor, Department of Psychiatry and Behavioral Neurosciences, Center for Healthcare Effectiveness Research, Wayne State University School of Medicine, 2761 E. Jefferson, Detroit, MI 48207; e-mail: carfken@med.wayne.edu.

Lori Lackman Zeman, PhD, is Assistant Professor, Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine.

Lindsay Yeager, BA, is Research Assistant, Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine.

Edward Mischel, MSW, is Clinical Manager Emergency Psychiatry, Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine.

Alireza Amirsadri, MD, is Assistant Professor and Medical Director Emergency Psychiatry, Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine.

Journal of Behavioral Health Services & Research, 2002, 29(4), 490–496. © 2002 National Council for Community Behavioral Healthcare.

Frequent visitors are estimated to account for one third of all visits to psychiatric emergency services.³ Constraints on resources make addressing their disproportionate use a high priority for clinicians and policy makers. Studies⁴⁻¹³ have examined how frequent visitors differ from other visitors with differing results. The differences in results may be due to varying definitions of frequent visitors, different health care and social welfare systems, different configurations of services available, different climates, and different populations served.

An additional concern in interpreting the results is that many studies relied solely on medical chart reviews. If staff have preexisting strong negative attitudes, as suggested in two reviews,^{1,3} these attitudes, coupled with varying demands of health care systems and procedures, may influence what and how items are recorded in the medical charts. Information based solely on retrospective medical chart review may reflect these biases. The strong attitudes by staff also may color their response to any proposed interventions. Knowledge of staff attitudes is crucial to both interpreting results from chart reviews and preparing for possible interventions.

In addition to ascertaining staff attitudes, analyzing the temporal pattern of use can assist in supplementing results from chart reviews. A common clinical impression is that frequent visitors use the psychiatric emergency service for shelter during inclement weather but other temporal patterns may occur. The finding of increased emergency department visits and psychiatric hospitalizations during the first week of the month by individuals who receive disability checks has led to the proposal that a neutral third party should handle the disability checks for some individuals.¹⁴⁻¹⁶ Temporal patterns also have been used to assess emergency medicine department volume fluctuations with seasonal patterns, holidays, and weather conditions.^{17,18} One specific temporal pattern, the lunar cycle, initially appeared to be associated with medical and psychiatric emergency service volume,¹⁹ but this finding has been refuted in more recent studies.^{20,21} No one has examined possible temporal patterns to psychiatric emergency services for frequent and infrequent visitors.

To start assessing potential areas of interventions aimed at addressing frequent visits to an urban psychiatric emergency service, a staff survey on attitudes toward frequent visitors and a statistical analysis of frequent visitors' temporal patterns of use were conducted.

Methods

Setting

The setting for this study was the primary psychiatric emergency service for Detroit, the Crisis Center at Detroit Receiving Hospital. Detroit has a population of 951,270, with 82% being African American.²² The psychiatric emergency service is located in a university-affiliated acute care hospital that has approximately 10,000 admissions per year. It is staffed by psychiatrists, psychiatric residents, nurses, social workers, and mental health technicians, and it has active linkages with other health providers and social services in the county. It does not provide crisis residential services.

Staff survey

In the anonymous one-page survey, all staff members were asked to check common reasons why they believe "frequent users" come to the psychiatric emergency service. This process was then repeated for "infrequent users." No explicit definition of frequent or infrequent users was given, as the purpose was to assess attitudes. The 24 listed reasons, arranged alphabetically to minimize response biases, were drawn from clinical observations and the literature; space for identifying additional reasons was provided. Questions on job classification, usual shift worked, and length of service were included to assess the influence of these factors on staff responses. No effort, either implicit or explicit, was made to discourage discussion or consultation within staff on completing the survey. The participation rate was 75% of the 48 staff members.

Due to some similarity within the 26 total reasons (24 listed reasons and 2 supplied other reasons), items were categorized post hoc to form fewer but broader reasons for visits. The 10 resulting categories were derived by group consensus of the investigators and suggestions from the literature. In situations where consensus could not be achieved, the items remained separate categories.

The analysis consisted of tabulating the categorical reasons for visits and comparing the results for frequent users and infrequent users with McNemar's test. Categories also were examined across shifts, job classifications, and job tenure using chi-square tests with Holm's adjustment for multiple comparisons.²³ These factors were not further examined in multivariate analysis due to the small sample size.

Temporal trends

Psychiatric emergency service admission records for calendar year 1999 were reviewed. During that year, the service had 10,178 admissions by 5,722 different individuals. For each of the 5,722 individuals, the number of admissions to the psychiatric emergency service during 1999 was summarized. Individuals with six or more admissions were categorized as frequent visitors. The outcomes of (1) number of admissions for nonfrequent visitors and (2) number of admissions for frequent visitors were separately summarized for each day of the year.

Temporal trends were examined for calendar, meteorologic, and lunar cycle variables. The calendar variables were season, week (coded as first, last, or other), day of week, and December. December was included as a separate variable to assess potential holiday effects acting either directly on the patients or indirectly through their influence on caregivers. The daily meteorologic data, obtained from the National Weather Service, included mean, maximum, and minimum daily temperature; minimum and maximum daily relative humidity; mean daily wind speed; daily precipitation amount; and days with weather (eg, fog, haze, thunder). Information on daily hours of sunlight was, unfortunately, not available for Detroit. The four-phase lunar cycle, obtained from the *Farmer's Almanac*,²⁴ was coded as full moon, new moon, first quarter, or last quarter for the actual days listed as well as the 2 days preceding and following each event.

The temporal pattern analysis consisted of constructing two separate hierarchical linear regression models with the number of infrequent and frequent admissions for each day as the dependent measures. For each regression, three blocks of independent variables, consisting of calendar, lunar, and weather variables, were then entered in separate blocks. Collinearity was a problem for the temperature variables (all r 's $> .9$). To eliminate this problem, only minimum daily temperature was included because it had the highest correlation with both number of frequent admissions and number of infrequent admissions of all the temperature variables. Results were virtually unchanged when other temperature variables were substituted in the regression models. Curvilinear patterns and extreme deviations from the means also were examined but did not fit the data.

The Wayne State University Institutional Review Board approved both studies (ie, the staff survey and the temporal pattern analysis).

Results

Staff survey

The staff endorsed significantly more reasons for why frequent visitors came to the psychiatric emergency service than they did for infrequent visitors (means, 13.44 versus 6.64; $t = 5.94$, $df = 35$, $p < .001$). Furthermore, 6 of the 10 categories had significantly higher staff endorsement for why frequent visitors come to the service than for infrequent visitors (Table 1). A substantial majority of the staff ($>75\%$) endorsed the following categories as reasons frequent visitors came to the service: difficulty accessing alternative services (94%), substance abuse (92%), basic needs (92%),

Table 1Percentage of staff who endorsed item as a reason for frequent and infrequent visitors ($n = 36$)

Reason	Frequent visitors %	Infrequent visitors %
Difficulties accessing alternative services*	94	53
Substance abuse*	92	44
Basic needs*	92	14
Wanted inpatient admission/shopping crisis centers*	86	22
Patient noncompliance with treatment plan*	81	44
Psychosocial problems	81	69
Symptoms/medical problems	75	67
External factors*	61	31
Need medication	58	53
Acute event or problem	39	61

*Differences in paired proportions at $p < .05$

wanting inpatient admission (86%), noncompliance with treatment plan (81%), and psychosocial problems (81%). For infrequent visitors, 75% or more of the staff failed to endorse any category. The most commonly endorsed categories for infrequent visitors coming to the service were psychosocial problems (69%) and symptoms/medical problems (67%). The percentage of staff endorsing any one category did not differ significantly across shifts, disciplines, or length of service.

Temporal pattern analysis

During 1999 the number of admissions per individual ranged from 1 to 60, with 3.5% having six or more admissions (ie, frequent visitor). As a group, this 3.5% categorized as frequent visitors accounted for 23% of all admissions during that year.

The number of admissions per day for the group of frequent visitors had a mean of 6.4 ± 2.8 (range, 0 to 16; median, 6; mode, 7) over the course of the year. For the group of infrequent visitors, the mean number of admissions per day was 21.4 ± 5.3 (range, 7 to 42; median, 21; mode, 20). The number of daily admissions for the two groups had a small, positive correlation ($r = .15, p = .003$).

In the regression model for frequent visitors, the block of calendar variables was significant ($F(12,346) = 4.24, p < .001$) in explaining variation with no additional contribution of lunar cycle variables ($F(4,342) = 0.39, p = .81$). The weather variables showed a significant association with number of daily frequent visitor admissions ($F(6,336) = 3.32, p = .003$) even after controlling for calendar and lunar cycle variables (Table 2). When the full model was examined, the significant individual variables associated with admission of frequent visitors were first week, last week, Monday, daily precipitation, and minimum daily temperature.

For infrequent visitors, only the block of calendar variables was significant in explaining variation ($F(12,346) = 5.87, p < .001$). Neither the lunar cycle nor weather had additional statistical contribution (Table 2). The significant individual variables within the full model associated with admission of infrequent visitors were first week, last week, spring, summer, and Sunday.

Discussion

These two studies—staff survey and temporal pattern analysis—together contribute to understanding why frequent visitors use psychiatric emergency services in this urban location. The staff survey

Table 2

Results from temporal pattern on daily admission for frequent and infrequent visitors

	<i>R</i> ²
Frequent visitors (6+ admissions per calendar year)	
Block 1: Calendar variables	.128 [†]
Block 2: Lunar variables	.004
Block 3: Weather variables	.049*
Total model	.181
Infrequent visitors (≤5 admissions per calendar year)	
Block 1: Calendar variables	.169 [†]
Block 2: Lunar variables	.014
Block 3: Weather variables	.012
Total model	.195

*Test of incremental change in R^2 , $p < .01$ †Test of incremental change in R^2 , $p < .001$

presents data supporting previous assertions that staff have strong attitudes toward frequent visitors and why they seek care.^{1,3} These strong attitudes spanned disciplines, shifts, and length of service.

The staff did not report reasons that were different from those already reported by a reading of the literature.^{3,25} The staff, however, very clearly gave different reasons for why people come frequently versus infrequently to the crisis center. This finding underscores examining the frequent users as a distinct subset of patients in the crisis center. Their clinical impression echoed common themes of difficulty accessing alternative care, basic needs, substance abuse, wanting inpatient admission, and noncompliance with treatment plan. The similarity of reasons across shifts, tenure in the crisis center, and job classifications would suggest either similar clinical acumen, obvious reasons for why patients come to the crisis center, common new and ongoing training of staff, common source of information (ie, opinion leader in the crisis center), or an organizational culture that reinforces certain beliefs.²⁶

The staff gave more responses to reasons for why people come frequently to the crisis center than why they come infrequently. It is not clear if staff believe that there are many different profiles of people coming frequently, or if they believe that the people coming frequently have many coexisting different reasons. The reasons endorsed painted a composite picture of disadvantaged individuals who have unmet basic needs, lack support, and have no alternatives to psychiatric emergency services.

The staff also endorsed external events, in particular weather and day of the week/month, as reasons for frequent visits by patients. This endorsement was partially supported by the temporal pattern analysis. Contrary to the reporting by the majority of the staff, calendar effects also were important for infrequent visitors. The discrepancy may be due to individuals' differing definitions of frequent visitors or staff attention focused on the frequent visitors with less attention on the infrequent visitors. The finding reinforces the need for interventions to ameliorate this problem. As already suggested, appointing third-party designees for disability checks may be an option.¹⁶ None of the admitted patients during 1999 had neutral third-party designees for disability checks.

Consistent with the findings from the staff survey, the pattern of admissions for frequent visitors was associated with meteorologic variables. Specifically, frequent visitor admissions increased with both higher minimum temperature and more precipitation. No differences by season were noted, suggesting that length of day or amount of sunlight is not the underlying effect. Such associations

may suggest the use of psychiatric emergency services by these patients for shelter, a finding also consistent with the results of the staff survey. Possible reasons for increased frequent visitor admission volume with increasing temperature instead of decreasing temperature include more limited mobility in cold weather and increased activity and potential for contact or conflict with other people during warmer weather. Anecdotally, clinicians remarked that people may be less likely to be pushed out of a house during cold weather.

The survey was limited in that it did not explicitly define frequent visitors. The lack of definition in the staff survey could have artificially increased the variation in the frequency response and blurred common themes. Another limitation was that the staff and temporal patterns were studied in one urban area and may not be generalizable to other areas. Cities located in different climates or with different funding sources or service configuration may find different associations.

Summary

A staff survey was conducted at a busy urban psychiatric emergency service. The staff endorsed more reasons for why people come frequently to the service as opposed to infrequently, and their endorsements spanned disciplines, shifts, and periods of tenure. The endorsed reasons included difficulty in accessing alternative services, need for food and shelter, substance abuse, desire for inpatient admission, and noncompliance with treatment plan. There was less agreement on why people came infrequently to the service. The temporal pattern analysis supported the results of the staff survey on the importance of calendar effects and weather as possibly influencing when frequent visitors show up at the psychiatric emergency service. Surprisingly, the temporal pattern analysis also suggested that infrequent visitors had predictable admission patterns associated with calendar effects. These findings can be used as a starting point to investigate and design an intervention to reduce the personal and system burden of frequent users to psychiatric emergency services. The findings are limited to a single psychiatric emergency service and need to be replicated in other cities before generalizing to other urban psychiatric emergency services.

Implications for Behavioral Health Services

The staff survey and temporal pattern analysis contribute to understanding the context for frequent use of psychiatric emergency services. The staff's consistent endorsement of specific reasons for frequent use can be used as a starting point for other investigations; however, it may introduce some bias in studies based solely on data in medical charts. Attempts to design or monitor changes in use of psychiatric emergency services must be cognizant of these contextual factors. Ideally, proposed changes would be consistent with existing staff attitudes. Understanding staff attitudes and temporal patterns should be conducted in concert with patient and family interviews as part of a comprehensive evaluation of psychiatric emergency services.

Acknowledgments

This work was supported by a grant from the Ethel and James Flinn Family Foundation (Detroit, Michigan) and a grant from the state of Michigan (Joe Young, Sr).

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