

# CHARACTERISTICS AND PREDICTORS OF FREQUENT UTILIZATION OF EMERGENCY SERVICES

**Authors:** Pat Milbrett, RN, and Margo Halm, RN, PhD, CNS-BC, St. Paul, MN

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**Introduction:** Although frequent ED users account for a small percentage of ED visits, these patients can drain the system, contributing to overcrowding and lowered quality of care.

**Methods:** This retrospective descriptive correlational study explored characteristics of frequent ED users at a large Midwestern urban hospital and factors predictive of high ED utilization. The sample included adult patients with at least 6 visits in 2005-2006 (N = 201). For each, 6 visits were randomly chosen for chart review (N = 1200 visits) of demographic, health history, and clinical factors such as chief complaints.

**Results:** Frequent users were commonly female, 35 years old, white, single, unemployed, living alone, with private insurance/Medicaid and a primary care physician. Top chief complaints were abdominal pain, headache, chest pain, low back pain, and lower extremity pain. However, a Poisson regression found that the following characteristics were associated with a higher number of ED visits: male, non-Black race, part-time employment, retired/unemployed, having Medicare, and having a chief complaint of upper respiratory infection. Headache approached significance as an independent predictor of more visits.

**Discussion:** Almost 95% had fewer than 10 ED visits per year, with pain the overall top chief complaint. Seventy percent of frequent visits occurred during either the evening or night shift, perhaps indicating access issues to primary physicians or urgent care clinics. The rate of frequent users was comparable with other investigations, yet few similarities in patient characteristics and predictors of high ED utilization were found, partly because of the

retrospective design, but certainly reinforcing limited generalizability of ED utilization patterns across centers in different metropolitan and geographic regions.

Between 1993 and 2003, visits to emergency departments increased 26%, to about 114 million annually.<sup>1</sup> Although frequent ED users represent only a very small percentage of visits, they consume health care costs disproportionate to their numbers.<sup>2</sup> This high utilization of services can put a drain on the system by contributing to overcrowding as well as can impact the quality of care by diverting resources intended for patients in need of emergency care to individuals who have potentially less urgent needs. However, studies have shown that both frequent and non-frequent users (including those with all types of insurance) were just as likely to seek care in the emergency department when their issues could have been addressed in a clinic.<sup>3</sup>

One third of emergency visits have been classified as nonurgent or semi-urgent, suggesting that care sought during these visits could be provided in other health care settings.<sup>4</sup> Howard and colleagues<sup>5</sup> investigated patients' perspectives in choosing emergency care for nonurgent conditions. Patients reported an inability to obtain an appointment with their primary care physician (PCP), being referred by staff in their PCP's office to be evaluated in the emergency department, or the convenience of going to the emergency department over their PCP's office. In exploring the chain of events that led individuals with nonurgent needs to seek emergency care, one study found patients "toughed it out," sought help when "symptoms overwhelmed self-care measures," relied on "calling a friend for support or advice," or had "nowhere else to go."<sup>6</sup>

In contrast, in a study of 134 frequent users, Lucas and Sanford<sup>7</sup> reported that 73% had a usual source of health care and only 27% had difficulty seeing their PCP. Sixty percent of visits were for existing or recurrent problems, 72% believed their chief complaint was moderately or very serious, and 59% thought they needed immediate attention. These frequent users had a hospital admission rate almost double that for the general emergency population, suggesting these patients were sicker and genuinely in need of health services. A different study found that whereas frequent and nonfrequent users had similar rates of problems assigned a lower triage number, frequent users were more

Pat Milbrett is Staff Nurse, Emergency Department, United Hospital, St. Paul, MN.

Margo Halm is Director of Nursing Research & Quality, United Hospital, St. Paul, MN.

Grant funding in support of this project was received from the Minnesota Nurses' Association Foundation, St. Paul, MN.

For correspondence, write: Margo Halm, RN, PhD, CNS-BC, United Hospital, 333 N. Smith Ave, St. Paul, MN 55102; E-mail: [Margo.a.halm@allina.com](mailto:Margo.a.halm@allina.com).

J Emerg Nurs 2009;35:191-8.

Available online 27 August 2008.

0099-1767/\$36.00

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doi: 10.1016/j.jen.2008.04.032

likely to have alcohol complicating their health problem and had a 3 time higher rate of hospitalization during the course of a year.<sup>8</sup> Indeed, frequent users have been shown to be marginalized, socially stigmatized individuals, with conditions such as mental illness, drug dependence, and social isolation—biopsychosocial health problems that not only place them at especially high health risk but also for being ostracized as having “inappropriate” visits and thus for “abusing the system.”<sup>2,6,9</sup> To complicate matters, frequent users often face multiple barriers to accessing needed health services, including outpatient follow-up after emergency visits.<sup>2</sup>

Demographic, clinical, health access, and use-pattern characteristics associated with frequent visits have been studied in large urban emergency departments.<sup>8,10</sup> In these cohorts, many factors were predictive of greater use of emergency services: (1) demographic characteristics (male, non-white, aged 30 to 59 years, high school education or less, single or divorced, single parent, income less than \$10,000 (1995), Medicare or Medicaid coverage, and homelessness) (2) clinical characteristics (hospitalization in preceding 3 months, acute exacerbation of a chronic condition [sickle cell anemia, renal failure, chronic obstructive pulmonary disease, asthma], alcohol-related problems, psychological distress); (3) health access characteristics (identifiable PCP, visiting a PCP in the past month, identifying emergency department or hospital clinic as primary care site, choosing emergency department for free care); and (4) use-pattern characteristics (lower triage priority, left without being seen status). These epidemiologic analyses revealed the urban social problems of poverty, homelessness, alcohol abuse, chronic illness, and high use of health care resources as explanatory factors for frequent use of the emergency department. Riggs and colleagues<sup>11</sup> also demonstrated that frequent visits (>4 visits/year) was a predictor of early return visits within 72 hours.

Other studies examined factors affecting readmission of elderly patients within 28 days after discharge from the emergency department or hospital. With rates of re-attendance ranging from 6% to 17%,<sup>12,13</sup> factors most likely associated with repeat visits in older adults were being male, living alone, relapse or complications of original condition (especially orthopedic), development of a new illness, functional/cognitive impairment, caregiver problems, need for terminal care, medication problems, inconsistent assessment of ED staff of older patient's social and functional needs on discharge, dependence in activities of daily living, use of home care or problems with community services, and night-time presentation.<sup>12-15</sup>

High ED utilization has also been studied in specific populations. In a study of asthmatics,<sup>16</sup> higher visits were associated with older age, non-white race, lower socioeconomic

status, having Medicaid, markers of chronic asthma severity, and history of steroid use, hospitalization and intubation for asthma. Frequent users were more likely to visit the emergency department as their usual site of care when having asthma problems and as their usual source of asthma prescriptions. Similarly, Chan and Ovens<sup>2</sup> studied 6839 individuals with at least 12 annual ED visits and found that 21% had at least one visit for migraine (vs 1.1% for infrequent users). Frequent migraineurs were predominantly women, 30 to 54 years old, and from less affluent neighborhoods. This population also had double the amount of primary care use compared with other frequent users, consulting a PCP more than twice per month in addition to frequent ED visits.

Of the studies describing the characteristics of frequent users, some were conducted in Canada, England, and Australia. More studies in the United States are warranted because our populations and health care needs may vary as a result of demographic, insurance coverage, and other local/regional factors. Therefore, the purpose of this study was to identify the characteristics of patients who frequently use ED services at a large Midwestern urban hospital and to determine which factors are most predictive of high emergency utilization. A study of this nature was warranted to allow the researchers to better understand their population of frequent users before other programs of care were tested to determine their effectiveness in meeting the unique needs of these patients. The primary aim of this study was to describe the characteristics of patients who frequently use ED services and to determine factors most predictive of frequent ED use. The specific research questions addressed were:

1. What are the characteristics of patients who visited the emergency department at least 6 times in a 12-month period?
2. Do patterns exist among chief complaints of frequent users in relation to time of visit?
3. What factors are most predictive of frequent ED visits?

## Methods

A retrospective descriptive correlational design was used to describe the characteristics of patients who frequently use the services of a 22-bed emergency department of a large Midwestern metropolitan area. More than 40,000 patients visit this emergency department each year, with more than 40% of visits resulting in hospitalization. A frequent user was defined as an adult patient who was seen in the emergency department at least 6 times per year, similar to the standard of 4 to 5 annual visits in other studies.<sup>7,8,10,11</sup> After approval from the Institutional Review Board, a medical

record database was used to locate patients who had at least 6 visits in a 12-month period from 2005-2006. For these patients (N = 201), 6 visits were randomly chosen, and thus 1200 visits (out of a total of 2056) were abstracted. Chart review was done by the first author (P.M.) with a structured tool derived from the researchers' clinical expertise and the literature on frequent users.<sup>17</sup> These characteristics focused on factors such as race, marital status and medical history data, including chronic health conditions, mental health issues, and social concerns. In addition, each visit was explored to determine the chief complaint, time of visit, and whether attempts were made to obtain care elsewhere prior to coming to the emergency department. The total number of annual ED visits, along with the number of ED visits resulting in hospitalization, also were captured.

In preparation for statistical analysis, chief complaint data for every visit was coded using a body system/clinical problem framework based on the data. Chief complaints were abstracted to capture the patients' perspective of why they sought services in the emergency department, in contrast to the medical perspective of admission or discharge diagnosis, which excludes the broader patient story of "Why I am here."<sup>6</sup> All data then were analyzed using SPSS Version 14.0. After analyzing for normality, descriptive statistics were used to describe the demographic, health history, and clinical characteristics of the targeted population of frequent users. Chi-square and Mann-Whitney U tests were used to determine if significant differences existed between demographic variables and top chief complaints and other ED characteristics. A Poisson regression was used to determine which characteristics were most predictive of high ED utilization.

## Results

### RESEARCH QUESTION 1: CHARACTERISTICS OF THE FREQUENT USER

A total of 201 patients visited the emergency department at least 6 times in 2005-2006, with an annual prevalence of 5% (2056 frequent visits out of 40,167 total ED visits). Common characteristics of the frequent user were female (76%), 35 years old, white (55%), single (69%), living alone in own home (69%), and unemployed (78%) but with an identifiable PCP (80%) and insurance (private/public) (44%). Healthy histories showed that chronic condition (58%), smoking (48%), psychiatric diagnosis (36%), asthma (20%), chronic pain (18%), and migraine (14%) were most common. Less common were being a victim of abuse (9%), abuse of street drugs (7%), homelessness (6%), disability (5%), lack of family (4%), and alcohol abuse (3%). Fewer than 2% had a functional or cognitive impairment,

TABLE 1

**ED visits and hospitalizations (N = 201 patients representing 1200 ED visits)**

	n	%	Cumulative %
No. ED visits			
6	49	25.1	25.1
7	31	15.9	
8	25	12.8	68.7
9	16	8.2	
10	13	6.7	
11-15	32	16.4	93.8
16-20	15	8.7	
21-25	6	3.0	
26-35	5	2.5	99.8
36-50	1	0.5	
50+	2	1.0	100
Time of visit <sup>a</sup>			
Day shift	356	30	
Evening shift	582	49	
Night shift	262	21	
Result of visit <sup>a</sup>			
Left without being seen	38	3	
Left against medical advice	4	<0.5	
Discharged home	1151	96	
To crisis center	1	<.05	
To detox center	2	<.05	
Hospitalized	4	<.05	
No. hospitalizations <sup>a</sup>			
0	1196	97.6	
1	3	1.8	
2-4	0	0	
≥5	1	0.6	

<sup>a</sup>N = 1200 visits.

terminal condition, polypharmacy, social isolation, violent behavior directed at others, caregiver problems, or home care. No patients had a documented new illness, complication or relapse from a previous condition, or problems accessing community services.

Ninety-three percent of frequent users had fewer than 10 visits per year (Table 1). Of the 1200 visits abstracted, the annual ED visits ranged from 6 to 52. Seventy percent of visits occurred on either the evening or night shift, and 96% of the patients were discharged home (with less than 3% being hospitalized). Top chief complaints, from most to least common, were abdominal pain, headache, chest pain, low back pain, lower extremity pain, upper respiratory infection (URI), and toothache (Table 2). On average, the

TABLE 2

Top chief complaints across all visits (N = 1200 visits)<sup>a</sup>

Rank order	Chief complaint	n	%	% patients with top chief complaints <sup>b</sup> (N = 201)	Shift chief complaint most likely to present <sup>c</sup>
1	Abdominal/flank pain	220	18	51.2	Night shift
2	Low back pain	156	13	37.3	Day shift
3	Headache/migraine	142	12	29.4	Day shift
4	Chest pain	67	6	21.4	Night shift
5	Lower extremity pain	57	5	19.9	Day shift
6	Upper respiratory infection	49	4		Night shift
7	Oral pain/toothache	42	4		Day/night shift
8	Soft tissue injury/motor vehicle accident	37	3		
9	Upper extremity pain	36	3		
10	Shortness of breath	31	3		
11	Nausea and vomiting	21	2		
12	Pelvic/groin pain	20	2		
13	Dizziness/syncope	20	2		

<sup>a</sup>Chief complaint <1% across visits: Neurologic (numbness and weakness); cardiac (palpitations/abnormal heart rate); gastrointestinal (diarrhea/constipation); gynecologic (vaginal bleeding/discharge; pregnant or need pregnancy test); dermatologic (skin lesions, rash/pruritus, abrasions/lacerations); psychiatric (panic attack/anxiety, crisis, assault/domestic abuse); general (body aches); pain (ear, jaw/neck/upper back, chest; hip/buttock); device-related (catheter/tube/device problem); medications (medication issue [adverse reaction, allergy, refill]).

<sup>b</sup>22.9% had ≥3 top chief complaints.

<sup>c</sup> $P < .05$ .

number of repeat visits for the same complaint was 1.5 (although 30% of frequent users did not have a repeat visit). No significance differences were found between the total number of ED visits, number of repeat visits for the same chief complaint, or the number of hospitalizations among males and females, various age groups, or the top chief complaints ( $P > .05$ ).

#### RESEARCH QUESTION 2: CHIEF COMPLAINT PATTERNS

The  $\chi^2$  or Mann-Whitney U test was used to determine if significant differences existed between demographic variables and top chief complaints. Women were significantly more likely than men to have all of the top chief complaints except chest pain ( $P < .01$ ). Seasonal variations were also found with regard to frequent visits. Men were more likely to have frequent visits in the winter and spring ( $P < .01$ ), whereas women were more likely to have frequent visits in the summer and fall ( $P < .01$ ). Younger patients (aged 18-25 years) were more likely to complain of abdominal pain, headache, and URI ( $P < .01$ ), whereas 26- to 40-year-olds more often complained of low back pain and toothache ( $P < .01$ ). Older patients (aged 56-70 years) were more likely to present with chest pain, lower extremity pain, and toothache ( $P < .01$ ), whereas the oldest age group (71+ years) more

likely had low back pain, headache, lower extremity pain, URI, and toothache ( $P < .01$ ). Seasonally, younger patients (aged 26-40 years) were more likely to frequently visit the emergency department in the winter, spring and summer, whereas the oldest group (71+ years) was more likely to have frequent visits in the summer ( $P < .01$ ).

#### RESEARCH QUESTION 3: FACTORS MOST PREDICTIVE OF FREQUENT VISITS

A Poisson regression, appropriate when the dependent variable represents count data (ie, number of ED visits), was used to analyze which factors were most predictive of high ED utilization. Prior to constructing the regression model, characteristics of frequent users were correlated with number of ED visits. Those variables with a  $P$  value less than or equal to .10 were considered candidate variables. The final hierarchical model was tested by forcing groups of selected candidate variables into the respective step of the analysis (model 1 included demographic characteristics; model 2 included health history characteristics; model 3 included chief complaints). As shown in Table 3, the following factors were significantly associated with higher ED visits: male, non-Black race, part-time employment, retired/unemployed, having Medicare, and chief complaint of URI. Headache was approaching significance as an independent

TABLE 3

**Hierarchical regression (General Linear Model) using negative binominal distribution**

	Model 1		Model 2		Model 3	
	Odds ratio (95% CI)	P value	Odds ratio (95% CI)	P value	Odds ratio (95% CI)	P value
Male	1.2 (.97, 1.4)	.10	1.2 (.99, 1.4)	.05	1.3 (1.04, 1.5)	.01
Black	.96 (.82, 1.1)	.65	.99 (.84, 1.2)	.92	.98 (.83, 1.2)	.77
Other	1.4 (1.1, 1.8)	.002	1.4 (1.1, 1.8)	.004	1.4 (1.1, 1.8)	.004
Marital status						
Single	.84 (.69, 1.01)	.07	.85 (.71, 1.03)	.11	.90 (.74, 1.1)	.27
Divorced	.97 (.74, 1.3)	.85	.98 (.74, 1.3)	.90	1.1 (.79, 1.4)	.74
Widowed	.70 (.45, 1.1)	.13	.70 (.44, 1.1)	.13	.70 (.45, 1.1)	.11
Employment						
Part time	1.4 (1.01, 2.0)	.04	1.4 (1.02, 2.0)	.04	1.5 (1.06, 2.1)	.02
Retired/unemployed	1.4 (1.1, 1.8)	.01	1.4 (1.05, 1.8)	.02	1.4 (1.06, 1.8)	.02
Have primary care physician (PCP)	1.2 (.96, 1.4)	.11	1.2 (.98, 1.4)	.07	1.2 (.97, 1.4)	.10
Insurance						
Medicaid/free care	1.1 (.96, 1.3)	.14	1.2 (.97, 1.4)	.10	1.2 (.98, 1.4)	.08
Private pay	1.3 (.82, 2.2)	.24	1.3 (.82, 2.2)	.25	1.3 (.83, 2.2)	.23
Medicare	1.3 (1.03, 1.6)	.03	1.3 (1.04, 1.6)	.02	1.3 (1.05, 1.6)	.02
Migraine			1.2 (.98, 1.5)	.08	1.1 (.90, 1.4)	.32
Asthma			.90 (.74, 1.1)	.30	.92 (.76, 1.1)	.43
Psychiatric diagnosis			1.1 (.98, 1.3)	.09	1.1 (.96, 1.3)	.14
Social disability			.88 (.60, 1.3)	.49	.90 (.62, 1.3)	.56
Headache					1.2 (.996, 1.4)	.06
Chest pain					.97 (.81, 1.2)	.70
Lower extremity pain					1.05 (.87, 1.3)	.63
Upper respiratory infection					1.2 (1.02, 1.5)	.03

predictor of a high number of ED visits (odds ratio 1.2 [.996, 1.4],  $P = .06$ ).

## Discussion

The frequent users in this study comprised 5% of the total ED population in 2005-2006. This percentage is just over the 3.9% rate reported for a large urban emergency department,<sup>8</sup> and slightly less than the 6% to 17% reported by others.<sup>12,13</sup> However, the latter studies were of elderly readmissions, while the average age of the common frequent user in this study was 35 years (range, 18-88 years; median, 33 years). Almost 95% of frequent users in the present study had fewer than 10 visits per year, with very few visits resulting in hospitalization. This finding differs from those who found that frequent users had rates of hospital admission 2 to 3 times higher than the general emergency population.<sup>7</sup> Similar to other studies,<sup>14</sup> 70% of frequent visits occurred on either the evening or night shift, potentially indicating issues that patients faced regarding

access for appointments with their PCP or urgent care clinics. The seasonal pattern of frequent visits also warrants more investigation in future studies.

Common characteristics of the frequent user in this study included being female, 35 years of age, white, single, living alone, unemployed with an identifiable PCP, and having public or private insurance. Health histories often included chronic conditions, smoking, and psychiatric diagnoses. Asthma, chronic pain, and migraine were less characteristic. Overall, few characteristics were comparable with other studies of frequent users: Female gender and younger age (30-54 years) were similar to frequent migraineurs,<sup>1</sup> while having private/public insurance<sup>7,8</sup> and a PCP<sup>8,10</sup> were similar to other investigations.

Factors predictive of greater ED usage in this study were being male, being of non-Black race, having part-time employment, being retired/unemployed, having Medicare, and having a chief complaint of URI. Interestingly, whereas pain was the overall chief complaint of frequent users, URI was a significant independent predictor of frequent



visits in this study. It is unclear why frequent users sought care in the emergency department for a URI, because many individuals would follow up with their PCP or urgent care clinic for these symptoms. It is possible these patients had access issues on off-shifts or perceived their symptoms to be serious enough to seek immediate attention. In addition, except for gender (male), having Medicare and an identifiable PCP, the factors predictive of frequent ED use in this study differed from those in other investigations of general public and elderly cohorts.<sup>8,10-12,14</sup> One reason the study differed from others may be the very low rate of hospitalization compared with these cohorts. Because illness severity was not able to be assessed in this retrospective study, we can only speculate the degree to which this variable might explain some of the differences. More importantly, the limited similarity very likely reflects differences in the health care demographics of the geographic region this hospital serves (ie, percentage of elderly population, having Medicare or being indigent, number of urgent care centers). Indeed, in a 2003 community tracking study, Cunningham<sup>4</sup> analyzed the extent to which differences in populations and health system factors accounted for variations in ED use across 60 randomly selected communities. Communities with high ED use had greater outpatient capacity constraints, and contrary to popular perceptions, fewer numbers of uninsured, Hispanic, and immigrant residents. High ED use in some communities also likely reflected generic preferences for emergency departments as a source of care for nonurgent problem because of convenience, around-the-clock delivery, and open access without an appointment.<sup>4</sup>

Six of the 7 top chief complaints in this study were pain-related. Because of the retrospective nature of the study, it was not possible to conclude whether these patients were drug-seeking. However, few patients reported that their primary or secondary reason for visiting the emergency department was for a medication issue such as the need to obtain a prescription refill. Svenson and Meyer<sup>18</sup> monitored frequent users with complaints of chronic pain after the implementation of a non-narcotic protocol. ED visits decreased from an average of 19 to 2 visits per year, while visits to PCPs dropped from an average of 19 to 7 visits per year. These results suggest that non-narcotic protocols for acute exacerbations of chronic nonmalignant pain may be a viable alternative for reducing frequent pain-related ED visits. Additionally, the pattern of toothache as a top chief complaint may reflect limited availability of dental care because dentists may limit the number of Medicare or uninsured patients seen. Overall, these visit patterns demonstrate that the health care needs of many frequent users do not need to be addressed in a hospital emergency department. As

Hachenschmidt and Malone<sup>3</sup> advocated, the findings of this study suggest that frequent users may need more of different kinds of health services, not fewer services.

### Limitations

The main limitation is the retrospective nature of the study. As a result, it was not possible to obtain some of the social and clinical data that had been identified as possibly contributory to frequent visits (eg, disability status, homelessness, and functional impairments). Therefore, these missing data may create an incomplete picture of the common characteristics of patients who frequently seek ED services at our institution. Additionally, the researchers were unable to determine reasons why patients chose to come to the emergency department rather than seek care elsewhere. This information undoubtedly would have led to interesting insights about patient perceived severity of illness<sup>7</sup> or the distress patients experienced with their symptoms within the larger biopsychosocial-spiritual context of their life story,<sup>6</sup> as described by others. The length of ED visits (in minutes/hours) also was not captured, affecting the ability to demonstrate the impact of frequent visits on the emergency department, as well as on the financial health of the hospital overall. Lastly, the identified characteristics and predictive factors of frequent users have generalizability limited to hospitals with similar size and ED characteristics.

### Implications for Emergency Nurses

As in any health care setting, safe nursing care must be delivered within the RN scope of practice to ensure high quality outcomes for patients. In the context of frequent users, emergency nurses face challenges in developing high quality and safe discharge plans for patients that ensure continuity of care when the patients are back in the community. By having a clearer understanding of the characteristics and issues facing frequent users, nurses can better address patient and family health and educational needs through standardized care plans, protocols, and pathways. First, emergency nurses can review clinical protocols with clinic staff to reduce practice patterns of directing patients to local emergency departments, especially for headache, low back pain, and lower extremity pain, because these chief pain complaints occurred significantly more often on the day shift.

Deferral of low-risk patients out of the emergency department also has been suggested as an option for reducing the number of frequent users with nonurgent problems.<sup>6,19,20</sup> In a small pilot study, Washington and colleagues found they could safely triage these patients for next-day care.<sup>21</sup> Others advocate for alternative care systems that might better meet the nonurgent chronic medical problems and

multiple interrelated social problems that are not easily addressed through the provision of medical care alone. Because life crises do not just happen from 9 AM to 5 PM, such systems would need to be available around the clock.<sup>6,9</sup> As Malone<sup>9</sup> suggested, a “slow-track” setting may be in order, where the social, economic, and structural barriers to health may be addressed. Access to more resources for free or sliding scale dental care also may be needed in communities for certain populations.

Additionally, emergency nurses have an opportunity to partner with colleagues to develop multidisciplinary care plans<sup>22-24</sup> for the most common chief complaints, such as chronic pain, URI, or asthma. Whenever possible, these care plans should be developed in conjunction with the patient’s PCP, and multidisciplinary care conferences could be held if needed for patients at the highest risk of frequent visits. With anecdotal support, Brice<sup>22</sup> described a care plan program for frequent users with recurring pain, the top complaints of which were for back pain, migraines, and abdominal pain—very similar to those found in the present investigation. In another study on individualized care plans and multidisciplinary case management, Spillane and colleagues<sup>24</sup> found no significant difference in the median number of emergency visits to either the university or community hospitals.

The feasibility of such care plan interventions could be explored within the context of comprehensive community-based case management systems. Two studies provided evidence that case management programs can effectively reduce the total number of visits in the frequent user population. Pope and colleagues<sup>25</sup> used a multidisciplinary team that developed individualized care plans for chronic or complex medical conditions, drug-seeking behavior, and violent or abusive behavior. In the 12 months prior, 24 patients accounted for 616 ED visits (median, 26.5); for a similar period after care plan implementation, these patients accounted for 175 visits (median, 6.5). Similarly, with a psychiatric social work case management program,<sup>26</sup> significant decreases were observed in the median number of ED visits, emergency and acute care hospital costs, and rates for homelessness (57% reduction), alcohol (22% reduction), and drug use (26% reduction), with significant increases in the number of outpatient clinic visits and medically indigent patients who obtained Medicaid or who were successfully linked to primary care.

From a broader perspective, emergency nurses can continue to seize opportunities to better educate the public on appropriate use of emergency services. Everyday interactions with friends, family, and neighbors can become valuable teaching moments in which emergency nurses can reinforce the role of hospital emergency departments and

the importance of finding a PCP each person can rely on for his or her usual health care needs.

## Conclusion

This retrospective study of 201 patients (N = 1200 random visits) provides more evidence that the health care needs of frequent users are not solved, or even best served, by ED services. Other interventions such as deferring low-risk patients to next-day care, multidisciplinary care plans, pain contracts involving PCPs, or comprehensive case management programs are needed to fill care gaps and preserve emergency services for those with the most critical health care needs.

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