Journal of Community Health (2022) 47:604–609
https://doi.org/10.1007/s10900-022-01083-7

ORIGINAL PAPER

Factors Influencing Healthcare Utilization Among Patients at Three Free Clinics

J. Petrilli[1] · L. Strang[2] · E. Von Haunalter[2] · J. Costa[1] · E. Coughlin[3] · R. Mhaskar[4]

Accepted: 7 March 2022 / Published online: 2 April 2022

Abstract

Despite improvements in healthcare for uninsured persons, health disparities remain. We surveyed patients at three free clinics in an urban Florida community to better understand the factors that influence where they seek healthcare. Survey questions were developed based on factors previously demonstrated to affect healthcare utilization. A focus group validated the instrument. Patients self-administered written surveys over a 6-week period at three free clinics, including a student-run free clinic (SRFC). Results were compiled and analyzed using Chi-square and Fisher–Freeman–Halton Exact tests, Kruskal–Wallis test, Mann–Whitney U test, and Spearman's rho, as appropriate. Odds ratios were calculated for significant findings ($p < 0.05$). Patients completed 323 surveys. Free clinic visit frequency was positively related to female gender, Hispanic ethnicity, higher income, and poorer health. Black race was related to less frequent visits. Visit frequency differed among the clinic sites. Patients attending a SRFC were more likely to utilize another clinic. Patient satisfaction was not related to visit frequency. Seeking care at other clinics was related to employment. Emergency room utilization was positively related to male gender. Patients listed proximity and ability to receive care not offered at the free clinic as the primary reasons for seeking care at another clinic. In this sample, free clinic utilization was related to demographic and community factors. Free clinics should consider these factors when designing their care delivery. SRFC's should further evaluate how they function in the safety net.

Keywords Free clinic · Safety net · Healthcare utilization · Health disparity

Introduction

Behavioral scientists and researchers have explored healthcare utilization in the United States for at least half a century [1]. However, there is a paucity of information in the literature regarding the healthcare utilization practices of free clinic patients. While the medical profession has made strides to recognize and address health disparities for uninsured persons, it is still far too easy to ignore low-income and uninsured people in our communities [2]. To improve their care, one must better understand the factors that influence where they seek care.

The literature documents multiple factors affecting healthcare utilization. Fragmentation of care is a challenge for the entire U.S. medical system [3], a problem well known to free clinics given the high rate of emergency room utilization by uninsured people [4]. Geography also plays a role; a 2011 study found that free clinics are geographically distributed according to gaps in Medicaid and the local safety net, rather than direct healthcare needs [5]. The social determinants of health affect healthcare utilization [6], and patient satisfaction also seems to play a role [7].

Given the questions surrounding healthcare utilization by free clinic patients and the role of free clinics in the safety net, we sought to explore the factors that influence healthcare utilization by free clinic patients in a metropolitan area of Florida.

✉ J. Petrilli
jpe@usf.edu

[1] Department of Family Medicine, University of South Florida Morsani College of Medicine, 13330 USF Laurel Drive, Tampa, FL 33612, USA

[2] University of South Florida Morsani College of Medicine, Tampa, USA

[3] Department of Medical Education, University of South Florida Morsani College of Medicine, Tampa, USA

[4] Department of Internal Medicine, University of South Florida Morsani College of Medicine, Tampa, USA

Methods

We administered written surveys at three free clinics during a 6-week period from May 17 to June 25, 2021. One free clinic is a student-run free clinic (SRFC) in operation for over a decade, and the other two are independent community-based clinics, each in operation for over 30 years. Together with two large federally qualified health centers, these clinics help comprise the local healthcare safety net.

Study Design

We aimed to examine the factors that influence where free clinic patients seek healthcare. The Andersen-Newman model for health services utilization [1] informed the creation of the survey. In recent years it has informed studies of low-income and uninsured Americans [8, 9]. Based on the literature, we developed several questions to explore patients' demographics [1, 9], frequency of care at and outside of the free clinics, and reasons for seeking care outside of the free clinics [8, 10]. When available, we included questions from previously validated instruments, including two representative questions from the PSQ-18 [11] to measure patient satisfaction. The first question assessed satisfaction with facilities ("I think my doctor's office has everything needed to provide complete medical care"), and the second assessed satisfaction with the medical team ("When I go for medical care, they are careful to check everything when treating and examining me"). The survey also included a measure of self-reported health from the SF-36 [12].

We validated the survey with input from a focus group comprised of a statistician, a nurse from one of the free clinics, two physicians with over 50 years of combined experience working at free clinics, and one English-speaking and one Spanish-speaking patient.

Data Collection and Analysis

The university's IRB reviewed the study and gave it an exempt status. Each clinic provided letters of written support as part of the IRB process. Participation was voluntary, and no identifiable patient information was collected. We excluded patients younger than 18 years of age. Three volunteers presented the survey in writing, which patients self-administered. The survey was presented in English or Spanish, which are the languages most frequently spoken at each of the clinics.

Survey responses were compiled in RedCap. If discrepancies arose between responses on an individual survey, the responses were modified according to a standard protocol. Results were analyzed using SPSS Version 26. To simplify the statistical analysis, respondents' answers to some questions were condensed from a 5 point Likert scale to a 3 point Likert scale (agree, uncertain, disagree). Frequencies and descriptive statistics were used to summarize variables. Chi-square and Fisher-Freeman-Halton Exact tests were used to analyze categorical variables. The Kruskal–Wallis test, Mann–Whitney U test, and Spearman's rho were used to analyze continuous variables. A p-value of less than 0.05 was considered statistically significant. When appropriate, odds ratios were calculated, comparing answers to a question's most frequent response.

Results

We collected 323 surveys, 233 (72.1%) at Clinic A, 61 (18.9%) at Clinic B, and 29 (9.0%) at Clinic C. Clinic A is open more hours per week than the other two clinics. Clinic C is a SRFC. Table 1 summarizes the respondents' demographic variables. The sample was mostly female (73.6%), Hispanic (80.2%), white (62.5%), and Spanish-speaking (70.6%). Table 2 summarizes opinions regarding satisfaction with care and overall health. Respondents were generally satisfied with their care, and the majority rated their health as "good" or "fair."

Frequency of Care at the Free Clinic

Of the distributed surveys (n = 323), 310 patients (96.0%) reported the number of times they sought care at their free clinic in the past year. The mean number of visits was 4.34 ± 2.67. Of the demographic variables, female gender (mean 4.50/year, $p = 0.047$), Hispanic ethnicity (mean 4.62/year, $p = 0.040$), and higher income (rho = 0.195, $p = 0.007$) were associated with more frequent visits. Black race was related to less frequent visits (mean 2.95/year, $p = 0.024$). Patients at Clinic A reported more visits per year compared to the other clinics (mean 4.76/year, $p < 0.001$). Patient satisfaction was not related to frequency of care. Patients who reported poorer overall health sought care more frequently [$p = 0.007$; very good/excellent (mean 3.45/year) vs. fair/poor (mean 4.80/year), $p = 0.001$].

Seeking Care Outside of the Free Clinic

About 54% of respondents reported seeking care at either another clinic, a health department, or an emergency room. Of the demographic variables, seeking care at other clinics was associated with unemployment [$p = 0.006$; full time vs. unemployed not seeking work OR 0.293, 95% CI (0.129, 0.666), $p = 0.003$]. Other clinic utilization was also associated with attending Clinic C [$p = 0.030$; Clinic C vs. Clinic A OR 3.008, 95% CI (1.164, 7.774), $p = 0.023$]. Seeking

Table 1 Demographics of survey respondents (n = 323)

	N(%)
Age*	51.96 (13.13)
Annual income*	$20,629 ($12,949)
No. of people in home*	3.13 (1.59)
Gender	
Female	231 (73.6)
Male	83 (26.4)
Ethnicity	
Hispanic	251 (80.2)
Not Hispanic	62 (19.8)
Race	
White	185 (62.5)
Black	22 (7.4)
Asian	8 (2.7)
Other	81 (27.4)
Language	
Spanish	228 (70.6)
English	84 (26.0)
Other	11 (3.4)
Relationship status	
Single without partner	106 (33.8)
Single with partner	44 (14.0)
Married without partner	27 (8.6)
Married with partner	91 (29.0)
Divorced or separated	46 (14.6)
Employment	
Unemployed seeking work	76 (25.5)
Unemployed not seeking work	77 (25.8)
Part time	75 (25.2)
Full time	70 (23.5)
Education	
Less than H.S	84 (26.9)
High school	113 (36.2)
Some college	47 (15.1)
College	53 (17.0)
Graduate school	15 (4.8)
Respondents' clinic site	
Clinic A	223 (72.1)
Clinic B	61 (18.9)
Clinic C	29 (9.0)

Reported as N(%) unless otherwise stated

*Presented as Mean (SD)

Table 2 Summary of respondents' opinions on satisfaction and overall health

Office has everything needed for complete medical care	
Agree	255 (78.9)
Uncertain	22 (6.8)
Disagree	41 (12.7)
Missing	5 (1.5)
Medical team is careful to check everything	
Agree	264 (81.7)
Uncertain	11 (3.4)
Disagree	36 (11.1)
Missing	12 (3.7)
Overall health	
Excellent	15 (4.6)
Very good	43 (13.3)
Good	121 (37.5)
Fair	108 (33.4)
Poor	32 (9.9)
Missing	4 (1.2)

Reported as N(%)

care at the health department was not related to any demographic factors. Emergency room utilization was associated with male gender [p = 0.021; men vs. women OR 1.927, 95% CI (1.123, 3.307), p = 0.017] and language (p = 0.004). However, compared to Spanish-speaking patients, none of the other languages were significantly different in seeking care at the ER. None of the patients who spoke "other" languages sought care at the ER (n = 10). Patients who disagreed that their provider is careful to check everything utilized the health department more often (p = 0.050). However, the odds of health department utilization between those who agreed and those who disagreed with "careful to check everything" was not statistically significant.

Reasons for Seeking Care at Another Clinic

When asked why they seek medical care at an outside clinic, the majority of respondents selected, "I only come to this clinic" (n = 203, 62.8%). Over one third of respondents

Table 3 Reasons for seeking care at another clinic (n = 120)

	Total[a]
It is closer to where I live	20 (16.7)
I can receive medical care that this clinic does not offer	18 (15.0)
I can get an appointment sooner	16 (13.3)
It is open at times that fit my schedule better	14 (11.7)
This clinic is not open[b]	8 (6.7)
I am dissatisfied with some care I receive at this clinic	1 (0.8)
Not reported	68 (56.7)

Reported as N(%)

[a]Respondents could select multiple answers; responses total > 100%

[b]Statistically significant difference in responses among clinic sites (p = 0.019)

(n = 120, 37.2%) gave reasons for seeking care at an outside clinic, which are presented in Table 3. Compared to the other clinics, more patients attending Clinic C reported that they went to another clinic because their clinic was not open (p = 0.019).

Discussion

In this sample of free clinic patients, respondents' healthcare utilization at or outside of the free clinics was related to demographic and community factors. Satisfaction with care was not related to healthcare utilization, though other literature has found a significant relationship between satisfaction and utilization [7, 13]. It may be that no relationship was found in this study due to the generally high satisfaction scores and the established reputations that these clinics have in the community [7]. Poorer health was related to more frequent free clinic utilization, which has been noted elsewhere [14].

It is not surprising that demographic and community factors related to healthcare utilization, as the aforementioned Andersen-Newman model predicts that both help determine individual healthcare usage [1]. With regard to demographic factors, the clinics in this study are situated in areas with a high number of Hispanic residents, and many of the staff and providers speak Spanish. Language has been linked to patients' experience at free clinics [15, 16], which may explain why Hispanic ethnicity related to more frequent free clinic utilization in this sample. Black race was related to less frequent utilization, which other studies of ambulatory care have also noted [17]. This finding is disturbing given the known health disparities between black people and other racial groups in the United States [18, 19]. Together with the finding that none of the other-language speaking patients utilized the ER, these results may indicate that black and non-English, non-Spanish speaking patients face local barriers to healthcare. More investigation is needed.

Demographic factors were also related to healthcare utilization outside of the free clinics. Full time workers had lower odds of seeking care at another clinic. The relationship between employment and healthcare utilization is inconclusive [20–22], but full time workers may have less time to seek care outside of their usual clinic site. Conversely, higher income was associated with more frequent visits to a free clinic.

While free clinic usage correlates with less non-urgent ER use [23, 24], the ER continues to be a frequently utilized access point for free clinic patients. Forty-six percent of respondents (n = 134) reported going to the ER within the past year. In this study, male patients had higher odds of utilizing the ER compared to female patients. In other studies, males have been found to visit more healthcare facilities and therefore have more fragmented care [25], but females tended to have more ER visits overall [4]. Regional and ethnic differences may play a role.

Free clinics are a heterogeneous group [26], with community factors such as geography [27] affecting patients' care. The clinics in this sample are no exception. Clinic A is open more hours per week than the other sites, which likely explains why its patients visited more frequently. Clinic C is a SRFC open once a week, and despite its patients' high satisfaction (97% agreed Clinic C offers complete care), Clinic C's patients had higher odds of seeking care at another clinic. Furthermore, Clinic C's patients were more likely to respond that they went to another clinic because "this clinic is not open." Access is a common concern for patients attending SRFCs [28, 29].

Over one third of respondents gave reasons for seeking care at a clinic outside their free clinic (Table 3). These reasons largely highlight the role that community factors play in healthcare utilization: geographic proximity, healthcare services offered, appointment availability, and clinic schedule were the top reasons given for seeking care at another clinic. Other studies have noted similar findings [27, 30].

From these results we conclude that healthcare utilization by free clinic patients is intricately related to their demographic makeup and community factors, such as those mentioned above. In order to better serve their patients, free clinics should consider such factors when designing their care delivery. SRFCs should evaluate their role as primary care providers in the safety net, as they seem to function differently compared to community-based free clinics.

This study has several limitations. The survey instrument was validated by a multidisciplinary group, but was not formally validated. As a localized study, the results are not generalizable. The survey was only presented in English and Spanish translations, so patients who do not speak those languages natively may have misunderstood some questions. Furthermore, patients who did not speak English or Spanish at all were not included.

While free clinics are unlikely to meet all of their patients' healthcare needs [26], they still play an important role as an access point for uninsured people, even in states that have undergone Medicaid expansion [31, 32]. The findings of this study highlight the need for free clinics to consider their patients and communities when designing healthcare delivery.

Acknowledgements The authors wish to acknowledge the patients and staff of the free clinics participating in this study, as well as statistical support provided by the University of South Florida Morsani College of Medicine Office of Research. No financial support was provided.

Author Contributions Conceptualization: JP. IRB: JP. Methodology: JP, RM, EC, JC. Data Collection: LS, EH, BW (not an author). Statistical analysis: EC, RM. Writing—original draft preparation: JP, LS. Writing—review and editing: JP, LS, JC, EH, EC. All authors read and approved submission of the final article.

Funding This research was not funded.

Data Availability The data that support the findings of this study are available from the corresponding author upon request. Data is summarized in attached tables and text.

Code Availability Not applicable.

Declarations

Conflict of interest None of the authors have any conflicts to disclose.

Ethical Approval The University of South Florida's IRB reviewed this project and granted it an "exempt" status prior to study initiation.

Consent to Participate All patients consented to participate in this survey-based study. No identifiable information was collected. Consent form available upon request.

Consent for Publication Not applicable.

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