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Original Study

The Impact of a Student-Run Free Clinic on Reducing Excess Emergency Department Visits

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Abstract

Background: Access to primary care directly impacts inappropriate emergency department (ED) utilization. This relationship has been studied in free clinics, but little work has been done regarding the impact of student-run free clinics (SRFCs). This study investigates the effects of an SRFC in Nashville, Tennessee on reported ED utilization patterns, patient satisfaction with healthcare, and primary care access.
Methods: The study population included all patients seen at the 12 South Community Clinic from April 2013 to January 2014. A 7-item paper questionnaire, including items on recent ED usage, satisfaction with current level of healthcare, and access to physicians, was distributed to new patients during their first clinic visit; returning patients received a 5-item follow-up questionnaire. New patient survey responses were compared with returning patient survey responses as aggregate data using unpaired t-tests, and descriptive statistics were used to calculate percentages.
Results: The response rate was 94.9% (130/137) for new patients and 83.9% (115/137) for returning patients (N=274). The average reported number of ED visits in a three-month period was 0.47 in new patients and 0.24 in returning patients ($p=0.0345$). Access to the clinic significantly increased the overall level of healthcare satisfaction from 33.3% (35/105) of patients feeling very or completely satisfied prior to their first visit to the free clinic to 71.8% (79/110) of patients feeling very or completely satisfied on return visit ($p<0.0001$). Since establishing care at the clinic, 98.2% (112/114) of returning patients reported easier access to a physician.
Conclusions: The study design was limited by using data from a quality assurance project; identified, individual-level information was not used, and comparison of individual subject responses was not possible. It is unknown how many individuals may have participated in both or only one group or how many individuals may have repeated data points in the returning patient group. Despite these limitations, results suggest that given ongoing primary care access gaps, SRFCs may serve a role in impacting excess ED utilization, patient satisfaction, and access to care in medically underserved and underinsured populations.

Introduction

Emergency department (ED) overutilization is a national problem and the economic burden is high.[1] A contributing factor is ED usage for non-urgent problems and health concerns treatable or preventable by adequate access to primary care services. The prevalence of such cases is due in part to the numbers of the uninsured and underinsured. One possible solution is to shift care for non-urgent visits from the ED to community primary care clinics in order to lower costs and improve continuity and appropriateness of care.[1] However, barriers to this paradigm remain.

The uninsured and underinsured often face difficulty accessing primary care services due to cost and the decline in the percentage of physicians providing charity care.[2] As a result, they often rely more heavily on EDs for their primary healthcare needs. In a 2011 study, 23% of free clinic users reported that if the free clinic did not exist, they would seek care in an ED.[3] In 2008, 25% of all ambulatory care visits by uninsured individuals were

to EDs compared with only 7% for the privately insured.[4] Furthermore, the uninsured use the ED for a higher percentage of non-urgent visits. In 2011, uninsured patients made up 16% of ED visits; however, they make up only 7% of hospital admissions from the ED, a 6.45% admission rate. Patients with private insurance make up 29% of ED visits and 23% of admissions from the ED, an 11.68% admission rate.[5] Previous research has provided evidence that free clinic users are less likely to visit the ED for primary care and low acuity needs.[6]

In 2008, the average non-urgent visit to the ED cost an estimated $792, seven times higher than a visit to a community health center.[1] Additionally, improvements in continuity of care, patient satisfaction and care coordination that can be facilitated by community health centers may also increase savings by reducing redundant and unnecessary use of health services.[1] It is estimated that community health centers could save Medicaid $4 billion by reducing avoidable ED visits.[7] ED use is also associated with a lack of continuity when compared to primary care for several reasons, including the patient being cared for by a new physician at nearly every visit and documented failures of communication and coordination of care between EDs and primary care physicians.[8]

Tennessee (TN) has the 8th highest ED utilization nationally at 520 visits per 1,000 people[9] and a 13% uninsured rate.[10] Davidson County, TN, which includes the city of Nashville, has an 18% uninsured rate, and 15% of adults report they could not see a doctor in the past 12 months because of cost.[11] Though previous studies have investigated the relationship between free clinics and ED usage, very little work has been done regarding the impact of student-run free clinics (SRFCs). The purpose of this study is to investigate the effects of access to an SRFC on reported ED use, patient satisfaction, and healthcare access in a medically underserved population in Nashville, TN.

Methods

The student leaders of the 12 South Community Clinic (referred to hereafter as the clinic) sought collaboration with the Nashville General Hospital (NGH) ED for identifying uninsured patients for this study; both entities are affiliated with Meharry Medical College and provide care to indigent populations. Triage in the ED causes patients with lower acuity or non-urgent complaints to spend more time in the waiting room than patients with high acuity problems. With this in mind, flyers for the clinic were placed in waiting rooms, and discharge staff were supplied with information allowing them to inform patients about the free primary care option. Additionally, the clinic recruited patients from the community by distributing flyers, television and print news coverage, and promotion at community events.

Once at the clinic, new patients were given a 7-item patient questionnaire (Appendix 1) with their registration materials to collect data regarding patient access to primary care, recent ED usage, and level of satisfaction with overall care in newly recruited patients. Satisfaction levels were recorded on a 5-point scale: 1 – "Not Satisfied at All", 2 – "Slightly Satisfied", 3 – "Somewhat Satisfied", 4 – "Very Satisfied", and 5 – "Completely Satisfied". A follow-up 5-item questionnaire (Appendix 1) was given to returning patients at each of their return clinic visits. This questionnaire also assessed recent ED usage subsequent to becoming a patient of the clinic, patient opinion of the clinic's impact on their ED usage, patient opinion of the clinic's impact on their access to primary care, and patient level of satisfaction with overall care. Surveys were administered to all patients seen at the clinic beginning on April 4th 2013 and ending January 2nd 2014. Initial surveys were compared with follow-up surveys in aggregate using unpaired t-tests, and descriptive statistics were used to calculate percentages. Comparisons were made between aggregated data from new and returning patient groups only, and individual respondents were not tracked.

This study was approved by the Meharry Medical College Institutional Review Board.

Results

From April 2013 to January 2014, 274 patients were seen at the clinic, and 130/137 (94.9%) new and 115/137 (83.9%) returning patients completed the questionnaires. Results of the new and returning patient questionnaires can be found in Table 1, and patient satisfaction is additionally visualized in Figure 1.

Demographic information for patients seen during this interval was provided by patients electively. In terms of gender, 47.2% (116/246) were male and 52.8% (130/246) were female. The average age of patients seen at the clinic was 41 years (SD 15.8 years). For ethnicity, 60.2% (139/231) of patients identified as African American and 25.5% (59/231) as Caucasian. In addition, 60.1% (140/233)

of patients reported being currently unemployed and 76.5% (179/234) reported being uninsured.

Of the new patients returning questionnaires, 79.2% (103/130) reported not having a regular physician.

New patients reported using the ED an average of 0.47 (SD 1.01) times in the previous three months, compared with returning patients reporting an average of 0.24 (SD 0.47) visits (p=0.0345).

Prior to being seen at the clinic, new patients rated satisfaction with their current level of healthcare at an average of 2.75 out of 5 (SD 1.43), and returning patients had an average satisfaction rating of 3.81 out of 5 (SD 0.84) (p<0.0001).

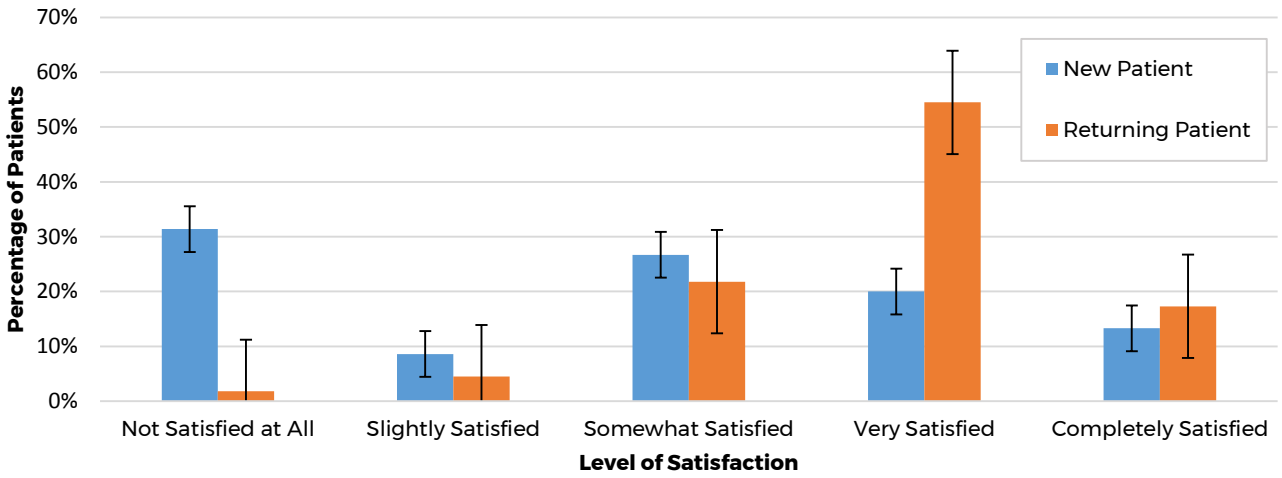
Since becoming a patient of the clinic, 98.2% (112/114) of patients reported it was easier to see a physician, and 92.5% (86/93) of patients reported feeling that they were using the ED less frequently.

Table 1. New and Returning Patient Questionnaire Results

	New Patient Responses	**Returning Patient Responses**
Do you have a regular doctor? no. (%)	N=130	
Yes	31 (23.8)	—
No	99 (76.2)	—
Do you have problems getting to see a doctor? no. (%)	N=125	
Yes	60 (48.0)	—
No	65 (52.0)	—
How many times have you been to the Emergency Room in the last 3 months? no. (%)	N=112	N=105
0	84 (75.0)	82 (78.1)
1	14 (12.5)	21 (20.0)
2	8 (7.1)	2 (1.9)
3	3 (2.7)	0 (0)
4	1 (0.9)	0 (0)
5 or more	2 (1.8)	0 (0)
Mean No. Reported Visits (SD)*	0.47 (1.01)	0.24 (0.47)
How satisfied are you with your current level of medical care? no. (%)	N=105	N=110
1 – Not Satisfied At All	33 (31.4)	2 (1.8)
2 – Slightly Satisfied	9 (8.6)	5 (4.5)
3 – Somewhat Satisfied	28 (26.7)	24 (21.8)
4- Very Satisfied	21 (20.0)	60 (54.5)
5 – Completely Satisfied	14 (13.3)	19 (17.3)
Mean Satisfaction Rating (SD)†	2.75 (1.43)	3.81 (0.84)
Since beginning care at 12 South Community Clinic do you feel that you are visiting the Emergency Room less? no. (%)		N=93
Yes	—	86 (92.5)
No	—	7 (7.5)
Since beginning care at 12 South Community Clinic is it easier for you to see a doctor when you need one? no. (%)		N=114
Yes	—	112 (98.2)
No	—	2 (1.8)

**p=0.0345; †p<0.0001; —not applicable*

Figure 1. Patient Satisfaction with Current Level of Care



Discussion

The primary purpose of this study was to evaluate the effect of an SRFC on ED usage, care satisfaction, and overall access to primary care for an underserved population. The results of the questionnaires suggest that access to the clinic decreases reported ED usage and increases access to medical care. In addition, returning patients of the clinic reported higher satisfaction with their current level of medical care than incoming new patients.

Our work found that 76.2% of new patients at the clinic did not have a regular physician, demonstrating the need for accessible primary care in the area. The clinic appears to be serving this need, as 98.2% of returning patients felt that the clinic indeed provided them easier access to a physician.

A key feature of interest in this study was ED use. Returning patients reported utilizing the ED less frequently after establishing care at the clinic. In an attempt to quantify this subjective response, patients were asked to report how many ED visits they had in the previous three months at both initial and return visits. New patients averaged a reported 0.47 ED visits in the three months prior to being seen at the clinic, while returning patients reported 0.24 ED visits in the same time frame: a statistically significant difference of 48.9% percent.

Another feature of interest was patients' satisfaction with their current level of care: 31.4% of new patients responded that they were "not satisfied at all," compared to 1.8% of returning patients. The significant difference in average satisfaction level between new (2.75/5) and returning (3.81/5) patients suggests that returning patients are receiving services that fit their needs.

The study design was limited by using data from a quality assurance project; identified, individual-level information was not used, and comparison of individual subject responses was not possible. Instead, aggregate responses were analyzed between two groups: new patients and returning patients. This methodology has several weaknesses, as it is unknown how many individuals may have participated in both or only one group, how many individuals may have repeated data points in the returning patient group, or if there was overlap in the 3 months between a patient's initial visit questionnaire and follow up questionnaire(s). It is unknown how this may affect how many ED visits were reported in the past 3 months. Without access to individual ED usage data, the utility of patient responses is limited. Recruiting of patients from the ED is a confounding factor as it may skew the sample, with those patients more likely than the returning patient population to have used the ED recently. Despite these limitations, the authors feel that the significant differences in reported ED usage and level of healthcare satisfaction are indicative of potential SRFC impact. Future studies of SRFC impact on ED usage would benefit from more rigorous designs

using identified individual data as well as accessing ED records to directly tack visits, outcomes, and costs.

This work took place during early phases of the Affordable Care Act, the largest change to the United States healthcare system in generations. The ranks of the insured are growing, but the access gap is not nearly bridged. While SRFCs may not be an ideal solution, the continuing gaps in adequate primary care access result in excess demand on EDs for primary care and preventable problems linked to lack of primary care access. Additionally, in the wake of the Affordable Care Act implementation and Medicaid expansion, ED usage has actually increased, as primary care access availability and patient choice have not converged with increased insurance coverage.[12] Across the nation, the number of ED visits has been steadily increasing while the number of EDs has decreased.[7] This unsustainable course has already lead to significant ED overcrowding which in turn leads to longer wait times and a lower quality of care.[13] Uninsured and underinsured populations are disproportionately affected by this growing problem due to their reliance on EDs for care. These underserved patients are often left with lower continuity of care, decreased satisfaction, and poorer outcomes.[1] SRFCs may serve as a valuable option to allow patients who would otherwise not be able to afford care to receive primary care services without delay and without unnecessary burden on emergency systems. Providing primary care for these patients not only may reduce ED visits directly, but preventative care in combination with increased control of chronic illnesses and early detection and treatment could also reduce ED visits in the future.[14,15] While the number of patients served by SRFCs is small, for those patients, it is possible that SRFCs may decrease inappropriate ED utilization, increase access to care, and increase patient satisfaction with their care.

Disclosures

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