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Findings from a Qualitative Needs Assessment of Equal Access Birmingham, a Student-Run Free Clinic in the Southern United States

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Abstract

Background: Student-run free clinics (SRFCs) are becoming increasingly common across the United States. To better understand clientele and improve these organizations, it is important to assess patient feedback about SRFC services. This study is based on Equal Access Birmingham (EAB), a SRFC that aims to provide and improve quality healthcare for underserved populations in central Alabama. A qualitative needs assessment of patients receiving care at EAB has not yet been performed. The purpose of this study was to identify and explore EAB clients' perceived health needs, health-related behaviors, and access to healthcare.
Methods: Clients were recruited to participate in semi-structured qualitative interviews at EAB. Major themes included barriers to healthcare, primary health concerns, individual health behaviors, and patterns of clinic utilization.
Results: The study analyzed 16 patient interviews. Participants stated that cost, transportation, and housing were barriers to healthcare. Their main health concerns were hypertension (cited by 21% of participants), diabetes (21%), pain (21%), and mental health management (21%). Ninety-four percent of study participants reported relying on EAB to obtain medication refills. Respondents also reported accessing the clinic for mental health issues, and many used EAB as their primary care provider.
Conclusions: Despite numerous barriers, EAB was the source of primary healthcare and medications for many respondents. This qualitative investigation identified specific concerns and noteworthy strengths that may extend to other SRFCs.

Introduction

Medically underserved populations in the United States (US) have disproportionately high rates of acute and chronic health problems, as well as reduced access to healthcare services.[1] Often these populations include people who are homeless and living in poverty. Homeless individuals have higher rates of illness and die, on average, 12 years sooner than the general US population.[1] In the US, the state of Alabama is ranked 28th for rate of homelessness and in 2019, Alabama's poverty rate of 16.9% was higher than the national average of 13.4%.[2-4] Furthermore, 11.7% of Alabamians under the age of 65 years did not have health insurance in 2019.[2]

Student-run free clinics (SRFCs) offer a potential solution to some of the challenges that these populations face. From 2005 to 2014, the number of SRFCs nearly doubled from 111 to 208 across the US, and the number continues to rise.[5-6] Generally, their mission is to deliver effective medical care to underserved and uninsured populations, including those who may be living in poverty and/or homeless.[6-8] Clinic environments are also more suitable to treat chronic health issues compared to emergency rooms (ER) or urgent care settings, which do not offer continuity of care.[9]

Equal Access Birmingham (EAB) is the SRFC affiliated with the School of Medicine at the University of Alabama at Birmingham (UAB). The clinic is centrally located in the Birmingham

metro area. The mission of EAB is to provide accessible primary care, select sub-specialty care, pharmacy, and physical and occupational therapy services to vulnerable populations, comprised of low-income, uninsured, and homeless individuals. As hours of operation dictate accessibility to clinics, EAB serves patients on weekdays and weekends. It is open two to three evenings each week, on Wednesdays, Sundays, and select Saturdays.[10] On Saturdays once a month, subspecialty mental health and women's health clinics are conducted free of cost to patients. A subspecialty dermatology clinic is also held bi-annually. The on-site pharmacy at EAB provides any medications that are in stock at no cost to all patients. All EAB clinics are entirely operated and managed by medical student volunteers, under the supervision of licensed physician faculty volunteers. The clinic's student leadership board represents the face of patient continuity of care. Every clinic is supervised by UAB faculty physicians who volunteer as clinic preceptors.

In 2017, 289 student and 41 physician volunteers provided care for 685 patient encounters during acute and chronic care clinics. Including original prescriptions and subsequent refills, 790 medications were dispensed free of cost to patients at the end of their clinic visits. In addition to clinic, EAB also conducts community health screenings in Birmingham. In 2016, 46 student volunteers (consisting of medical, Master of Public Health, and undergraduate students) provided care for 230 patients during community-based events through blood pressure checks, nutrition counseling, food and sanitary item drives, and other health screening actions.

Although benefits of SRFCs include improved access to care for vulnerable populations and reduced ER visits, rates of no-shows and cancellations are high.[11-13] As Liu et. al. states, 36% of SRFC coordinators cited patient no-shows as the most common clinic scheduling challenge.[14] At EAB, missed appointments often result from patients facing barriers in accessing the clinic or feeling that their needs are not being adequately addressed. Recent studies show that SRFC clients have different needs across clinics.[2,11] Health-adverse behaviors (tobacco and drug use, poor nutrition, lack of exercise) are consistently noted among vulnerable patients at EAB. Focusing on chronic health conditions, improving health behavior, and offering sub-specialty care may holistically improve healthcare.[3]

Recognizing that the health needs of SRFC patients may differ significantly from those of the population at large led to the development of the present qualitative needs assessment (NA) study at EAB. Interviews were conducted with clients to understand barriers to healthcare, evaluate perceived efficiency, and identify appropriate resources to better meet this population's needs.

Methods

Design

Student interviewers conducted semi-structured interviews to examine patients' healthcare needs, behaviors, and access to healthcare.[14] For the semi-structured interviews, a simple, standardized script of ten open-ended questions was provided to all interviewers. The open-ended nature of questions allowed for patients to elaborate with responses. Due to limited student interviewers, data collection was concluded after 19 patients initially agreed to participate. Student investigators of this study were all clinic officers who held extensive knowledge about EAB's roles and purposes, so their familiarity with the clinic guided interview development, implementation, and analysis. Student interviewers did not undergo further training prior to interviewing patients, and each patient interview duration was approximately 20 minutes.

The research team formulated interview questions by studying peer-reviewed literature that described themes of transportation, housing, and cost as barriers to receiving services.[7,14,15] No-show rates and missed appointments were already a recognized issue at EAB, with approximately 10-20% of scheduled appointments for each clinic day resulting as "no-shows."

A sample of the semi-structured interview script questions is shown in Table 1. All interviews were audio-recorded, and if participants opted out, handwritten notes were used to document responses. All recorded interviews were manually transcribed by a single researcher.

Participants

Patients who arrived for a scheduled or walk-in visit were recruited upon entering the waiting area of the clinic. After each patient was checked in, a student staff member explained the study's purpose.

Patients who agreed to participate were escorted to a private area for the interview. Informed consent was obtained prior to beginning

Table 1. Questions from interview template

Primary questions	Follow-up questions
1. What words would you use to describe your health today?	**1a.** How would you describe your health in the last 3 months?
2. Do you have any concerns about your health?	
3. How often do you see a doctor? What setting (ER, free clinic, paid clinic, etc)?	
4. How do you seek medical treatment?	**4a.** Do you have a primary care physician outside of this SRFC? If no, why not?
	4b. If this SRFC was not open, where would you go to seek healthcare?
5. What do you think would improve your health?	
6. What are your health care needs?	**6a.** How accessible is the clinic for you? How do you obtain medications?
7. How are your healthcare needs currently being met?	**7a.** What resources would help meet those needs?
8. What are things that make it difficult for you to obtain medical treatment?	
9. Have you ever missed a medical appointment?	
10. After speaking with me today, what services would you suggest EAB provide to their patients?	

ER: emergency room; SRFC: student-run free clinic; EAB: Equal Access Birmingham

every interview. All interviews were conducted during weekly clinic sessions over ten months from August 2016 to May 2017, the time period that each class of student officers holds active leadership. The study was restricted to adults over the age of 19 years who were fluent in English language. Persons appearing intoxicated, experiencing symptoms of dementia or confusion, or who were unable to provide informed consent were not invited to participate. UAB Institutional Review Board approval was obtained for this study.

Analysis

Two student researchers developed a codebook to capture the thematic content with guidance from an experienced qualitative researcher. The two reviewers independently coded each transcribed interview for major themes and recurrent responses from patients, such as "need for medications" or "lack of car or ride to clinic." To address any discrepancies, they discussed all identified themes and developed each theme into a "code" after agreeing that their individually-coded patient responses overlapped. A codebook, consisting of all the codes, cohesively classified patient responses. Definitions were then created for each code in the codebook. The third component of the codebook was the collection of participants' direct quotes that met the definition of each code. The codebook is included in Table 2.

Results

Approximately 30 patients were approached in total, and 19 agreed to participate (63%). Of the 19 patients, 16 completed the consent process (84%). Of the 16 completed interviews, 15 interviews were audio recorded and transcribed; one participant declined audio recording but permitted the interviewer to document handwritten notes. Patients reported various issues that were classified as four broad themes: barriers to accessing health care, utilization of clinic services, major health concerns, and health improvement initiatives, as defined in the codebook.

Figure 1 summarizes the findings and displays the percentage of how many patients stated each response during interviews.

Health Improvement

"Health improvement" was a code defined by authors as personal health behaviors that patients pursued outside the clinic or behaviors necessary for the betterment of their health, such as physical fitness and nutrition habits. We aimed to identify participants' outlooks on personal health improvement in regards to lifestyle modi-

Table 2. Format of codebook used to conduct analysis of interview responses

Code	Description	Example of patient responses
Housing	Any instance in which a patient directly attributes their current housing situation as a problem for seeking healthcare	Interviewer (I): "What are any other factors that might limit you from receiving care?" Patient (P): "I sleep outside." I: "And are you sleeping outside here?" P: "In the woods." "I couldn't ever take my medicine regularly cause I am on no income and I stay in low housing. I could not afford my medicine and sometimes I did not have adequate transportation."
Main health concern	Patients' main worries or health interests that drive them to seek health care	"I need to watch my blood pressure, that's about it . . . But then I started having real bad headaches and I know that can come from high blood pressure so I'm trying to get on top of it." "I need to see a doctor on a regular basis so I can, uh, keep my blood sugar under regular control."
Cost	Any instance in which a patient directly attributes their financial status for causing them to come to clinic	"The cost is my biggest problem. You know, without insurance, now Walmart® has a five dollar list, but most of my medications is not on the list."
Transportation	Any instance in which a patient directly attributes transportation problems as an obstacle to accessing clinic	"Yeah, today I walked 6 miles.... Bus doesn't run on Sundays, so it's, like, "walk." Transportation is the biggest thing...if [you] live far off from the clinic, it's kind of a problem." "Well, patients like myself, it would be nice if they could provide transportation." "I really don't have the transportation to get to see another physician."

fications. Of the 16 participants, 9 mentioned this code, 4/9 (44%) personally aimed to exercise, 4/9 (44%) aimed to improve nutrition, and 2/9 (22%) desired smoking cessation.

Utilization of Services

"Utilization of services" was defined by authors as any reason prompting a visit to the clinic, contacting the clinic, or using the clinic's resources. Nearly all (15/16) reported using the clinic for no-cost medication refills (94%). The clinic served as the primary site of healthcare for 9/16 (56%) of respondents and as the site for long-term mental health treatment for 4/16 (25%) of respondents. Six of 16 participants (38%) answered that if they had to seek care elsewhere, they would visit the ER or other clinics. Seven of 16 participants (44%) stated that they had missed appointments in the past, commonly due to lack of transportation or lack of knowledge of their appointments.

Barriers to Healthcare

"Barriers to healthcare" was defined by authors as any instance in which a patient attributed social or economic limitations as a problem to seeking healthcare. Of the 15 participants who identified barriers to healthcare, all respondents discussed issues related to cost and more than half (8/15) mentioned transportation difficulties. Reliable housing was an issue for 4/15 (27%) of these participants.

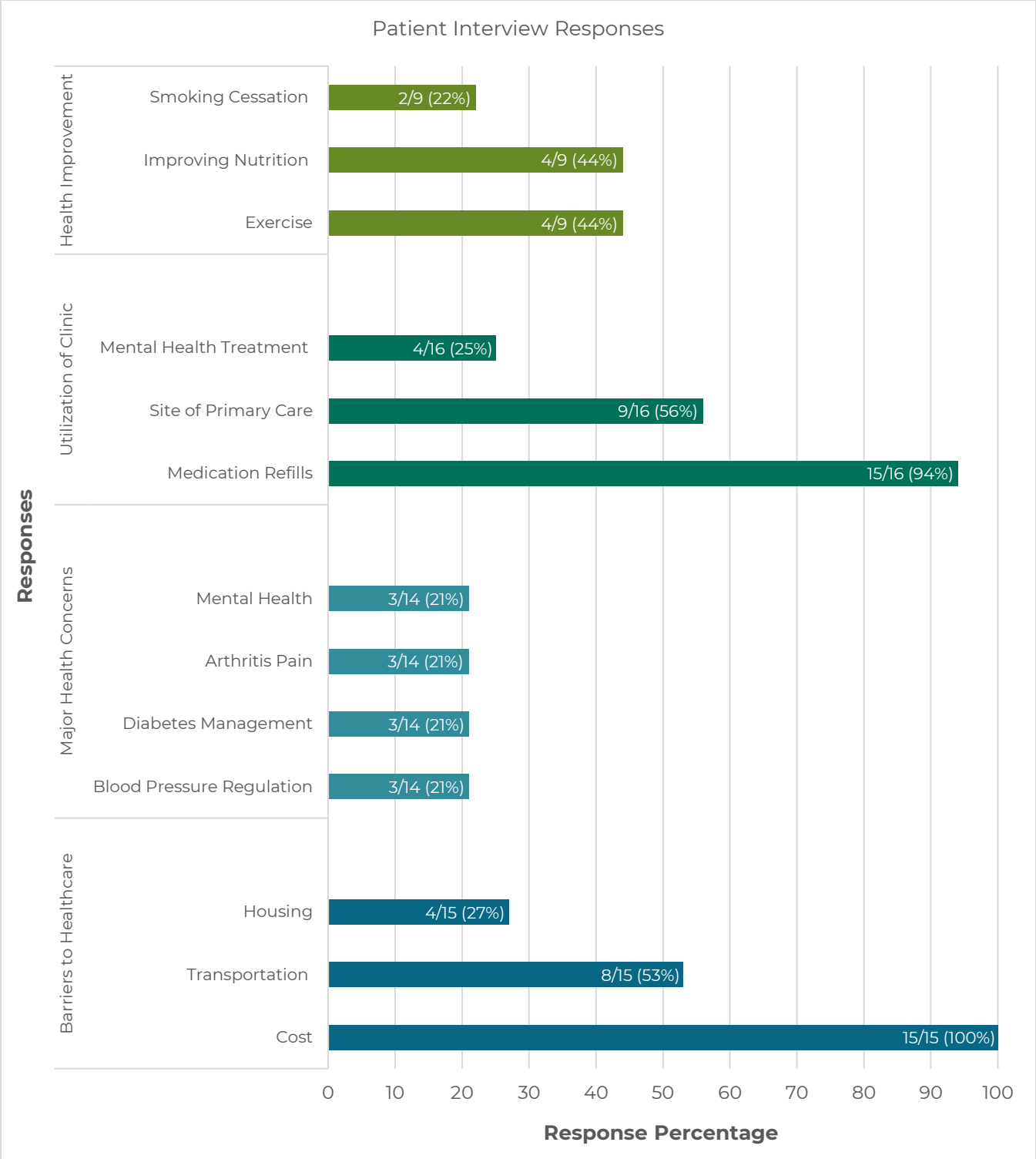
Areas of Improvement

Finally, participants were asked for their recommendations concerning the clinic that they believed would benefit their health. Responses included access to educational materials about their medical conditions, glucose meters or blood pressure cuffs, and dietician or meal preparation counseling. Other suggestions included guidance for smoking cessation, and information about where to seek medical and dental care outside of EAB.

Discussion

Vulnerable populations, including low-income, uninsured, and homeless persons, may be often conducted near the time of clinic establishment direct how new clinic operations can be structured based on their community and patient input.[7,10,17-20] The present NA was conducted

Figure 1. Percentage of patient responses under four major themes: barriers to healthcare, major health concerns, utilization of clinic, and health improvement



five years after EAB's founding to identify ways to unable to manage chronic diseases due to limited healthcare access.[7,16] SRFCs were established with the aim of addressing these disparities. NAs improve access to and engagement in care and the quality of clinic services. At the time of devel-

oping this NA, one other study focusing on the uninsured and low-income population in New Jersey, studied an SRFC over ten years after clinic opening.[15] Similar to this NA, Mischell et. al performed a patient-centered assessment to improve their clinic.

Overall, this NA revealed common healthcare obstacles and concerns faced by EAB's patient population. Housing was identified as a major issue by 27% of respondents. Beneficial efforts for the future include partnering with local housing, social work, and nonprofit organizations to assist our underserved patients. Every participant cited cost as the major barrier to accessing healthcare services. To secure adequate funding, interprofessional student collaboration with business and/or healthcare administration programs could stabilize a clinic's finances and further interdisciplinary learning. The investigation also identified transportation as a barrier in accessing care. Although EAB's weekly chronic care clinic is scheduled on Sundays as a response to patient-reported availability, the local public transit bus system does not run on Sundays. This finding prompted exploration about the percentage of EAB patients that rely on the bus system to reach the clinic as public transportation affects access to clinic and patient retention. SRFCs should query patients about locations from which they are traveling, the modes of transportation used, and the availability of these modes on clinic days. SRFCs should also consider functioning on days when public transportation is readily available and/or incorporating technology to facilitate telemedicine visits. SRFCs that offered case management services in the form of transportation or arranged rides to clinic have showed improved patient attendance.[21,22]

This NA study also provided insight into the reasons patients utilize EAB. Participants' main health concerns included blood pressure regulation, diabetes, arthritis, and mental health. In line with a prior study, the predominant health concerns of EAB's patients consisted of chronic diseases.[7] Hypertension and diabetes (i.e. chronic cardiovascular disease) among EAB patients is understandable given the clinic's specific location in the Stroke Belt of the US, a region constituted by Alabama and seven southern states with approximately 50% higher stroke mortality than the rest of the US.[23,24] We urge future NAs to consider prevailing socioeconomic and health conditions of their geographic regions when structuring studies.

Additionally, utilization of EAB for mental healthcare reiterates that vulnerable populations value psychiatric services. While some studies have revealed that providers at SRFCs may not provide guidance for addiction and offer poor mental healthcare,[7] our results emphasize the need for EAB to continue offering psychiatry services through partnership with our medical institution's psychiatry department. Other SRFCs can take action from these results by establishing or maintaining partnerships with psychological counseling.

A recent survey of sixteen SRFCs found that only 56.25% of clinics have a dispensing pharmacy on site.[25] This study also relays that on-site pharmacy services are a critical priority for patients with chronic health conditions who receive healthcare at SRFCs. Our pharmacy services dispense free medications and promote medication adherence for our patients. Future considerations for optimizing pharmacy services include inventory tracking of popular medications, designating appropriate funding to allow constant medication supply, and exploring seasonal medication demand for frequently prescribed medications. As less than 50% of patients taking medications for chronic health conditions have been shown to adhere to their medication regimen within one year of starting treatment, these steps may allow for improved supply to patients at all times.[26] SRFCs can also explore partnerships with surrounding pharmacies. In relation to EAB, there is only one privately owned pharmacy within a one-mile distance, which equates to a 20 to 25-minute walk. This stresses the increased benefit for SRFCs to incorporate on-site pharmacies, so patients can directly receive the necessary medications, while avoiding cost and transportation barriers.

In interview responses related to personal health improvement, participants requested health education. SRFCs should provide supplementary services and materials, such as health education classes. Partnering with public health and dietician programs may be beneficial. EAB currently partners with the university's physical therapy program, and additional non-pharmacologic approaches can help address commonly cited health problems.

Education about chronic disease has great potential to increase medication adherence if patients understand the impact of their disease on overall health.[25] One study found that implementing health education classes in a free clinic's

waiting room increased patient interest in continuing care, but challenges with clinic setting and language interpretation services were encountered.[27] To implement patient education, SRFCs must accommodate the dynamic lifestyles and flow of patients.

Based on patients' recommendations, we aim to create a standardized survey to query all patients and clinic-affiliated stakeholders about their specific needs. As many patients' needs are centered on their chronic health issues, evaluating their adherence to routine health maintenance guidelines would be beneficial. Transportation, mental health, pharmacy, nutrition, and public health agencies should also be approached, as our NA highlights the immense utility of these services at EAB.

Limitations

The NA is limited by its small sample size and single-center design. Selection bias may have been present in the recruitment of participants, as approximately one in three patients agreed to participate. The most commonly stated reasons for refusing participation were not having enough time or not feeling well. Participants were also not asked about the duration or frequency of their visits to EAB, as exposure to the SRFC would contribute to their familiarity with the clinic and their feedback. In future studies at EAB, interview questions will assess duration of participants' clinic enrollment. Further research will also incorporate standardized, validated surveys on patient-reported outcomes in addition to conducting semi-structured interviews. Assessing demographic information of each participant, including age, sex, race, and past medical history will enhance analysis of the sample interviewed versus the clinic population as a whole.

Response bias may also have played a role. Participants may have been unlikely to critique the clinic when being interviewed by clinic staff, especially if they relied on the clinic as their only source of healthcare and free medication refills. Additionally, only English-speaking patients participated in this study. Further consideration includes analyzing language and cultural representation of EAB patients. Including study participants who speak various languages could capture the overall patient population. It is important to understand how clinic experiences of patients may be affected by potential language barriers or their cultural beliefs.[28]

Conclusion

SRFCs, such as EAB, offer opportunities for health assessment, improvement, and education. Patients who seek the services of a free clinic often have health needs that differ from those of the general public.[29] As this study portrays, performing interval assessments after initial founding enables clinics to tailor services and address gaps in healthcare access. Through this introductory NA at EAB, we attained a deeper understanding of patients' healthcare behaviors, concerns, and suggestions. Early attention to healthcare barriers that we highlight may aid SRFCs in their development. We hope that both recently established and long-standing free clinics can employ our methods of patient interviewing and thematic coding to perform NAs, improve operations, and acquire or expand clinic funding. By incorporating patient recommendations, SRFCs can provide higher quality and longer-term care for vulnerable populations.

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Disclosures

The authors have no conflicts of interest to disclose.

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