Implementation of Training Protocols Addressing Equitable Care in US Student-Run Clinics

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Abstract

Background: Student-run clinics (SRCs) provide free healthcare to surrounding communities—oftentimes underserved communities. In these clinics, medical students see a wide array of patients under the supervision of physicians. SRCs have helped to fill a gap in primary care and provide an opportunity for students to refine their clinical skills. However, no uniform training program exists across all student-run clinics. This study aims to assess and analyze the quality and characterization of these training programs to inform future trainings and ultimately provide more equitable care to the communities being served by SRCs.
Methods: A nine-question survey was sent out by email to 96 clinics across the United States. Upon obtaining data, the study team de-identified the results. Two independent raters coded the survey responses using an inductive approach. Themes were derived from responses and summarized into nominal codes.
Results: The populations served by the clinics that responded in decreasing order of magnitude were underinsured/uninsured (83%); immigrant/non-English speaking populations (75%); black, indigenous, and people of color (67%); homeless (67%); low-income (67%); sex workers (17%); youth (8%); and injection drug users (8%). Nine (75%) clinics had some form of training for volunteers and 3 (25%) offered no formal trainings. 75% of all clinics surveyed offered both "cultural competency" and "general introduction to systems training." The majority of clinics partnered with local hospitals/clinics (50%). Other community partners included mental health and homeless agencies, local pharmacies, and schools. Two (17%) of the clinics surveyed did not have any community partners.
Conclusion: SRCs offer a unique solution towards bridging the gap in health inequity in America. The study shows possible gaps in training among schools in the US. Although some schools have adopted formal, standardized training programs, many do not encompass instruction on topics including cultural humility, trauma-informed care, de-escalation, and population-specific care.

Introduction

In the United States (US), a significant gap in healthcare access exists between populations. Patients in predominantly "underserved" communities lack the same access to reliable, affordable, care than their counterparts in saturated communities. Differences in insurance rates further elucidate barriers to care that patients across the US are facing today. Additionally, lack of cultural competency, which can be generally defined as the ability to work cross-culturally in a way that respects every individual's racial, ethnic, and religious perspectives, can further alienate certain communities.[1]

In response to this gap in access, student-run clinics (SRCs) have now become common place at most US medical schools. Currently, there are

over one hundred free student-run clinics in the US.[2] These small medical communities are usually associated with a medical school, and therefore overseen by physician supervisors who may also serve as advisors or directors. At the forefront of many of these SRCs is a student-led initiative built around an executive board of medical students who govern the clinic and its operations.

On average, SRCs attend to 19 patients per week for a variety of services, the most common of which are vital signs checks, general acute care, and general chronic care management.[2] Most SRCs also provide laboratory and pharmaceutical services, all free of charge. The patient population is predominantly BIPOC (Black, Indigenous, and Persons of Color), who are likely uninsured.[2] Typically, there is a 1:1 ratio of patients to medical student volunteers.[2] Lastly, in line with the mission to build long-term, sustainable health practices, SRCs place great emphasis on educating both the patient and the medical student on healthy lifestyles and practices.[2]

There have been limited studies focused on assessing equity in clinic training protocols. Existing studies have looked at the services that student clinics offer, the number of student volunteers at a clinic, and the number of patients seen.[2-5] Out of 94 clinics that responded to a survey, 49 stated that they had at least one student-run clinic with an average of 16 students, with predominantly minority patients being served.[2,3] Studies have also reported on the benefits of SRCs including working with vulnerable populations and advancing medical education, as well as the challenges including receiving funding and having adequate staff.[3] More specifically, studies have demonstrated that involvement in SRCs allow health professional students to engage with the ever-increasing diversity of patient groups, and further examine the nuanced barriers that limit access to care through an intersectional lens—accounting for racial, cultural, and gender-based inequities.[4,5]

Student-run clinics bring together two matters: they help to fill a gap in health access by providing care to underserved communities while also providing medical students with significant clinical exposure, particularly towards diverse patient populations from a wide range of demographics and backgrounds. At its ideal,

these free clinics are a solution towards addressing some of the disparities in the American healthcare system. However, there is a main ethical dilemma at the core of student-run clinics: how students are receiving the proper training on bedside manners, clinical practice, and cultural competency to serve these increasingly complex populations.

Through this study, our team examined the demographics of patient populations served at certain SRCs, as well as how executive board members or leadership teams enhance health equity by training volunteers in topics such as cultural competency. The terms health equity and "equitable" were guided by the Institute for Healthcare Improvement (IHI) guidelines for improving health equity for healthcare organizations.[7] These guidelines involve making equity a strategic priority, building infrastructure to support health equity, addressing the multiple determinants of health, eliminating racism and other forms of oppression, and partnering with the community to improve health equity.[6] We sought to assess health equity by evaluating several areas foundational to health equity in medicine including health literacy, de-escalation techniques, trauma-informed care, and cultural humility. These themes were related to building an infrastructure to support health equity. Regarding addressing the multiple determinants of health, we assessed if these trainings targeted specific populations and if there was an intersection between the social determinants of health. And lastly, in accordance with the last IHI guideline of partnering with the community, we assessed community partnerships that SRCs have forged to improve health equity. The aim of this study is to see if there are any gaps in the training of student volunteers to provide equitable care in clinics. This data can subsequently be used in quality improvement programs at SRCs across the US.

Methods

The study was approved as exempt by the Institutional Review Board. The study design was a cross-sectional survey. Primarily, all US medical institutions that offered services through SRCs that had contact information, specifically email,

readily available on their website were identified. These emails found online were not linked to a specific board member but rather a general email for the entire board. To increase the cache of responses, the email was addressed to the general executive board so any board member could respond on behalf of the clinic. SRCs with outdated contact information posted on school websites were excluded from the study. Information was acquired from these clinics by creating a nine-question survey using Google Forms (Version 1.2023.10201, Alphabet Inc, Mountain View, CA). This survey was initially piloted amongst a small group of medical students at the home institution to assess for content and face validity. The participants were asked to provide feedback on the clarity of the questions, the aim of the study, and if the content being asked related well to the aim of the study. After this feedback was incorporated into a finalized survey, the survey was able to be disseminated. The finalized survey can be found in Appendix A. Google Forms was chosen because it is user-friendly, allows for a mix of multiple choice and open-ended questions, and data can quickly be exported into the accompanying data program, Google Sheets. The survey was disseminated by email to 96 clinics across the US. A reminder email was sent out a month later to accommodate for increased workload and/or timing around exams. No additional schools responded to the survey after the reminder email, therefore data collection was completed at that time. Upon obtaining data, the rating team de-identified the results before beginning the analysis.

Two independent raters coded the survey responses using an inductive approach. Themes were derived from responses and summarized into nominal codes on Google Sheets (Version 1.2023.10201, Alphabet Inc, Mountain View, CA). Any discrepancies between codes were resolved through consultation between the two coders. The codes were quantitatively summarized and organized into several tables outlining the demographics of patients served, community partnerships, volunteer training, and modes for quality improvement. Two tables were created for comparing populations served and population-specific volunteer training, as assessed and designated by the survey respondent themselves.

Results

Populations Served (Table 1)

Out of the 12 student-run free clinics that responded to the survey, the populations served in decreasing order of magnitude were: underinsured/uninsured (83%), immigrant/non-English speaking populations (75%), BIPOC (67%), homeless (67%), low-income (67%), sex workers (17%), youth (8%), and injection drug users (8%).

Table 1. Populations served

Population	n	N	%
BIPOC	8	12	67
Elderly (65+)	3	12	25
Homeless	8	12	67
Immigrant/Non-English speaking	9	12	75
Injection drug user	1	12	8
LGBTQ+	3	12	25
Low-income	8	12	67
Sex worker	2	12	17
Underinsured/Uninsured	10	12	83
White	7	12	58
Youth (0-17)	1	12	8

BIPOC: black, indigenous, and people of color; LGBTQ+: lesbian, gay, bisexual, transgender, queer

Volunteer Trainings (Tables 2-4):

Nine (75%) clinics had some form of training for volunteers and 3 (25%) offered no formal trainings. Of the nine clinics with formal trainings, all offered both Cultural Competency and General Introduction to Systems training. Motivational Interviewing (33%) and Trauma-Informed Care (25%) were the next most common training. Of the nine out of 12 clinics that offered some form of training, all clinics offered live presentations. Less common training modalities included interactive demonstrations/roleplay (56%) and online modules (33%).

Although clinics offered a variety of training, they did not consistently hold formal trainings that were specific to the population served. While 83% of clinics served underinsured/uninsured individuals, and 67% worked with low-income populations, none of the clinics had specific training for volunteers on working with this community. A lack of training was also the case for patients.

Table 2. Volunteer trainings

Type of training	n	N	%
General introduction to systems	9	12	75
Trauma-Informed care	3	12	25
Cultural competency	9	12	75
De-escalation techniques	2	12	17
Harm reduction	2	12	17
Health literacy	2	12	17
Motivational interviewing	4	12	33
Nutritional and exercise training	1	12	8
Specific-procedure training	1	12	8
No formal trainings	3	12	25

Table 3. Training Modalities (Out of 9 clinics with trainings)

Modality	n	N	%
Online modules	3	9	33
Live presentations	9	9	100
Interactive demonstrations/role play	5	9	56
End-of-training assessments	2	9	22
Case studies	1	9	11

Community Partnerships (Table 5) and Quality Assurance (Table 6):

Half of the clinics surveyed partnered with local hospitals/clinics (50%). Other community partners included mental health and homeless agencies, local pharmacies, and schools. Two (17%) of the clinics surveyed did not have any community partners. Only half of the clinics incorporated any formal quality improvement/assurance methodologies. The clinics that did perform quality assurance assessments did so through surveys of patients, volunteers, and providers, and community needs assessments.

Demographics of Populations Served (Table 7)

The majority of clinics served BIPOC, immigrant, non-English speaking, and underinsured/uninsured populations in line with providing care for those most underserved in the communities surrounding SRCs.

Discussion

It is evident that SRCs are a major contributor to learning and education for many of the nation's medical institutions. They offer an integral opportunity to close the gap in healthcare access in predominantly underserved areas. The ability to target and serve a diverse and broad range of patients is one of the many strengths of SRCs clinics. As discussed earlier, these free clinics offer a foundational step towards a solution for the disparities seen in the American healthcare system.

The main limitations encountered related to a low yield of responses from the clinics that we sent a survey to through the mass email. The study had a 13% response rate, which is considered a low response rate. Generally, a response

Table 4. Populations served vs. population-specific training

Population	# of clinics serving specific population			Volunteer trainings specific to populations served		
	n	N	%	n	N	%
BIPOC	8	12	67	5	12	63
Elderly (65+)	3	12	25	0	12	0
Homeless	8	12	67	1	12	13
Immigrant/Non-English speaking	9	12	75	5	12	56
Injection drug user	1	12	8	0	12	0
LGBTQ+	3	12	25	2	12	67
Low-income	8	12	67	0	12	0
Sex worker	2	12	17	1	12	50
Underinsured/Uninsured	10	12	83	0	12	0
Youth (0-17)	1	12	8	0	12	0

BIPOC: black, indigenous, and people of color; LGBTQ+: lesbian, gay, bisexual, transgender, queer

Table 5. Community partnerships

Type of Partnership	n	N	%
Homeless agencies	2	12	17
Local hospital/clinic	6	12	50
Local church	2	12	17
Harm reduction agency	2	12	17
Schools	1	12	8
Social workers/social services agency	3	12	25
Legal aid agencies	1	12	8
Mental health agencies	3	12	25
Homeless agencies	2	12	17

Table 6. Quality improvement assurance modality

Modality	n	N	%
Survey of patients	2	12	17
Survey of volunteers	2	12	17
Survey of providers	1	12	8
Community needs assessment	2	12	17
Streamlining services/referrals	1	12	8
Health services	2	12	8
No formal assessment	6	12	50

rate of over 60% should be the goal of surveys to have a high response rate.[7] We acknowledge that a small sample size may not be sufficient to generalize the impact of training on all SRCs in the US. A factor that may have caused the low response rate is voluntary response bias. The responses to the survey were purely on a voluntary basis with no external reward granted. Therefore, SRCs with existing equitable protocol programs may have been more likely to respond than those without such programs. SRCs without such programs may have also been less likely to self-reflect and/or report that such programs do not exist. Therefore, the data could be overestimating the actual percentage of clinics with such programs. Another limitation of the study stems from the survey instrument itself. Due to our inability to directly converse with other clinics, the resulting answers are based solely on the individual clinic's interpretation of the questions being asked. For example, a clinic may assume that the term BIPOC encompasses all immigrants, and another clinic may find distinction in the definition.

Similar trends are seen in the clinics that provided a comprehensive response to the survey. Out of the SRCs surveyed, the populations served are strikingly similar. They all served majority underinsured/uninsured and immigrant/non-English speaking populations. With proper training, SRCs can better provide care to support these communities. Student-run clinics offer an immersive avenue for learning systems-based practice and gaining hands-on service-learning experience. Nine clinics had some form of training for volunteers and offered both Cultural Competency and General Introduction to Systems training. These training programs can help provide better care and enable students to understand the significance of providing care to these communities.

We found that only half of the clinics incorporated any formal quality improvement/assurance methodologies. SRCs have the innate ability to collaborate with other disciplines in a collegial manner to promote effective evaluation, coordination, and improvement of healthcare practices. Likewise, effective training programs help educate students to maintain the highest standards of quality care. One of the goals of SRCs is to enable medical students to advocate for their patients, to examine the healthcare system, and to identify unique systemic barriers to healthcare delivery. Although this is a core competency that is essential for medical residents, in many cases SRCs have some of the earliest learning experiences that such systems-based practical elements can teach.[1]

This study highlights an area of research that could benefit from further studies. Future studies should focus on gathering more data with a higher response rate. This could be done with more follow-up emails, or possible external reward to ensure a higher response rate, given additional reminder emails did not yield a higher number of responses in this study. Another improvement could be to address specific board members in the email to increase the onus on the individual board members to respond. However, this information is not always readily available on SRC websites found online. In addition, based on the IHI framework, we recommend a more robust avenue for community partnerships to be

Table 7. Demographics of Populations Served by Individual Clinics

Clinic	BI-POC	Elderly (65+)	Home-less	I/NES	IV	LGBTQ+	Low-income	Sex Worker	U/U	White	Youth (0-17)
1			✓	✓					✓		
2	✓					✓			✓	✓	
3	✓	✓	✓	✓		✓	✓	✓	✓	✓	
4	✓	✓	✓	✓		✓	✓		✓	✓	
5			✓	✓			✓				
6			✓				✓		✓		
7	✓		✓	✓	✓		✓	✓	✓		
8	✓			✓			✓		✓		
9	✓		✓	✓			✓		✓	✓	
10	✓	✓	✓	✓			✓		✓	✓	✓
11			✓							✓	
12	✓			✓						✓	

BIPOC: black, indigenous, and people of color; I/NES: Immigrant/Non-English Speaking; IV: intravenous drug user; LGBTQ+: lesbian, gay, bisexual, transgender, queer; U/U: Underinsured/Uninsured

explored among clinics, and a more thorough assessment of infrastructural factors addressing health equity. Future studies should assess the "mission" or "value" statement of clinics to assess whether health equity is addressed at a foundational level. Possible improvements to make based off the conclusions in this study include having a standardized training curriculum nationally for all SRCs to follow, creating a quality improvement board to assess each SRC's practices, and creating a platform for SRCs to share materials to facilitate inter-school collaboration.

Conclusion

SRCs offer a unique solution towards bridging the gap in health inequity in America. Our study on the operation of SRCs across the nation reveals that there exist certain gaps in training protocols that are population specific as well as in implementation of robust quality improvement programs. Overall, we hope to highlight the importance of generating and implementing formal training protocols in student-run free clinics. By training the future generation of healthcare providers, SRCs can fill the gap of providing more equitable care to the patients that are being served.

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