

## BRIEF REPORT

# Quantifying the Educational Value of a Student-Run Free Clinic

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**HOW TO CITE:** Mazander M, Rumenapp J, Lee D, et al. Quantifying the Educational Value of a Student-Run Free Clinic. *Fam Med.* 2024;56(3):176–179. doi: [10.22454/FamMed.2024.568265](https://doi.org/10.22454/FamMed.2024.568265)

**PUBLISHED:** 16 January 2024

**KEYWORDS:** cost-benefit, education, free clinic, student-run

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## ABSTRACT

**Background and Objectives:** Student-run free clinics (SRFCs) are settings in which students in health professions gain clinical experience, often while providing free or reduced-cost health care to the surrounding community. The current literature quantifies the many benefits these clinics provide to their patients and the impact they have on students' future careers; but few previous studies have assessed the financial impact of the education provided at an SRFC. We report on a net educational benefit, an educational benefit to educational cost ratio, and a net educational benefit to educational cost ratio of one SRFC from the perspective of the university.

**Methods:** We calculated the value of education by multiplying all student hours worked in the clinic by the associated value of 1 hour in the typical tuition-based curriculum. Clinic educational costs and student hours were obtained from clinic records from August 1, 2021 through July 31, 2022.

**Results:** We found the total educational value students received to be \$73,571 over one academic year. The educational operating expenses of the clinic totaled \$9,053, resulting in a benefit-cost ratio of 8.13.

**Conclusions:** This analysis demonstrated a potential financial advantage of operating an SRFC when assessing clinic education expenses in relation to the value of university-generated education. Our research may serve as a starting point to showcase the economic benefit of SRFCs to their parent institutions and encourage further analysis of other benefits SRFCs may provide to institutions of higher education.

## INTRODUCTION

Student-run free clinics (SRFCs) play an important role in providing primary care and other health care services to uninsured and vulnerable patient populations while concurrently delivering educational experience to students in health professions. Currently, 152 SRFCs in the United States are staffed by students in health professions programs and overseen by licensed, experienced clinicians.<sup>1</sup> Student participation in SRFCs has many established impacts, including effects on student specialty choice and student perceptions of interprofessionalism.<sup>2–5</sup> Several studies also have developed financial models to assess the value of care provided at SRFCs from the patients' perspective; however, few studies have evaluated the cost required to provide this education or the financial benefit that this clinical experience provides to institutions of higher education.<sup>6–11</sup> We acknowledge that assessing educational benefits can be done in many ways, all of which will not be captured by one analysis; but here we quantify the benefits via economic outcomes to present one tool that may be beneficial in assessing the sustainability of such clinics.<sup>12,13</sup> This study

attempts to quantify the educational value of one SRFC, the Interprofessional Community Clinic (ICC), associated with a large health professions university in the Midwest, Rosalind Franklin University of Medicine and Science (RFUMS).

## METHODS

This SRFC offers appointments in primary care, podiatry, physical therapy, and behavioral health on Thursday nights. Our analysis covers one academic year, in which the clinic operated virtually for 9 months due to COVID-19 restrictions and reopened in person for the final 3 months of the study period. During that year, 371 health professions students from seven programs facilitated care for 122 patients over 449 appointments.

We conducted a cost benefit analysis (B=benefits, C=costs) by posing the following three-part question: What are the net educational benefit (B-C), the educational benefit to educational cost ratio (B/C), and the net educational benefit to educational cost ratio ((B-C)/C) of hosting an SRFC?

We calculated the total educational cost of the clinic over one academic year, from August 1, 2021 through July 31, 2022, using clinic budget spreadsheets. We totaled the operating expenses that were incurred directly due to students' presence at the clinic during that time period.

To calculate the educational benefit, we determined the value of an hour of learning for each health professional education program using the institutionally established tuition and definition of a credit hour: 10 weeks of 1 hour of lecture or 2 hours of lab or clinical experience.<sup>14,15</sup> Therefore, the monetary value of an hour of experience in the clinic was calculated as

$$\text{(Annual tuition and fees)} / \text{(annual credit hours)} / \text{(20 hours of equivalent clinical learning experience)}$$

We then multiplied this determined value for each program by the number of hours students served on clinic nights. These shifts included direct patient contact roles and administrative roles; all positions engaged in valuable experiential learning ultimately guided by experienced clinicians.

Though clinicians' service was voluntary, we compared the cost benefit analysis (CBA) of actual education costs to the costs that the clinic would have incurred without this in-kind donation. We calculated clinician hourly salaries based on regional averages (Table 1), with 27.5% added to represent the employee benefits cost at RFUMS and an assumed average 40-hour work week for 50 weeks.<sup>16,17</sup> We multiplied these calculated hourly salaries by the number of hours the clinicians of each profession donated to the clinic.

This study was determined to be "Not Human Research" by the Institutional Review Board at RFUMS because no personal health or educational information was collected.

## RESULTS

In the 2021–2022 academic year, the educational costs of the clinic included student training (\$6,742), faculty and volunteer appreciation (\$1,667), and professional organization membership fees (\$644) for a total cost of \$9,053. The educational benefit of the clinic was \$73,571, representing 2,059 hours of student learning (Table 2). The net benefit (B–C) was \$64,518 (Table 3). The benefit cost ratio (B/C) was 8.13. The net benefit to cost ratio  $([B-C]/C)$  was 7.13. For every dollar spent on clinic educational needs, \$8.13 of educational benefits was realized. The value of in-kind donation of faculty time was \$54,908, which would bring the cost of the clinic to \$63,961. Table 3 compares the CBA with and without the in-kind donations.

## DISCUSSION

SRFCs are crucial for addressing health care disparities and reducing the burden on the health care system because they provide preventive and primary care services to uninsured populations. They also play a vital role in health profession education by developing the skills and knowledge of future health care professionals.<sup>5,18–20</sup> Our results demonstrate that SRFCs also provide a cost-effective educational opportunity to health professions universities, as shown by the educational benefit to educational cost ratio of 8.13.

Use of a CBA allows clinic and university leadership to assess the clinic's long-term sustainability. Additionally, having a benefit/cost ratio around 1 (Table 3) when accounting for clinical faculty in-kind donations may allow investigation into compensation for clinical educators, teaching releases, or paid administrative or clinical support, which may lead to even more learning opportunities. Ultimately, we hope SRFCs across the country use this method to show the benefit of their clinics and to advocate for further financial support.

While our investigation provided valuable insights into the benefits of one SRFC, it also had some limitations. One limitation was the exclusion from the analysis of students who volunteered in nonclinic night roles (eg, finance, public relations), though their work was still related to clinic function. Student involvement also may have been underestimated because this study period consisted largely of virtual clinic operations with limited student participation. Mentorship and training outside of clinic-night instruction also was not analyzed, despite having major educational benefits. While the precision of our findings may have been limited by these exclusions, including them would have increased benefits and therefore increased the net benefit and the benefit to cost ratios. While nondonated clinician time was included as a potential cost, this cost may not be purely educational because patient care is not possible without clinician oversight. Additionally, while this study took a new perspective to focus solely on educational benefits to a university, it did not consider the benefits to the patients, who should be centralized and prioritized in discussions involving clinic funding.

Future studies include analyzing other educational benefits of SRFCs beyond clinical experiences. Additionally, questions may be explored regarding the potential financial benefit of the role that SRFCs play in student recruitment to schools and the equitable distribution of educational benefits and clinic benefits at-large.<sup>21</sup> Specifically, ethical concerns arise regarding whether education occurs at the expense of underserved and uninsured communities, though SRFCs have been shown to provide patient care that is similar to other free clinics.<sup>22–25</sup>

## CONCLUSIONS

SRFCs have been shown to be sites of powerful learning opportunities where students develop empathy and capacity to serve marginalized patient communities and learn to work in interprofessional teams, all while providing care to uninsured patients.<sup>2–5,18,26–31</sup> Our analysis provides another perspective on the value of SRFCs, showing that they are cost-effective venues for student education.

## Presentations

- ▶ American Educational Research Association Annual Meeting, Chicago, IL, April 13, 2023.
- ▶ Rosalind Franklin University All-School Research Consortium, North Chicago, IL, March 15, 2023.
- ▶ Rosalind Franklin University Summer Research Poster Session, North Chicago, IL, October 4, 2022.

**TABLE 1.** Value of Faculty In-Kind Donation

Position	Median yearly salary	Median yearly salary + 27.5% employee benefits cost	Calculated hourly salary including benefits	Hours volunteered in clinic	Value of faculty in-kind donation
Internal medicine physician	\$266,921	\$340,324	\$170	111	\$18,870
Psychologist	\$120,411	\$153,524	\$77	148	\$11,396
Physical therapist	\$80,492	\$102,627	\$51	222	\$11,322
Pharmacist	\$128,090	\$163,314	\$82	111	\$9,102
Physician assistant	\$115,307	\$147,016	\$74	57	\$4,218
*Podiatrist	\$265,200	\$338,130	\$169	N/A	N/A
<b>Total potential faculty cost</b>					<b>\$54,908</b>

\*Podiatry faculty also donated time to the clinic, but due to COVID-19 regulations, students were not permitted in podiatry appointments.

**TABLE 2.** Calculated Education Benefit of SRFC Clinical Volunteering to Each Health Professions Program

	Yearly tuition and fees	Educational hours (yearly credit hours=20)	Hours volunteered	Value per learning hour	Educational benefit
Preclinical medical students	\$68,924	1,910	734	\$36	\$26,424
Physical therapy students	\$43,460	1,420	775	\$31	\$24,025
Clinical medical students	\$68,887	1,440	196	\$48	\$9,408
Pharmacy students	\$43,381	1,020	139	\$43	\$5,977
Clinical counseling psychology students	\$39,734	900	78	\$44	\$3,432
PA students	\$55,401	1,820	98	\$30	\$2,940
Podiatry students	\$47,300	1,370	39	\$35	\$1,365
<b>Total benefit</b>					<b>\$73,571</b>

Abbreviations: SRFCs, student-run free clinic

**TABLE 3.** Cost-Benefit Analysis With and Without Faculty Time Donation

	Net educational benefit (B-C)	Education benefit: educational cost (B/C)	Net educational benefit: educational cost ((B-C)/C)
CBA with faculty time donation	\$64,518	8.13	7.13
CBA without faculty time donation	\$9,610	1.01	0.01

Abbreviations: B, benefits; C, costs; CBA, cost benefit analysis

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