

CommunityCare Free Medical Clinic: A Model of an Entirely Student-Driven Free Clinic in Your Backyard

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Abstract

Student-run free clinics improve health care access for underinsured patients in the United States. This descriptive report delves into our unique, entirely student-led model aimed at deliver-Ing healthcare services to underserved communities and how our model combines many services offered at other student-run free clinics. According to the 2022-2023 Lucas County Community Health Assessment, 6% of Lucas County, Ohio, adults were uninsured, with 12% of Black adults being uninsured. Targeting this historically underserved demographic informed the location of some of our clinic sites. To ensure that our student-led initiative maintains the same quality as a federally-funded clinic, we prioritize working in interprofessional teams of students and providers. To reduce the burden of transportation, we also seek to provide as many on-site ancillary services as possible, such as vision screening and point-of- care lab testing. Additionally, we provide extensive medical trainee education focused on integrating inclusivity, cultural sensitivity, and patient advocacy. We seek to provide a cost-effective, replicable clinic model and empower the next generation of medical trainees to advocate for underserved communities across the United States.

Introduction

A Review of Student-Run Free Medical Clinics

Compared to other free medical clinics in the United States (US), student-run free medical clinics (SRFC) offer a cost-effective, collaborative alternative to free medical healthcare for uninsured and underinsured patients or patients who do not qualify for government assistance. Because SRFCs are largely grant-funded they have the flexibility to expand services to broader patient populations regardless of economic or citizenship status. Some SRFCs focus on reducing urgent care and emergency department (ED) visits, and serve as low-volume, high-efficiency centers. An example of this is the student-run 12th Street Health and Wellness Center (HWC) in Arkansas.¹ This clinic operates three days a week, serving around eight patients daily. A study at this clinic found that the clinic significantly reduced their local ED and urgent care visits, as it served as a cost-effective and accommodative alternative.¹

However, the Shade Tree clinic studied 254 patients over the span of a year to find that only 23.3% of them visited the ED and concluded that their clinic population was not utilizing their clinic as an alternative to urgent care.² Instead, the clinic's primary focus was towards diabetes education and chronic disease prevention. A study looking into the Dedicated to Aurora's Wellness and Needs SRFC compared the clinic's standards of hypertension and diabetes treatment to national standards, finding that the clinic had higher HbAlc screening rates and increased diabetes control.³ Seen in both

cases, the SRFC model focusing on a preventative and educative approach is perhaps the most common.

The Building Relationships and Initiatives Dedicated to Gaining Equality clinic at the University of South Florida Morsani College of Medicine offers a compassionate care clinic that also focuses on education to healthcare professionals.⁴ This clinic model focuses on offering diverse services to patients, such as specialty clinics, social work, pharmacy, public health, and physical therapy. A study at this clinic on breast cancer screening rates showed that their clinic population had greater compliance with the screening guidelines of the American Cancer Society compared to national rates. This clinic can be characterized as a diverse, multi-specialty model.

The CommunityCare Free Medical Clinic

Our free medical clinic, the CommunityCare Free Medical Clinic (CCFMC) at the University of Toledo College of Medicine and Life Sciences, offers a SRFC model that combines the clinic services described above. Specifically, we offer diverse, multi-specialty services that also focus on chronic disease and preventative/educative initiatives (Figure 1). Unpublished internal clinic data suggests that a substantial portion of our clinic population tends to utilize the clinic as an urgent care We offer an efficient, cost-effective center for our under-served communities. We offer an efficient, cost-effective communities.

Clinic Foundation

The CCFMC was founded in 2010 by Richard Paat, MD, an internal medicine physician native to Toledo who is passionate about equitable care. CCFMC initially partnered with a local cultural center to host the clinic in conjunction with weekly produce distributions. As community partnerships accrued, CCFMC expanded to different sites across underserved zip codes in the Toledo area, encompassing historically underserved communities.⁵ Over a span of 14 years, the clinic grew from one outdoor clinic to four different sites, serving 737 unduplicated patients in 2022 over nearly 2,000 encounters and administering 7,007 vaccinations against Coronavirus disease 2019 (COVID-19). Yet, the outdoor clinic that CCFMC initially started still stands, providing consistency and harboring trust. Our goal over 14 years has remained the same: to address local health inequities and enact sustainable change for our community.

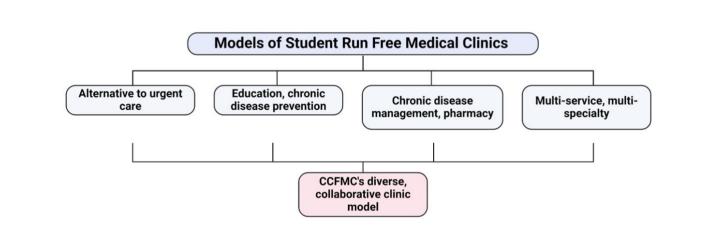


Figure 1. Models of student-run clinics

This graphic demonstrates the different types of free medical clinics and where our CommunityCare Free Medical Clinic (CCFMC) falls into place with these clinics.

Table 1. Community demographics

	Location of Anne Treglia, Zip Code 43606 ⁹	Location of main clinic, Zip Code 43614 ⁹	Location of SPP and Labre Clinics, Zip Code: 43609 ⁹	Lucas County, Ohio population ⁶	Ohio population ⁷	United States of America Population ⁸
Total Population, n	26,429	29,394	20,327	426,643	11,756,058	333,287,557
Age and Sex, %						
Persons <5 years	-	-	-	6.1	5.7	5.7
Persons <18 years	18.8	20.8	25.6	23.1	22.1	22.2
Persons 65+	14.4	18.6	12.7	17.1	17.8	16.8
Female persons	-	-	-	51.4	50.7	50.5
Race and Ethnicity, %						
White/Caucasian, alone	60.6	78.7	55.4	73.6	81.2	75.8
Black/African American, alone	29.7	14.6	30.4	20.5	13.2	13.6
American Indian/Na- tive Alaskan, alone	0.8	0.1	0.6	0.4	0.3	1.3
Asian, alone	3.3	1.2	0.7	1.8	2.7	6.1
Native Hawaiian and other Pacific Islander, alone	0	0.03	0.6	0.1	0.1	0.3
Two or more races	-	-	-	3.6	2.6	2.9
Hispanic/Latino	4.1	7.0	15.2	7.8	4.3	18.9
White Alone, not Hispanic/Latino	-	-	-	67.4	77.7	59.3
Relevant demographics, n						
Persons without health insurance, <65 years	6.0	4.7	12.0	7.6	7.8	9.8
Persons with a disability, <65 years (2017- 2021)	14.7	19.0	24.0	11.7	10	8.7
People in poverty	16.5	18.1	24.9	17.4	13.4	11.6
Language other than English spoken at home, persons 5 years+ (2017-2021)	-	-	-	6.4	7.3	21.7
Foreign born people, (2017-2021)	-	-	-	3.8	4.8	13.6

Clinic zip codes, including Saints Peter & Paul Clinic (SPP) and Lucas County compared to the state of Ohio and the United States of America.⁶⁻⁹

Patient Population

Through analyzing our area's demographics, we strategically placed our clinics in the backyards of those who are uninsured, underinsured, and minorities who have historically lacked access. The 2022-2023 Lucas County Community Health Assessment demonstrated that 6% (19,507 adults) of Lucas County adults were uninsured, with 12% (7,675) of Black and 3% (1,147) of Latino adults who were uninsured.⁶⁻⁹ This is significantly higher than Ohio's 6% of Black adults who are uninsured, although drastically lower than 27% of Ohio's Latino population. A largely cited reason for lack of insurance was cost/no accessible insurance. Of note, the US population census report in July 2022

revealed that Toledo has a proportionally larger Black/African American population than the national average, influencing our decision to open to open the Anne Treglia Clinic in a predominately Black neighborhood that has historically been under-served (Table).⁶⁻⁹

In addition to analyzing demographics, it is pertinent to design clinics that address specific area health needs. Specific public health concerns in Toledo/Lucas County include sexually transmitted infections, mental health, diabetes, and cardiovascular disease. Additionally, the Toledo-Lucas County Commission on Minority Health reports that minority populations have expressed dissatisfaction with transportation and translation services.¹⁰ It is crucial to perform this dedicated analysis to understand unique patient demographics and specific needs or barriers to care in each community.

Clinic Model

Interprofessional Faculty

At the CCFMC, we aim to provide free healthcare with dignity for the underserved. Our advisory Board of Directors is comprised of our founder and medical director, a nursing faculty advisor, and a pharmacy faculty advisor. We utilize students and faculty of medicine, pharmacy, nursing, nurse practitioner, physical therapy, occupational therapy, physician assistant, and biomedical sciences programs as volunteers and as members of the student executive board.

Leadership

The student Executive Board is comprised of a medical student Executive Director and Director of Administration that oversee a board of fifteen medical students, three pharmacy students, one nursing student, one physician assistant student, and one student from physical or occupational therapy who were elected by the previous board after interview. Using the Responsible Accountable Consulted Informed matrix adapted from business models, we delegate responsibilities for each position.¹¹ The diversity of our interprofessional student board encourages collaborative decision-making, which is vital to health professional careers. (Figure 2)

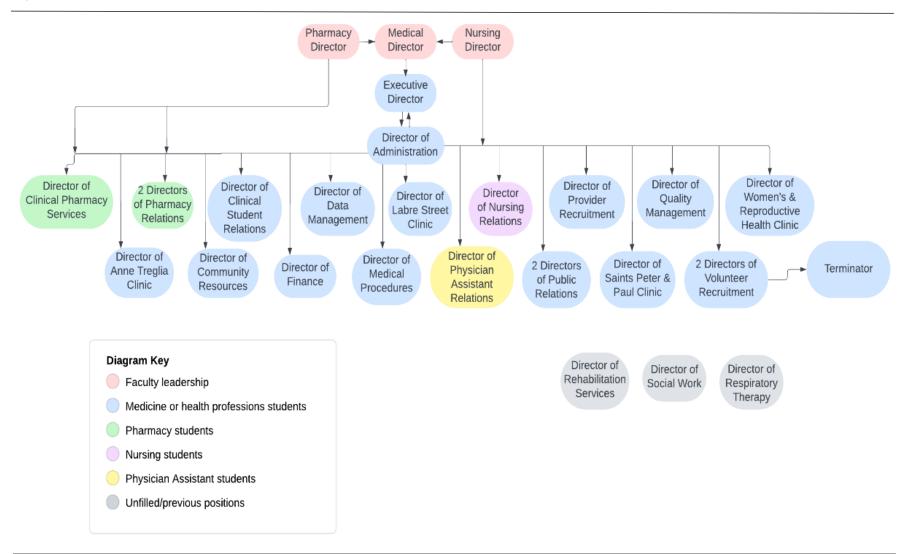
Clinic Structure and Flow

The CCFMC is comprised of two clinics that operate weekly and two clinics that each operate twice per month. These clinics are strategically placed in areas with a lower Opportunity Index, a metric that uses community, education, and health data to identify disadvantaged communities [Figure 3].^{12,13} Our Main Clinic operates every Thursday evening seeing 15-40 patients on a walk-in basis at Cedar Creek Church, which donates storage and clinical space. Our Women's and Reproductive Health Clinic operates at the main clinic twice a month scheduling 3-5 appointments and walk-ins as time permits.

Our Labre Street Clinic operates every Monday night seeing 10-20 patients in downtown Toledo, serving those experiencing homelessness or transportation barriers. We transport all our medical supplies and mobile pharmacy to each site so the patients can receive care in their neighborhood. The Anne Treglia Clinic initially operated at the Pinewood Tabernacle Church but was recently moved to the Saint Martin de Porres Church to increase patient volume and better address the needs of the community. This clinic operates twice monthly seeing 3-5 patients in conjunction with a free breakfast, which serves as a community hub. The Saints Peter & Paul Clinic is open twice monthly in the named church, which provides services entirely in Spanish to serve the Hispanic/Latino community. The latter two clinics were created after a needs assessment demonstrated that these communities were underserved in our city.

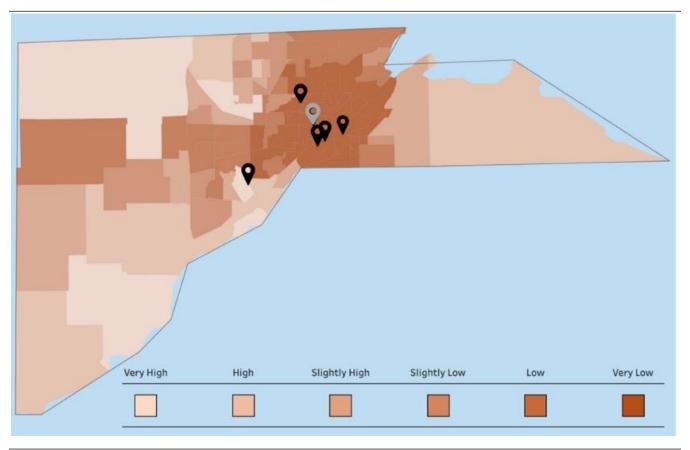
Data has shown that health outcomes improve, and patients' anxiety decreases when a patient

Figure 2. Clinic Leadership



Our leadership is comprised of three faculty members (red) and twenty-two health professions students. Students in blue are traditionally of the MD program, but the positions are open to all health professions; green is pharmacy students; purple is a nursing student; and yellow is a physician assistant student. Unfilled and previous positions (grey) include the Director of Rehabilitation Services, Director of Social Work, and Director of Respiratory Therapy. Note that the Executive Director and Director of Administration typically work as partners.

Figure 3. Clinic Locations



Our current clinic locations (black pins) and past Anne Treglia location (gray pin) mapped against the Lucas County Opportunity Index.¹³ A lower Opportunity index (dark brown) indicates a more disadvantaged area. Figure modified from the Lucas County Department of Health.¹²

is cared for by a medical professional who shares a similar cultural background and demonstrates cultural awareness.¹⁴⁻¹⁶ It is our mission to provide care to anyone in need regardless of race, ethnicity, gender, socioeconomic status, religion, or any other stratifying factor. To further address inequities in healthcare, we also serve migrant agricultural workers and hosted COVID-19 vaccination clinics in rural and underserved communities.

At the entrance of the CCFMC, patients are greeted by a nurse and screened for symptoms of COVID-19. Undergraduate and master's student volunteers handle registration and appointment scheduling in our electronic medical record system, AthenaHealth. Volunteers from interprofessional programs take vitals and record the chief complaint, supervised by a nurse practitioner. The patient is then directed to the Triage Officer, a board member who explains our ancillary services, discussed in the next section. Third- and fourth-year medical students lead a team of interprofessional students to collect the patient history and physical, then formulate an assessment and plan. The team presents the case to an attending physician, physician assistant, or nurse practitioner who provides feedback and education. The provider accompanies the team into the patient room to verify and perform their own evaluation of the patient, delivering the diagnosis and treatment plan. In SRFCs, it is important to emphasize that all patient care decisions are overseen and finalized by a licensed provider operating within their scope of practice.¹⁷ This clinic flow is summarized in Figure 4.

After the interview concludes, the patient can access any of our in-house ancillary services. If medications have been ordered, the patient will visit our free in-house pharmacy staffed by pharmacists and pharmacy students. If a medication is not on our formulary, we write external

prescriptions and counsel the patient on costs with GoodRx or assist the patient in manufacturer prescription drug assistance applications. If external laboratory services or imaging are ordered, student administrators will assist the patient in completing financial aid applications. At the end of their visit, patients can browse through free produce, shelf-stable food, hot meals from local pantries, clothing donations, and personal hygiene supplies.

Resources and Ancillary Services

A significant barrier to care is referring patients to off-site ancillary services. To lessen this burden, we include as many resources onsite as possible. Ancillary resources are outlined in Figure 5.

Our Women's and Reproductive Health Clinic, held twice a month, offers confidential Human Immunodeficiency virus (HIV) testing, well woman visits, pap smears, and sexually transmitted infection testing. We also collaborate with Mercy Health, a well-resourced area health system, to host their mammography van to conduct free to low- cost onsite mammography screenings on our patients, and the dental van to provide free dental cleanings, fillings, and extractions for our mobile clinics..

For services that we cannot have onsite, we can place referrals to our community partners. Services include nutritional counseling, food pharmacy, addiction management, psychiatric care, pregnancy care.

Laboratory services have historically been referred to an outside laboratory, which imposed additional cost, time, and transportation barriers. In December 2022 we received grant funding to purchase two blood analyzing machines to perform hemoglobin Alc, liver function tests, hepatitis A & B screening, lipid panels, and complete metabolic panels at all clinic sites. This has reduced the need for transit outside facilities, is free for patients, and results are delivered in minutes. In addition to removing barriers to care, on site labs enhance the educational opportunity for our students to practice evidence-based medicine and utilize the lab results to inform their treatment decisions within the same visit.

Volunteer Education

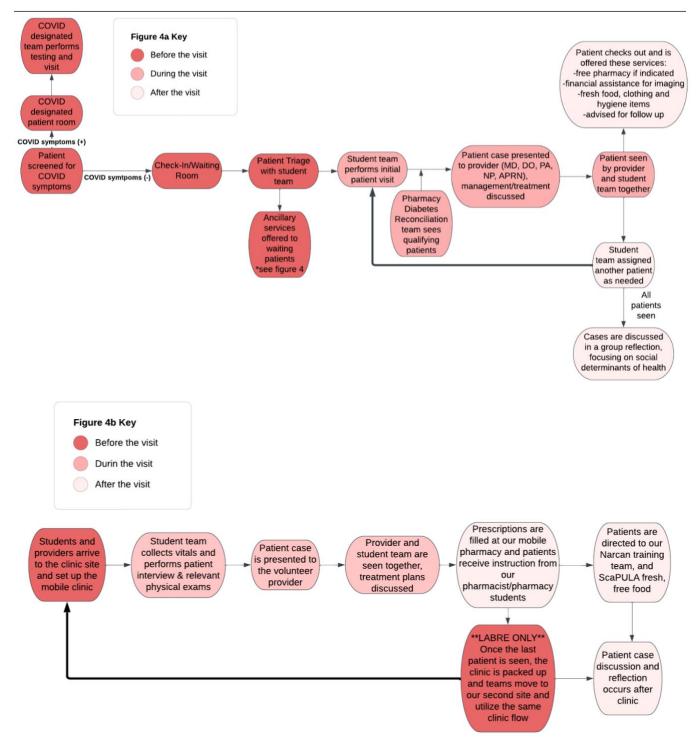
CCFMC provides an environment where interprofessional healthcare students can gain exposure to medical care and teamwork. Through this collaborative framework, students gain proficiency in history taking, physical examination, and decision-making skills under the direct supervision of a clinical provider.

In addition to developing leadership skills and interprofessional teamwork, CCFMC fosters an environment where students can develop cultural humility. Students must consider health literacy and the social aspects of a patient's care to understand what barriers they may face. Our volunteer training sessions, guidebooks, and weekly huddles reflect our emphasis on teaching comprehensive health care.

In our training for the Women's and Reproductive Health Clinic, we emphasize sensitivity in the language used in performing pelvic exams and considering a patient's past experiences with gynecologic health. Students are educated through case-based discussions about cultural and religious differences, the sensitive history of the field, and how to approach all patients with respect while following the appropriate standards of care.¹⁸ Students are also educated about the specific needs and challenging history of the lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual (LGBTQIA+) community. Healthcare professionals who meet the needs of LGBTQIA+ patients improve patient outcomes and help restore trust in the field of medicine.^{19,20}

Funding

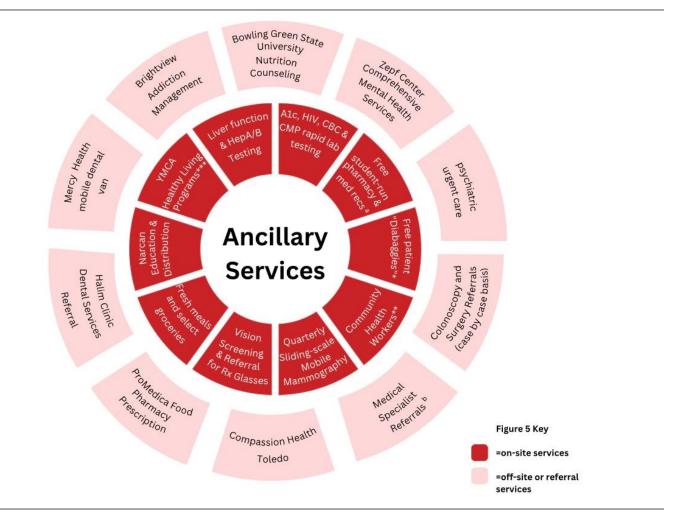
As a registered nonprofit 501(c)(3), the CCFMC is supported entirely by grants, fundraising, individual donations, and funds from Charitable Healthcare Network, Ohio's state association of free *Figure 4.* Clinical flow



a. The main clinic flow begins with screening for coronavirus disease 2019 (COVID) symptoms prior to check in. If a patient screens positive, they are called to a designated COVID room and COVID team. If they screen negative, patients check in and are seen by a triage team. Ancillary services [Figure 5] are offered while a patient waits to be seen. The student interview team performs the initial patient visit and presents the case to the provider. Then the interview team and provider see the patient together to discuss management and treatment. After the visit, patients can go to the free pharmacy, receive financial

assistance for imaging and diagnostic services, and are offered fresh food, clothing, and hygiene items. b. Satellite clinics operate with a similar flow to main clinic with some key differences. Students and providers meet at the clinic site to set up the mobile clinic. The student interview team then collects vitals and performs the interview at the same time.

Figure 5. Ancillary services



Inner red circle: Glycated hemoglobin (AIc), human immunodeficiency virus (HIV), complete blood count (CBC), & complete metabolic panel (CMP) rapid lab testing; free student-run pharmacy and medications reconciliation (med recs)^a; free patient "Diabaggies; community health workers; Narcan education & distribution; YMCA Healthy Living Programs; Liver function and hepatitis (Hep) A/B testing.

Outer pink circle: Bowling Green State University Nutrition Counseling; Zepf Center Comprehensive Mental Health Services; Psychiatric urgent care; Colonoscopy and surgery referrals (case by case basis); Medical Specialist Referrals^b; Compassion Health Toledo; ProMedica Food Pharmacy Prescription; Halim Clinic Dental Services Referral; Mercy Health mobile dental van; Bright-view Addiction Management

^aFree student-run pharmacy and medication reconciliation: pharmacist students work alongside a pharmacist to provide diabetes medicine reconciliation services to our patients. They can assist patients in signing up for patient assistance programs to access a stable supply of long-acting insulin.

superscript

^bMedical specialist referrals: specialist referrals are given on a case by a case basis which is determined by patient needs and specialist capacity to care for a patient. Free of cost. Current specialties include otolaryngology, podiatry, hematology/oncology, orthopedics, vascular consultation, and optometry.

*Free patient "Diabaggies" are supply packages handed out to all our diabetic patients. These kits include a reusable cloth bag, Kroger brand glucometer, glucose testing strips, lancets, and alcohol swabs. We preferentially use Kroger so that patients have easy access to restock their testing strips at their local grocery store. This store also has the cheapest glucose testing supplies in the local area, which minimizes costs for patients, increasing compliance.

**Community Health Workers help patients with everything from transportation and housing to Medicaid/Medicare enrollment; Quarterly Sliding-scale Mobile Mammography; Vision Screening & Referral for prescription (Rx) Glasses; Fresh meals and select groceries.

***YMCA Healthy Living Programs offer on-site diabetes and hypertension education courses on a scheduled basis and provide free blood pressure cuffs with free 6-month YMCA gym memberships to our patients and their family in the healthy living program

and charitable clinics. We do not receive funding at the federal level or from the University of Toledo. Most funds are allocated to purchasing medications for our free pharmacy. In searching for funding, we have found it essential to have a dedicated and consistent public relations team to effectively capture potential donors. Our medical student volunteers advertise through social media, Google Business, and various news outlets. Grant applications are typically written by members of our Grants Committee, which meets monthly, to support specific projects. Our fundraisers include a golf outing, a Patagonia sweatshirt sale, and a Medicine Ball gala with auctions. These events promote student & community involvement while increasing our funding and stakeholder engagement.

Strengths, Limitations, and Quality Improvement

Our largest limitation is the lack of dedicated clinic space. Like many clinics, we rely on the donation of space from other community organizations to host our different clinics. A dedicated clinical space could allow us to optimize our flow and potentially expand onsite services. A service gap that still exists in our community is access to dental services, which we try to address with our partnership with a mobile dental van from Mercy Health.

To constantly improve, we facilitate feedback sessions after each clinic on how to expand services or improve efficiency. Additionally, patients are offered an anonymous survey at the end of their visit and an anonymous feedback form is shared with all volunteers.

CCFMC's largest strength is the ability to mobilize quickly and efficiently, with prepacked supplies and an eager volunteer force who have staffed clinics with a day's notice. We also pride ourselves on delivering feedback-driven, culturally sensitive care and serving as a social safety net, meeting the custom needs of our community. Other strengths stem from our highly motivated student leaders who propel their individual passion projects, expand funding, and forge greater connections in Northwest Ohio.

Conclusion and Future Endeavors

After 14 years in operation, we continue to serve our community through an entirely volunteerbased workforce. With each Executive Board, we strive to improve and expand our services and quality of care. We will be implementing a covered bus stop outside of our main clinic, supported by a grant that includes funds to augment clinic-related patient transportation. We have recently implemented a new registration form to collect more demographic data from our patients, to inform future initiatives, grants, and assess community needs. We are constantly recruiting students and provider volunteers to increase our patient capacity and improve wait times. To further address the social determinants of health, we are preparing to launch a mobile unit to expand onsite satellite clinic services and bolster interpreter access with virtual interpreter services. It is essential to ensure that patients receive the same standard of care that they would get at a paid clinic, as we aim to foster student involvement without decreasing the quality of care. At the CommunityCare Clinics, we utilize an entirely student-run model to provide a high standard of care to at-need populations in their neighborhood while addressing the social determinants of health and enriching the medical education of our future healthcare leaders.

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Disclosures

The authors have no conflicts of interest to disclose.

References

- 1. Alhallak I, Williams DK, Eudy R, Puryear E, Clark M. Impact of Student-Run Free Clinics in Urgent Care. J Community Health. 2021;46(3):522-526. doi:10.1007/s10900-020-00890-0 LINK
- 2. Sack, DE., Chakravarthy, R., Gerhart, CR., Fowler, MJ., Miller, RF., Weaver, EO., & Vasilevskis, EE. Emergency department use among student-run free clinic patients: a cross-sectional Study. *J Gen Intern Med.* 2021;36(3), 830–832. LINK
- 3. Felder-Heim C, Mader K. Quality of Diabetes and Hypertension Management at the DAWN (Dedicated to Aurora's Wellness and Needs) Student-Run Free Clinic. *Cureus*. 2020;12(8):e9539. Published 2020 Aug 3. doi:10.7759/cureus.9539 LINK
- 4. Khalil, S, Hatch, L, Price, CR., Palakurty, SH, Simoneit, E., Radisic, A, Pargas, A, Shetty, I, Lyman, M, Couchot, P, Roetzheim, R, Guerra, L, & Gonzalez, E. Addressing breast cancer screening disparities among uninsured and insured patients: A Student-run free clinic initiative. *J Community Health*, 2020;45(3), 501–505. LINK
- 5. Minority Health | Toledo Lucas County Health Department. Accessed Aug 5, 2023. https://lucascountyhealth.com/community-outreach/minority-health LINK
- 6. United Census Bureau. QuickFacts: Lucas County, Ohio. Accessed June 15, 2023. https://www.census.gov/quickfacts/fact/table/lucascountyohio/PST045222. LINK
- 7. United Census Bureau. QuickFacts: Ohio. Accessed Jun 15, 2023. https://www.census.gov/quickfacts/OH. LINK
- 8. United Census Bureau. QuickFacts: United States. Accessed Jun 15, 2023. https://www.census.gov/quickfacts/fact/table/US/PST045222. LINK
- 9. GeoCare Navigator. Accessed May 20,2024. https://geocarenavigator.hrsa.gov. LINK
- 10. Our Reports. Healthy Lucas County. Accessed May 20, 2024. https://www.healthylucascounty.org/about-us/our-reports LINK
- 11. Brower HH, Nicklas BJ, Nader MA, Trost LM, Miller DP. Creating effective academic research teams: Two tools borrowed from business practice. J Clin Transl Sci. 2020;5(1):e74. Published 2020 Nov 5. doi:10.1017/cts.2020.553. LINK
- 12. Abayateye P, DiBell A, Hammel DJ, Jones BD, Shetty S. THE UNIVERSITY OF TOLEDO JACK FORD URBAN AFFAIRS CENTER. LINK
- 13. Opportunity Index. Accepted Aug 5, 2023. https://opportunityindex.org LINK
- 14. Takeshita J, Wang S, Loren AW, et al. Association of Racial/Ethnic and Gender Concordance Between Patients and Physicians With Patient Experience Ratings. *JAMA Netw Open*. 2020;3(11):e2024583. Published 2020 Nov 2. doi:10.1001/jamanetworkopen.2020.24583 LINK
- 15. LaVeist TA, Carroll T. Race of physician and satisfaction with care among African-American patients. J Natl Med Assoc. 2002;94(11):937-943. LINK
- 16. Chen FM, Fryer GE Jr, Phillips RL Jr, Wilson E, Pathman DE. Patients' beliefs about racism, preferences for physician race, and satisfaction with care. Ann Fam Med. 2005;3(2):138-143. doi:10.1370/afm.282 LINK
- 17. Buchanan D, Witlen R. Balancing service and education: ethical management of student-run clinics. J Health Care Poor Underserved. 2006;17(3):477-485. doi:10.1353/hpu.2006.0101 LINK
- 18. Roberts DE. Killing the black body: Race, reproduction, and the meaning of Liberty. New York, New York: Vintage; 1999.
- 19. Bass, B., & Nagy, H. (2023). Cultural Competence in the Care of LGBTQ Patients. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK563176/ LINK
- Lessard LM, Puhl RM, Watson RJ. Gay-Straight Alliances: A Mechanism of Health Risk Reduction Among Lesbian, Gay, Bisexual, Transgender, and Questioning Adolescents. Am J Prev Med. 2020;59(2):196-203. doi:10.1016/j.amepre.2020.02.020 LINK