Journal of Student-Run Clinics
Descriptive Report

Student-Run Clinic Mental Health Services

A Model for Health Equity

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Published: June 4, 2025

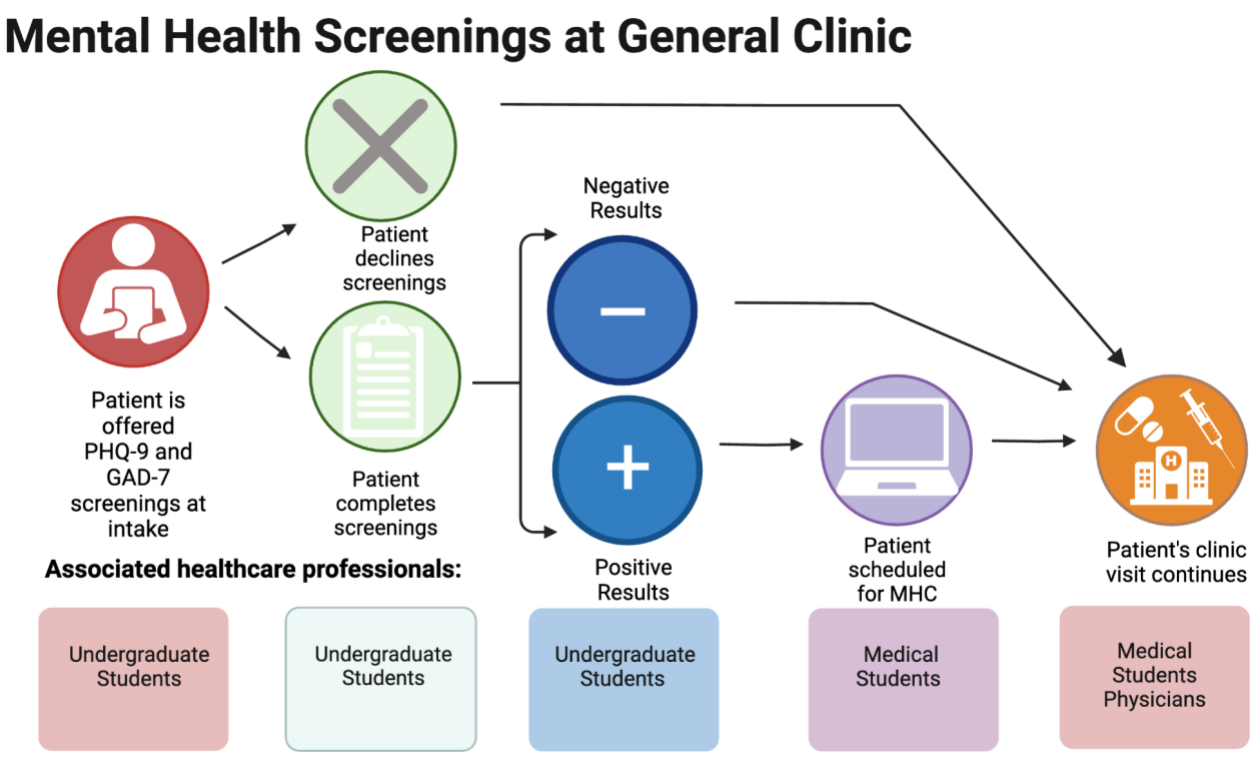
Abstract

Introduction: Student-run clinics (SRCs) are a critical healthcare resource in Sacramento for people experiencing homelessness, people who inject drugs (PWID), and uninsured people. University of California, Davis (UC Davis) School of Medicine-affiliated SRCs are staffed by volunteer students and physicians to serve the Sacramento community at no cost to the patient. Two of these clinics, Willow Clinic and Joan Viteri Memorial Clinic (JVMC), host a free, joint mental health care clinic to support the psychiatric needs of their overlapping patient populations. This descriptive report details the Willow Clinic and JVMC mental health clinic model, reflecting on the three years of operation to provide critical operational insights to other medical schools operating similar clinics in their communities.
Methods: At Willow Clinic and JVMC, patients presenting for care at the general medical clinic were offered standardized mental health screening utilizing a Patient Health Questionnaire-9 survey and a Generalized Anxiety Disorder-7 survey. Those who screened positive in either tool were offered to be scheduled for a Mental Health Clinic (MHC) appointment. Patient feedback and MHC attendance trends were utilized to revise the clinic workflow iteratively.
Results: In the SRCs, over 90% of patients are screened, but only 8.3% of patients screening positive attend MHC appointments. Though there are strengths in this approach relating to screening, the weaknesses relating to patient retention are iteratively being addressed to improve utilization.
Conclusion: People experiencing homelessness, people who use injection drugs, and uninsured patients face a disproportionate burden of barriers to mental health care. The MHC, through two partner SRCs at UC Davis, provides an opportunity to reduce some of these barriers to mental healthcare. This innovative model has promoted health equity in the Sacramento community and is a possible model for other similar SRCs to better serve their communities.

Introduction

People who inject drugs (PWID), experience homelessness, and engage in sex work face a disproportionate burden of trauma and depression yet encounter the greatest barriers to accessing mental healthcare.[1-3] A recent meta-analysis estimated the prevalence of depressive symptoms among people experiencing homelessness at 46.7%, about twice that of the general population.[4] As of 2019, approximately 10,000 to 11,000 people in Sacramento experienced homelessness.[5] Sacramento also has the third highest rate of chronic patterns of homelessness in this country, behind only Los Angeles and New York City.[6] While Sacramento has options for adults to access insurance regardless of housing status, our patients frequently lack the electronic devices or transportation necessary to sign up and utilize public healthcare resources.

Figure 1. Mental health screenings at general clinic workflow



Undergraduate volunteers offer all patients Patient Health Questionairre-9 (PHQ-9) and General Anxiety Disorder-7 (GAD-7) screenings during patient intake regardless of chief complaint. Patients can decline or complete the screenings. Patients who screen positive will be offered an appointment at Mental Health Clinic. Patients' clinic visits will then continue with seeing the medical students and physicians. Image generated on Biorender (Toronto, ON, Canada).

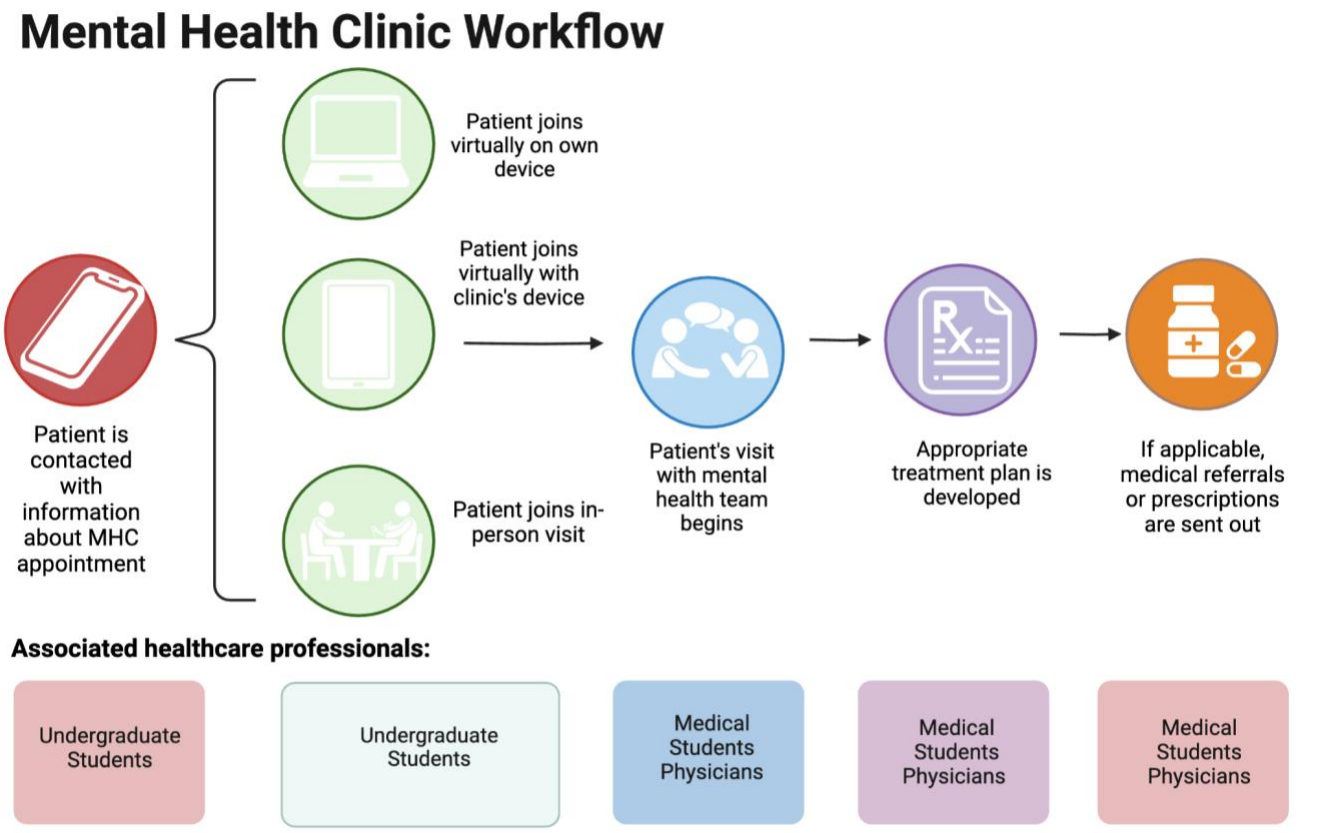
Our patients encounter significant stigma when accessing healthcare due to their status of being unhoused or using injection drugs.[7-12] To address some of these issues, the University of California, Davis (UC Davis) School of Medicine-affiliated student-run clinics (SRCs) operate in their target communities, often without requiring appointments. The combination of free services, convenient locations (e.g., in a local shelter or a harm-reduction center), and walk-in availability decreases barriers to receiving healthcare services.

Reviewing common general medical clinic concerns and discussing with unhoused community members, the Willow Clinic and JVMC identified psychiatric services as one of the most frequently requested needs. The Mental Health Clinic (MHC) was created in 2020 to address this need. While many medical schools incorporate SRCs, the inclusion rate of mental health services in these clinics has not been well described. This report intends to provide a model for implementing a mental health clinic in other SRCs to promote mental healthcare equity in their communities.

Clinic Workflow

At Willow Clinic and JVMC, patients presenting for care at the general medical clinic were offered standardized mental health screening (Figure 1). The purpose of the screening is discussed with patients and can be declined at any time. This screening consisted of a Patient Health Questionnaire-9 (PHQ-9) survey and a Generalized Anxiety Disorder-7 (GAD-7) survey. Those who screened positive (indicated by a score of 10 or more on the PHQ-9, a score of 1 or more for suicidality, a score of 8 or more on the GAD-7, or indicated interest in mental health resources) were offered an MHC appointment.[13,14] All patients were provided a list of community resources and emergency

Figure 2. Mental Health Clinic (MHC) workflow



Several days before scheduled MHC appointments, undergraduate students contact patients to confirm appointments and provide information about joining the appointments. Based on patients' preferences and providers' availability, patients can join MHC appointments virtually on their own devices, virtually on the clinic's device, or in-person at the clinic. Undergraduate volunteers are on standby to troubleshoot technological issues. The mental health team then sees patients of medical students and psychiatrists to develop appropriate treatment plans. If applicable, referrals and prescriptions are sent out to patients' preferred locations. Image generated on Biorender (Toronto, ON, Canada).

numbers. Each screening sheet was then reviewed by the patient's physician at Willow Clinic or JVMC. During the general medicine visit, acute concerns were addressed, and medications were offered if indicated. Primary care physicians could consult with a psychiatrist by phone for urgent needs, especially if there were any safety concerns.

The PHQ-9 and GAD-7 tools are each a repeatedly validated, single-page survey and are the standard tools for screening for depression and anxiety.[15-19] The extensive validation of the PHQ-9 and GAD-7 with the ease of administering them in our free SRCs setting prompted their inclusion in the MHC model. Psychiatric concerns other than depression and anxiety can be addressed by the psychiatrist during MHC appointments. Of note, general medical clinic is offered weekly on Saturdays, while MHC is once monthly on Saturdays.

Due to the coronavirus disease 2019 pandemic and clinic space restrictions, MHC operated virtually for several years. Patients were scheduled for a private, secure virtual appointment with a licensed psychiatrist, limiting access to those who could use a phone or electronic device and had the literacy to utilize our electronic format. MHC has transitioned to a hybrid format, offering in-person and virtual visits, allowing for flexibility in meeting the needs of our patients. Quality improvement has been used to improve the workflow (Figure 2). Patients are called before their appointment with instructions for accessing their care. Patients meet with the psychiatrist at the time of the appointment, with new patient appointments allotted one hour and returning patient appointments

allotted 30 minutes. Medical students take the patient history and formulate the clinical management plan under the psychiatrist's supervision, while undergraduate students observe the encounter with verbal consent from the patient. Any prescribed, non-controlled medications are dispensed for free to the patient from the on-site pharmacy or are sent to the patient's preferred pharmacy and paid for by the clinic. Necessary referrals or resources are provided during the encounter, and patients are scheduled for follow-up appointments.

The MHC's current structure requires volunteers to staff the clinic, a method for contacting the patient, video conferencing or physical space to host the appointment and an electronic health record. MHC utilizes volunteer physicians, medical students, and undergraduate students. Patient contact is facilitated through a secure phone or password-protected virtual conference calling software (e.g., Zoom). Documentation is managed using an electronic health record (EHR) to maintain patient privacy. JVMC and Willow Clinic utilize a free, secure web-based EHR provided to free clinics and non-profits. A private clinic space is needed for in-person encounters. Patients can use their electronic devices or borrow the clinic's tablet for virtual appointments. Undergraduate students are available to assist patients with technological troubleshooting. This simple model streamlines operations for the patients and medical team while lending itself to straightforward adoption at other SRCs with similar resources.

Between May 2021 (when MHC began operating) and April 2024, 816 patients have been seen in general clinics at the Willow Clinic and JVMC (Table 1). Depression screenings are intended to be offered to each patient at these free SRCs. Thus, each participant who consented to screening was included in the study. Of the 816 approached, 576 patients (70.6%) consented to the screening, and 240 patients (29.4%) either missed or declined the screening. In October 2022, annual training on trauma-informed care, decreasing mental health stigma, and administering PHQ-9 and GAD-7 was implemented for all clinic volunteers. Following the training, screening rates increased to 98.7% (75 of 76 patients) between October and December 2022. Screening rates have been stable since. Of the 576 participants, 289 (50.1%) screened positive since 2021 on one or both of the PHQ-9 and GAD-7 tools, with 102 (35.3%) of those patients expressing interest in an MHC appointment. Of the 576 participants, 86 (14.9%) expressed interest in MHC were successfully scheduled for an appointment, and 24 (4.2%) appointments were attended.

Patients who screened positive but were not offered MHC appointments were treated immediately at the general clinic, declined further services, or were referred to the local emergency department or crisis services. In reviewing the effectiveness of this intervention, there is an evident need for improving patient retention despite the high screening rate. Though retention is a challenge, this model currently screens upwards of 90.0% of patients, slightly higher than the 88.8% screening rate in 2019 for California for primary care practices.[20] While only 8.3% of patients who screened positive attended an MHC appointment, all had an opportunity to address any concerns with a primary care physician on the day of their visit.

Clinic Strengths & Limitations

The strengths of the MHC include low barriers to access, flexible visit options, a simple screening protocol, the ability to address emergent needs, continuity, and inclusivity. Many patients seen at MHC have reported they would not have otherwise accessed mental health care. These strengths relate to being part of free SRCs for an underserved population. This setting allows for integration within the community, input from community members, and reducing accessibility barriers. In-person scheduling during general medical clinics prevents patients from needing to navigate an automated phone system or online medical scheduling system that can be cumbersome and confusing; receiving care in a familiar location is often less intimidating.

The screening protocol can be performed by undergraduate students, allowing the medical students and physicians to proceed with other medical services in the clinic. Completing the

Table 1. Patient demographics at Mental Health Clinic

Characteristic	N (%)
Patient Count	
Seen in General Clinic	816 (100)
Consented to Screening	576 (70.6)
Denied Screening	240 (29.4)
Veteran	
Yes	55 (6.7)
No	12 (1.5)
Not Surveyed/No Response	749 (91.8)
Ethnicity	
Hispanic	71 (8.7)
American Indian or Indigenous	41 (5.0)
African American	136 (16.7)
Asian	17 (2.1)
Caucasian	115 (14.1)
Pacific Islander	6 (0.7)
Other	23 (2.8)
Not Surveyed/No Response	407 (49.9)
Gender	
Male	236 (28.9)
Female	199 (24.4)
Not Surveyed/No Response	381 (46.7)
Housing Situation	
Shelter A	216 (26.5)
Shelter B	277 (33.9)
Other Shelter	16 (2.0)
Outside	134 (16.4)
Traditional Housing	3 (0.4)
Family and Friends	33 (4.0)
Other	48 (5.9)
Not Surveyed/Not Specified	89 (10.9)
Insurance Status	
Insured	511 (62.6)
Uninsured	105 (12.9)
Patient Unsure	40 (4.9)
Not Surveyed/Not Specified	160 (19.6)

This table details the demographics of all patients offered mental health screening over the study period. These demographics were retrospectively collected from medical charts of each patient seen between May 2021 and April 2024. Demographic reporting was optional during general clinics for patients and frequently skipped during visits due to patient preferences.

screening during the clinic visit allows for immediate care from a physician, especially if the patient indicates suicidal ideation. Lastly, having a short, standardized survey promotes a high survey completion rate, increasing the opportunity for each patient in the clinic to be screened during their encounter. These strengths have allowed the MHC model, operated entirely on a volunteer basis with minimal funding, to screen for mental health disorders at a similar rate, if not higher, than some fully funded health systems in the state.

Despite the low barriers to access to MHC, there are areas for improvement in patient screenings and retention. The positive screening rate (35.3%) is lower than the estimated prevalence of depressive symptoms among our patient populations (46.7%), indicating variability in how screenings are offered and administered.[4,21] Because our patient population is mobile to accommodate societal, safety, financial, and housing stressors, consistent contact is a challenge. Community outreach, having an established location, and meeting people where they are have been beneficial in reducing these challenges.

Patients may miss appointments due to a lack of reliable charging stations for their devices, losing access to their devices, being unable to consistently pay for phone or internet services to their devices, needing to protect their belongings from police sweeps, or facing stressors that supersede their ability to attend MHC appointments. Having the option for in-person visits or using a clinic device, scheduling people for MHC at their primary care visit, and giving an after-visit summary with the appointment information has improved contact and follow-up. Providing bus passes, serving the many people living at the shelter where MHC is located, and providing a device for a virtual visit have reduced transportation issues. While we have focused extensively on removing barriers to healthcare within the clinic setting, the MHC model cannot predict barriers individually outside of the clinic setting.

While there is a significant demand for MHC appointments, high rates of missed initial and follow-up appointments suggest further unidentified challenges. Although the model successfully screens and identifies mental health disorders for those with limited access, MHC continues to seek ways to enhance resource utilization. The transition to a hybrid format has shown promise in reducing missed appointments; of the 24 appointments attended, 18 (75.0%) were in-person, suggesting a preference for this format among our patients.

Follow-up after the initial MHC appointment has also proven challenging, as patients frequently move from the area, lose access to their devices, or have competing survival demands. Additionally, not all general medical clinic supervising physicians at Willow Clinic or JVMC are trained psychiatrists, creating a challenge for addressing urgent psychiatric complaints during general clinic. Our clinics have a psychiatrist on-call at each clinic to address this concern. MHC also attempts to address these challenges through the hybrid format. Having a psychiatrist on call has proven helpful in the acute setting, but patients have yet to consistently utilize the virtual MHC format for their scheduled appointments. Though these challenges have not been overcome to promote consistent patient retention for scheduled MHC appointments, this provides an avenue for further study in this population.

Reflection

Despite limitations, MHC has provided crucial opportunities for our medically underserved patient population to access care while training undergraduate students, medical students, and physicians to understand community needs better. Serving this community provides a unique opportunity for medical professionals to interface with a community in need of healthcare system reform without the constraints of a traditional primary care setting. This resource fills a gap in care that profit-driven healthcare networks lack the incentive to fill, further underscoring the importance of MHC and similar low-barrier clinic models.

Our MHC model is designed for scalability, requiring minimal resources to establish similar services. The SRC model frequently serves people who would otherwise not have access to medical care. An increase in screening, even if it does not result in consistent follow-up in the SRC setting, is vital for initiating further care for previously unidentified mental health disorders in our patient population. Creating an MHC at other SRCs requires limited materials and staffing beyond what is included in the traditional SRC model.

While this discussion describes the MHC model with the intention of minimizing challenges associated with recreation and scaling, we anticipate common issues such as training volunteers, physician recruitment, and patient retention. Prior to implementing standardized annual training, screening rates were inconsistent. Ensuring that each member understood what the screening tools were for and how to implement them was vital in improving the screening protocol. SRCs interested in starting an MHC should ensure robust and uniform volunteer training.

Physician recruitment is a common difficulty in the volunteer-driven SRCs, and having a psychiatrist is necessary for an MHC. We addressed challenges in scaling from one clinic to two by connecting with academic psychiatrists and considering credits for teaching, service, and quality improvement. We encourage students interested in creating an MHC to collaborate with local academic psychiatry programs to facilitate recruitment.

Finally, we predict patient retention as a common problem associated with scaling and replicating in SRCs that serve similar populations. We do not have patient satisfaction surveys for patients lost to follow-up, limiting our understanding of patient drop-offs between screening and MHC appointments. This area provides an opportunity for further research on refining the MHC model to make it more effective.

Despite these challenges, the model has proven sustainable. Since the start of 2023, no MHC appointment blocks have been canceled due to physician availability. The fourth cohort of Willow Clinic and JVMC volunteers has been trained to administer the PHQ-9 and GAD-7, better preparing them to serve the community. Aside from purchasing medications, a laptop, and bus passes, MHC has not required any funding to be garnered or diverted from the general medical clinic operations. Each cohort of undergraduate volunteers and medical students successfully transitioned leadership, indicating continued student interest. Thus, the model perpetuates its success with interested volunteers and minimal resources needed.

While our goal is to increase patient retention and participation, working in this vulnerable population requires specific ethical considerations. To avoid any risk of perceived coercion, we do not offer compensation for participating in screening or care. The services provided by MHC psychiatrists were not experimental and were consistent with the pre-existing standard of care, with only the MHC structure being novel. Our university institutional review board approved this study structure.

After three years of MHC operation, our volunteer staff has developed strategies for other clinics seeking to create similar services. These include offering in-person appointments, recruiting psychiatrists for the general medical team, printing PHQ-9 and GAD-7 on separate sides of a page to reduce confusion, using paper surveys, and scheduling mental health appointments during medical visits. Each recommendation aims to promote patient retention and satisfaction.

Conclusion

People experiencing homelessness, people who use injection drugs, and uninsured patients face a disproportionate burden of barriers to mental health care. The MHC, through two partner SRCs at UC Davis, provides an opportunity to reduce some of these barriers to mental healthcare. This innovative model has promoted health equity in the Sacramento community and is a possible model for other similar SRCs to better serve their communities.

Acknowledgements

We would like to thank the volunteers who staffed the mental health clinic.

Disclosures

The authors have no conflicts of interest to disclose.

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