



## **Hearts & Soles Community Foot Care Clinics**

Expanding Service Delivery & Educational Offerings for Wolverine Street Medicine:  
Re-centering the Voices of People with Lived Experience

*Impact Statement, April 2023*

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### *Introduction & Overview*

The project, Hearts & Soles Community Foot Care Clinics, *Expanding Service Delivery & Educational Offerings for Wolverine Street Medicine: Re-centering the Voices of People with Lived Experience*, spanned multiple domains including education and service delivery with a goal to be thoughtful about how to expand services as well as the educational options for future providers of individuals experiencing homelessness. Wolverine Street Medicine is a student run street medicine organization housed at the University of Michigan Medical School. It has a strong educational legacy with a thorough training program for volunteers & a robust elective course for clinical students. Our mission through this project was trifold: we sought to expand service delivery by the development and implementation of foot care clinics, to update educational items appropriately, and, throughout all aspects of this project, ensure that we were using this opportunity to center the stories and experiences of people with a lived experience of homelessness.

This project had three components which, though distinct, offered considerable overlap between them. These included a “listening” phase in which we learned from our partners, patients, students and residents; an “education” phase, in which we developed tools designed to meet the learning needs of our students and trainees; and an “implementation,” phase in which we designed and delivered new services in a community clinic model to our patients.

In the first phase, we conducted a community partner and community health needs assessment, going directly to our partners and patients to hear their perspective on the needs of the community and the ways in which we could serve them best. We updated the street medicine clinical elective material to reflect these recommendations. In the second, education phase, based on feedback from student leaders and our own observations about the need for a more comprehensive set of educational offerings, we began the process of designing new modules for the medical student clinical elective as well as spearheaded the development of the Wolverine Street Medicine Clinical Playbook, the first resource of its kind to offer illustrated, on-the-ground, practical field based instruction for students and trainees.

In the third phase of this work, we developed our foot care clinics. Similarly, our work to develop the Hearts & Soles Community Foot Care Clinics had roots in the need for foot care we were hearing about from our patients, our partners, and the importance of training medical students and residents to provide that care well. People experiencing homelessness struggle with access to traditional systems of healthcare (Davis & Wood, 2018). Persons experiencing homelessness are often forgotten and left behind by traditional medical systems; so too are their feet. Not only do studies articulate a higher burden of foot conditions among people experiencing homelessness (Nikoo, 2014), but many unhoused individuals struggle with care navigation and self-advocacy when it comes to getting their foot concerns addressed (D'Souza et al, 2022).

The Hearts & Soles Foot Care clinics provides community connection and healing through foot care, by seeking to address several unmet needs within the community experiencing homelessness. We currently provide thrice monthly clinics for people experiencing homelessness where they may access this care in a community setting familiar and comfortable to them, serving our patients at Delonis Shelter, Mercy House, and at the rotating warming center in Ann Arbor and Ypsilanti. Hearts & Soles clinics include students, community partners, and clinicians in providing this care. We have served over 50 patients at over 20 discrete clinics, with participation from over 30 students and residents. This work also enabled us to provide over 100 foot care kits to patients on the streets and develop unique trainings and protocols which we have made available to the community writ large.

As part of the development of the clinics, we engaged in research about foot care and instituted protocols, exams, and workflows for our foot care clinics. Members of our team participated in a month-long rotation learning podiatry skills and wound care from professionals, in order to institute these best practices in street and field settings. Our team developed a comprehensive template for foot care exams, a training module to teach students about tools and appropriate use, and have provided numerous training sessions for interested students.

### *Phase 1: Listening*

We began our inquiry into feasibility and importance of this project through a community health needs assessment. The aims were as follows:

1. Understand the experience of persons experiencing homelessness when it comes to accessing healthcare and foot care resources in Washtenaw county.
  2. Appreciate the barriers to accessing foot care among population experiencing homelessness.
  3. Learn the conditions that lead to homelessness and chronic disease associated foot problems, as articulated by community members themselves.
  4. Listen to the perceived solutions expressed by individuals with lived experiences of homelessness for increased access to foot care services.
- 12 individuals were interviewed as well as 3 community partners.

- Themes from the needs assessment included: need for greater access to foot care services, need for greater understanding of available services, and need for greater access to supplies that would enable individuals to better care for their feet. Communication and perceived care of providers for patients were other crucial ideas that emerged from this assessment. Patients also wanted providers, especially students, to demonstrate greater prowess in delivering foot care.

### *Phase 2: Education*

- Development of training tools, website, and resources, available at the following link: <https://www.wolverinestreetmedicine.org/hearts--soles.html#/>
- Development of the Clinical Playbook, which includes key protocols, exam guidance, and clinical knowledge related to foot care as well as many common conditions seen in street based care (sample pages in appendix V).
- Workshops & Trainings:
  - Foot Care trainings were provided at multiple junctures as part of the Wolverine Street Medicine Trainings starting in October 2023 and continuing monthly through the present.
  - Special education events, including:
    - Podiatry event: Podiatrists taught medical students how to provide specialized care. April 2023. (Images in appendix II).
    - Wound/foot care journal club on management of foot/wound conditions in field settings. April 2023.

### *Phase 3: Development*

- Foot care clinics were instituted at multiple community clinics (images in appendix) with input from community partners.
- Events also focused on engaging the community by creating foot care kits for clinic patients (kit images in appendix).
- Evaluation:
  - Process/Outcome Measures:
    - Over 20 clinics completed at 8 community locations with 3 community partners from April 2022-April 2023
    - Over 50 patients served
    - Over 30 student & resident participants
  - Patient Satisfaction: Patient satisfaction was measured during randomly assigned clinic days using a modified Likert scale (appendix VII).
  - Overall, patients **expressed 56% improvement** in average satisfaction with their feet after the foot care clinic.

Average Satisfaction with Feet, <b>Pre-Foot Care Clinic</b> (1 being the lowest or least satisfied, 5 being the highest, or most-satisfied)	Average Satisfaction with Feet, <b>Post-Foot Care Clinic</b> (1 being the lowest or least satisfied, 5 being the highest, or most-satisfied)
2.38	4.23

- Advocacy and consideration of the importance of sharing the story of foot care.
  - Work shared at the University of Michigan Student Impact Symposium by first year student, Kaitlin Malley in October 2022 (appendix VI).
  - Work due to be shared at Physicians for Human Rights Conference by first year student, Sarah Hatfield, April 2023.
  - Featured in the University of Michigan Alumni Newsletter for Spring 2023 (see appendix VI)
  - Authority Health Blog Post available at the following link:  
[https://authorityhealth.org/community\\_health/hearts-soles-community-foot-care-clinics/](https://authorityhealth.org/community_health/hearts-soles-community-foot-care-clinics/)

### *Conclusions*

Moving forward, we continue to train our new leaders in foot care and education to sustain and continue these efforts. We have identified 2 senior medical students and 2 junior medical students to continue this work. Our work over the past year has demonstrated to us that this work is much needed and valued within the community. We've seen sustained growth in the number of events we are able to hold and staff with medical student and resident volunteers. Our presence has become known in the community and patients seek us out for care and guidance when it comes to addressing their foot care concerns. Community partners routinely reach out to Hearts & Soles as a partner in the Ypsilanti and Ann Arbor communities.

This project sought to include the aim of sustainability as a central tenet from its very inception. At every point, we have sought to ensure that we were thoughtful about creating systems that would last the test of time and enable future leaders to carry on our work. We feel confident we have achieved this; a strong train the trainer model, with stakeholders invested at multiple levels has resulted in a core leadership group with active volunteer involvement. We routinely have waitlists for medical student participation in our foot care clinics and active resident involvement in providing care. Student leadership has transitioned from the exclusive purview of the Schweitzer fellow, to a cohort of experienced, highly-competent leaders with a vested interest in service to the community and improvement in access of these services for the underserved. With a strong foundation and reputation in the community, we're hopeful we can continue to offer these services for many years to come.

Appendices

I. Visual Summary of Project Impact

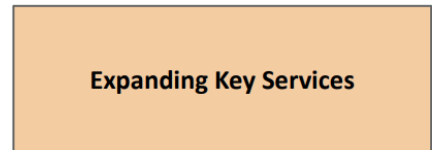
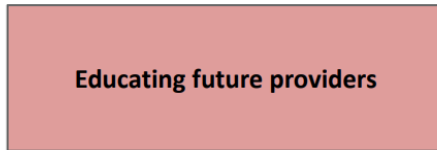
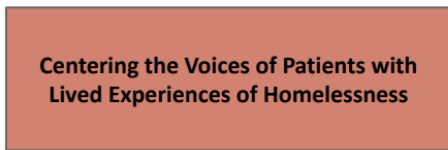


**Expanding Service Delivery & Educational Offerings for Wolverine Street Medicine**

*Recentering the Voices of People with Lived Experience*

Molly Fessler, Alexandra Mansour, Kaitlin Malley, Pete Sienko, Hannah Xu, Sarah Hatfield, Jim Bastian, RN, Dr. Brent Williams, MD

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action

- Conducting a community partner evaluation & a Community Health Needs Assessment to identify needs for care among A2 community experiencing homelessness
- Incorporating "Voices from the Streets," into curricular material and training for WSM
- Establishing new community partners to better serve our patients experiencing homelessness

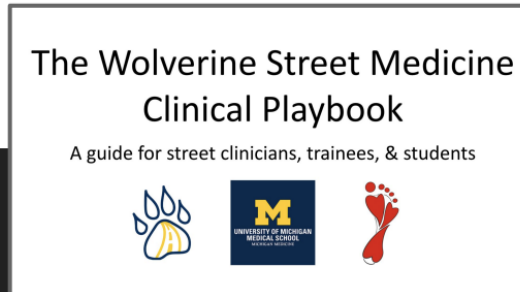
- Updating Healthcare for the Homeless clinical elective content to better reflect the narratives of persons experiencing homelessness & new dermatology, policy, and communication content
- Development of a Resource Library, created through student scholarship, to support student & community learning
- Development of the Clinical Playbook, the first tool of its kind to standardize street medicine protocols for field-based patient care

- Developed & implemented the Hearts & Soles Community Foot Care Clinics based on community request & support
- Currently: 2-3 freestanding clinics a month at 4 different community sites
- Identified training and scholarship opportunities to enable students to more fully participate and serve patients appropriately and with a high level of care

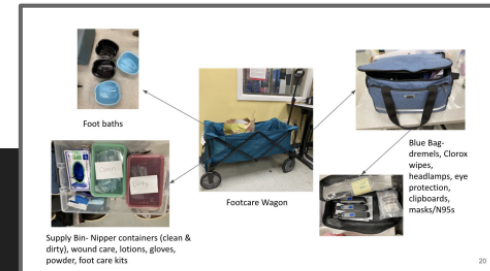
impact



- 12 community members & 3 community partner organizations interviewed
- 2 new community partnerships developed



- 30 practice guidelines on field based protocols for street medicine
- Productive collaboration with STAMPS to provide high quality illustrations for inclusion



- Over 20 number of clinics conducted at 8 community locations
- Over 50 patients served
- Over 30 student & resident participants
- 4 protocols developed
- Over 100 foot care kits distributed



## II. Images from educational events:



## III. Images from clinical events:



## IV. Foot Care Exam Development & Documentation



### Hearts & Soles Foot Care Exam

Please circle or check boxes for exam information below. Edit as required.



Name: \_\_\_\_\_ DOB: \_\_\_\_\_ Date: \_\_\_\_\_

Clinic Location: \_\_\_\_\_

#### Subjective

CC: \_\_\_\_\_

PMHx: \_\_\_\_\_

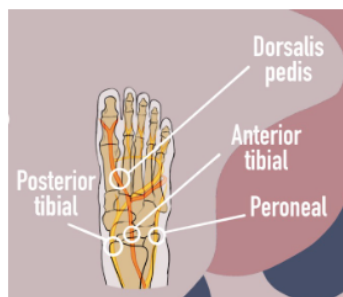
Patient does / does not have diabetes / neuropathy / charcot joint / limb trauma.

#### Objective

Vitals (if taken): BP: \_\_\_\_\_ HR: \_\_\_\_\_ RR: \_\_\_\_\_

VASCULAR EXAM: (check each statement that applies)

- Pedal pulses are palpable + 2 /4 right and left foot
- Pedal pulses not palpable.
- Skin temperature is warm right and left foot
- Skin is \_\_\_\_\_.
- No edema is evident to the right and left foot
- Edema evident on \_\_\_\_\_.
- Digital capillary fill time is 1-3 seconds all digits right and left foot
- Capillary fill time is \_\_\_\_\_ on \_\_\_\_\_.



NEUROLOGICAL EXAM:

- Sharp/dull sensation intact right and left foot.
- Deep tendon reflexes are intact and symmetrical right and left foot.
- No ankle clonus is evident on the right or left foot.
- Diabetic Monofilament Test. ABNORMAL sensation circled at right.

MUSCULOSKELETAL EXAM:

- No joint enlargement is evident on the right or left foot
- Joint enlargement evident on \_\_\_\_\_.
- Joint ranges of motion are adequate to digits, 1st MPJ and ankle on the right and left foot
- Joint ranges of motion are inadequate to \_\_\_\_\_.
- Muscle strength appears normal to the extensors, flexors, invertors and evertors of the right and left foot
- Muscle strength appears to be abnormal to the \_\_\_\_\_.

DERMATOLOGICAL EXAM:

- Toenails are normal in color, shape, thickness, and shape all toes right and left foot
- Toenails are thick, long, with yellow discoloration, evidence of fungal growth bilaterally.
- There are no open wounds to the right or left foot
- There is evidence of open wounds on the right/left foot. Indicate where: \_\_\_\_\_.
- There are no hyperkeratotic lesions evident on either the right or left foot
- There are hyperkeratotic lesions evident on the right/left foot on: \_\_\_\_\_.

#### PSYCHOSOCIAL:

1. What level of foot pain have you had in the last week? 1 2 3 4 5
2. During the last week, how often have you had foot pain?  
Never, Occasionally, Fairly Many Times, Very Often, Always
3. Have your feet caused you difficulties in doing your everyday work or activities?  
Never, Occasionally, Fairly Many Times, Very Often, Always
4. How would you rate your overall foot health? 1 2 3 4 5
5. How would you rate your overall mental health? 1 2 3 4 5

#### Assessment:

Number of previous foot care visits? \_\_\_\_\_

One liner: \_\_\_\_\_

#Vascular
#Neuro
#MSK
#Derm - Nails:  - Skin:
#Psychosocial

#### Plan

#Vascular/#Neuro/#MSK

- Follow up with \_\_\_\_\_ recommended for management of:

#Derm

- Nails: Nails were clipped bilaterally. Patient was counseled on clinical course of :
- Skin: Callouses were sanded. Feet were cleaned, dried, and lotion / topical antifungal / drying powder / other: \_\_\_\_\_ was applied.

#Psychosocial

- Patient was provided with:
- Recommend follow-up:

V. Sample Pages from Clinical Playbook: COPYRIGHTED/PROPERTY OF WSM

# Foot Care 101

*Why take care of feet?* Footcare needs are highly prevalent in the community experiencing homelessness. Footcare is preventative medicine, cardiovascular and vascular medicine, dermatological and neurological medicine. In speaking with our patients, we know that many patients understand their foot health and mental health to be related as well. Patients experiencing homelessness are often unable or uncomfortable with removing footwear given the inherent safety and environmental challenges associated with hard-sleeping or shelter living. Providing foot care as part of our service delivery package enables WSM to contribute meaningful, much needed care for this population.

Footcare is a **HIGH TRUST** activity; patients are often ashamed of their feet and providers must be sensitive to patients' vulnerability as they provide care.

*Preventative Care:* Advise patients to, if possible, remove socks and shoes once a day, examine feet for irregularities and change socks. If patients are able to clean feet with a wipe and dry them, that is preferred but recognize it is often impossible, particularly if patients are sleeping outside. Provide patients with lotion, socks, nail clippers, nail files after every foot care visit.



**TLDR: We can provide basic footcare (Nails, calluses, wounds, foot baths & fascial release), management of tinea, minor dermatological foot conditions, referral to higher level of service for more complex pediatric complaints, distribution of basic items include clippers, nail files, socks, lotions, OTC products and high trust, high respect, high quality foot care**



**Basic Footcare**

<p><b>Callus Management</b></p>	<p>Deposits of thickened tissue on areas of the foot exposed to highest loading pressures. Patients may describe pain in this area or report irritation when the growth rubs up against the shoe.</p>	<ul style="list-style-type: none"> <li>- Non-diabetic patients: We can sand calluses down using a Dremel with a sanding attachment.                             <ul style="list-style-type: none"> <li>- Dremels are held at a 45 deg angle to the skin. Shave the callus by moving the sanding disc on the end of the dremel forward in short strokes. Never go backward with the Dremel and never sand the callus at a 90 deg angle; this is how you can damage the tissue.</li> </ul> </li> <li>- Patients living with diabetes: We avoid sanding the skin in this populations so as to reduce the risk for iatrogenic injury and progression to ulcer.                             <ul style="list-style-type: none"> <li>- Urea cream (40% if available) can be topically applied to soften and reduce the burden of calluses for patients. They should be cautioned that the response is not immediate by any means.</li> </ul> </li> </ul>
<p><b>Nail Care</b></p>	<p>We can provide basic nail care services including clipping, sanding and buffing. Patients may present with overly long toenails, nails that are dystrophic (evidence of previous trauma that may be difficult to distinguish from fungal infection), or thickened from age or trauma. Even minor trauma, such as the foot hitting the top of a poorly fitting shoe, can cause changes to the nail that impact their appearance and growth. Patients experiencing homelessness at greater risk of these effects given lack of access to well-fitting shoes, time spent wearing shoes and time spent on their feet.</p>	<ul style="list-style-type: none"> <li>- Nail nippers are considered surgical tools which must be appropriately sanitized following use. Clean nippers will have been cleaned in Metrocide or an autoclave; if the later, they will be in small blue surgical instrument bags.</li> <li>- Grip the nipper firmly in your dominant hand with your grip over the top of the handles. Your hand should close around the handles to complete the clipping motion. The cutting part of the blade should be closest to the patient.</li> <li>- Take small bites of the nail with the nippers. Endeavor to create a straight nail as you clip. It is fine to sand the nail down with a Dremel later if need be.</li> <li>- Place your non-dominant hand over the top of the clippers as you take each bite of nail; this ensures rogue clippings do not hit you in the face.</li> <li>- If patients' nails are particularly thick, long, or dystrophic, it may not be possible to remove all of the bothersome nail in one visit. Set expectations with the patient that they did not develop these challenges overnight, and similarly, the resolution will take some time.</li> </ul>
<p><b>Foot Baths &amp; Fascial release</b></p>	<p>Foot baths, or soaking of the feet, is a somewhat controversial practice; many podiatrists advise against soaking feet, particularly in patients with diabetes as overlong soaking can cause tissue breakdown and hot water in a patient with reduced sensation can increase risk of burns. There is evidence to suggest that foot baths do have a positive impact on mental health, however. Many of our patients do not often have access to experiences that increase their sense of wellbeing and being nurtured or cared for by a fellow person. As such, WSM provides short foot baths following nail/foot care and requires providers carefully test the water and allow patients to do so with their hands, before submerging the feet.</p>	<ul style="list-style-type: none"> <li>- Never have a patient soak their feet prior to clipping or sanding; softening the tissue reduces its integrity and increases risk of injury.</li> <li>- Water should be tested prior to use by provider and patient.</li> <li>- A quarter cup of Epsom salts may be mixed into the water, if the patient would like.</li> <li>- Edema massage may be performed on a patient with mild lower extremity swelling. Providers should create small circular motions with their hands that end on an upsweep; the goal is to slightly stretch the skin while the hand curves up, moving fluid up and away from the distal extremity.</li> <li>- Fascial release, or a mini foot massage, can help relieve pain in patients' feet. The provider can press firming along the plantar aspect of the foot with the thumb from the base of the heel to the fascia insertion at the base of the toes.</li> </ul>

## VI. Advocacy & Media Images

### STUDENT NEWS



#### Medical student tackles cystic fibrosis on a global scale

M4 Ahmad Hider advocates for better awareness around cystic fibrosis with help from the Clinton Foundation. "My younger brother has cystic fibrosis, and this inspired a lot of my work as a medical student."

[READ MORE →](#)



#### Hearts & Soles

Last year, medical students began a foot care clinic for patients experiencing homelessness. The initiative — dubbed Hearts & Soles — is part of the student-run program Wolverine Street Medicine.

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#### Medical student wins Shark Tank-style competition

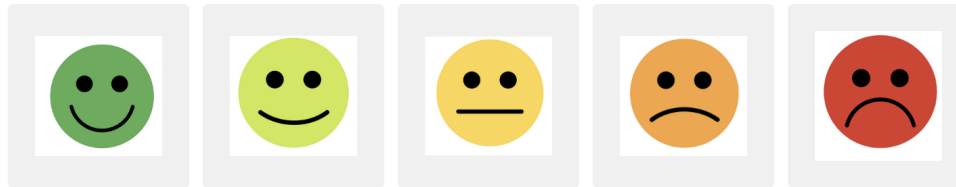
M3 Joshua Goyert and Molly Stout, M.D., the Morton R. Lazar Professor of Obstetrics and Gynecology Innovation, received \$10,000 from the Women's Health Innovation Fund for their project, "Progress in predicting preterm birth."



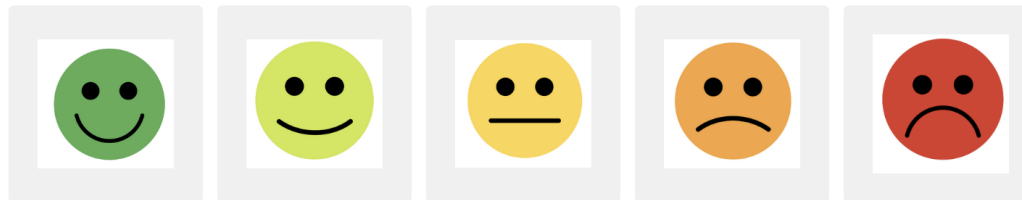
*VII. Patient Satisfaction Evaluation Tool*



Which face shows how you feel about your feet right now? (Before the foot care clinic)



Which face shows how you feel about your feet right now? (After the foot care clinic)



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