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Health on the Margins: A More Successful and Compassionate Model for Street Medicine

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ABSTRACT

People experiencing homelessness (PEH) encounter profound barriers within traditional healthcare systems, from limited transportation and insurance coverage to longstanding distrust of clinical institutions. Street medicine has emerged as a promising alternative, reframing care as something mobile, relational, and embedded within the environments where unhoused patients live. Yet, despite its growth across the United States, the field lacks a clear framework for what successful practice should look like. This paper examines the patient, provider, and resource-based challenges that shape street medicine's current limitations and synthesizes insights from practitioner and patient testimonies, empirical studies, and on-the-ground observations. It argues that consistent provider engagement, accessible physician involvement, and standardized medication and resource protocols are central to improving both efficacy and compassion in street medicine. Drawing on examples from diverse programs nationwide, this paper highlights the need for a more unified and scalable model—one capable of strengthening trust, expanding clinical capacity, and ultimately improving health outcomes for unhoused communities.

KEYWORDS

Street medicine, unhoused populations, health equity, continuity of care, resource management

INTRODUCTION

At the cross of two streets in San Jose, our Stanford student-run team sets up a pop-up clinic every other Saturday. We distribute harm-reduction supplies—sterile needles, glass pipes, fentanyl test strips—and offer on-the-spot blood pressure checks to local unhoused patients.

The first two hours of one specific Saturday shift were especially busy but fulfilling. The unhoused individuals were kind and grateful at the prospect of clean supplies, and we felt hopeful, knowing we were reducing the risk of HIV or viral hepatitis from infected equipment (Centers for Disease Control and Prevention, n.d.). But that optimism was brief. Shortly

after, a man stumbled up to us. Rather than taking anything from the table, he simply lifted his right pant leg to reveal a deeply infected leg gashed to the bone. He beckoned the medical student over, begging for them to do something, explaining that the fractured dirt we were standing on was a breeding ground for infection and disease. Unfortunately, without a medical license or the proper resources, the medical student could only encourage him to go to the nearest emergency room, despite his attempts to explain that he was uninsured and had already been there multiple times. Realizing there was nothing we could do, he ultimately shook his head and staggered away, thankfully not hearing the words the medical student whispered in my ear.

"He's probably going to lose that leg."

Those words were de-sheltering but alarmingly important. For over two hours, I had felt empowered by the possibility of street medicine's benefits, but now I felt just as strongly that it failed to meet the needs of people experiencing homelessness (PEH). Something that had the potential to do so much good would remain just that — potential — without a more standardized backbone of success.

The stigma surrounding the "invisible" unhoused population has caused them to linger in our medical and scientific periphery for far too long. Street medicine is an inspiring initiative that centers unhoused patients, but there are undeniable caveats to what it cannot yet achieve. It is this dichotomy of street medicine's efficacy that encouraged me to peel back the framework of current street medicine models and define what would constitute its success. Contextually, the discrepancy I witness isn't unexpected. According to a qualitative study published in the *International Journal of Environmental and Public Health*, there has been no systematic review of the productivity of the 150 street medicine programs across the United States (Medellin et al., 2024). Ideally, a "perfect" model of street medicine would require deep-rooted, largely immovable policy changes in the structure of homelessness services, government priorities, medical education, and hospital systems—demanding not just more resources, but a fundamental shift in how society addresses health equity. However, I intend to propose actionable changes that are relatively feasible under our current system. By synthesizing insights from empirical studies, first-hand street-medicine perspectives, and existing policy constraints, the proposed metric builds on known shortcomings in street medicine. Its primary contribution is synthesizing these insights into a framework that identifies practical steps to standardize effective care and enable the scalable growth of street medicine programs.

We can hypothesize that the efficacy of street medicine can be determined from firsthand patient experiences, healthcare practitioner experiences, and proper resource management. In the following pages, I

intend to examine each of these perspectives to identify standards of success for increased street medicine effectiveness. Using these findings, I will then construct a street medicine model based on three salient principles: consistency among healthcare practitioners, on-site presence of a licensed physician, and a systematic resource protocol. Ultimately, I argue that this improved street medicine model is not only more effective but can more compassionately serve people experiencing homelessness.

THE ROOTS OF STREET MEDICINE

Before understanding what defines successful street medicine, it is imperative to acknowledge why it is considered a valuable model for providing direct healthcare to unhoused patients. This relatively recent medical field originated in 1992 from the work of Dr. Jim Withers, a physician who typically practiced and taught medicine at Mercy Hospital in Pittsburgh. One night, in an effort to connect better with the street community, he dressed up as an unhoused individual and wandered the streets of Pittsburgh in search of patients (Withers, 2011). Dr. Withers called these endeavors "house calls" – a method of meeting and treating street people on their terms, in their environment, and learning from them in their classroom. He believed this was a much more "reality-based" approach to patient care for the unhoused community (Withers, 2011).

Withers' drive to treat PEH and members of the street community stemmed from a pressing need as the homelessness crisis in America is dire. According to data released by the Department of Housing and Urban Development, in January 2024, there were 771,480 PEH in the United States (*2024 Annual Homelessness Assessment Report*, 2024). Moreover, from a clinical perspective, only 25 percent of the unhoused community has access to federally funded healthcare services (National Coalition for the Homeless, 2023). The average life expectancy of someone experiencing homelessness is around 50 years of age, 20 years younger than the general population, and an estimated 36 PEH die every day (National Coalition for the Homeless, 2023). There is clearly a profound disconnect between the medical structure of the hospital system and the urgent medical demands of the unhoused community. Fortunately, Dr. Withers' empathy-driven work provides the foundation for the movement of street medicine, which is defined as "...the practice of bringing health care to people experiencing unsheltered homelessness..." (California Health Care Foundation, 2023). This is a recently developed medical field in which healthcare providers seek to bring the "invisible" street community into focus by directly delivering medical care. Thus, physicians, nurses, medical assistants, and volunteers meet the patient where they are – visiting the streets, encampments, and alleys and providing various health services such as flu shots, medications, blood pressure checks, or harm-reduction supplies. (Garcia, 2024). These services are free of charge

to the PEH, and the street medicine team's efforts can be funded through grants, donations, and county or federal funding to support resource demand or staffed positions (Medellin et al., 2024). One example of this approach is Neighborhood Health's mobile street medicine program, launched during the pandemic in Nashville. There, Dr. Pete Cathcart and a team of doctors, nurses, a van driver, and a patient navigator regularly visited local encampments to dress wounds, monitor chronic diseases, and distribute essential supplies such as tents and sleeping bags (Meyers, 2022). Programs like Neighborhood Health embody the core mission of street medicine – offering preventive care services and forging a vital bridge between unhoused communities and access to healthcare, medical literacy, and physician support. However, while growing, street medicine is still a relatively small field. Of the 150 street medicine programs in operation throughout the US, at least 50 are based in California, meaning considerable work is needed to reach broader populations (Hart, 2023).

STREET MEDICINE AS AN ALTERNATIVE

While Dr. Withers's work has led to street medicine programs emerging across the U.S., some may question its efficacy, given that options like the emergency room (ER) clinic are available to everyone regardless of housing status. However, street medicine's utility lies in its distinct difference from traditional approaches, such as ER clinics. In a national study analyzing data from the National Hospital Ambulatory Medical Care Survey for 2005 and 2006, researchers found that homeless individuals made approximately 550,000 emergency department visits annually, indicating their reliance on the ER for medical care, often due to psychiatric issues, substance abuse, and lack of insurance (Ku et al., 2010). However, the ER cannot adequately serve PEH because it is unequipped to provide longitudinal and flexible care. Many PEHs lack transportation to facilitate ER visits or have cognitive deficits that prevent them from getting there (Medellin et al., 2024). In a study examining the health insurance discrepancy amongst homeless patients supported by Health Care for the Homeless (HCH) programs in 2023, they found that the national uninsured rate for PEH is 28%, significantly higher than the 8% of the general population, further emphasizing the financial barrier that often accompanies treatments administered in the ER (Rabell, 2024). Even within the emergency department, emergency medicine residents often feel out of place, with some stating "'I don't feel like I'm making a difference in [their] life"' (Doran et al., 2014). This feeling of helplessness likely stems from the lack of a formal curriculum or training relating to homelessness within emergency medicine residency programs, despite the fact that PEH are a core ER demographic (Doran, 2019).

Additionally, when examining data from a report by the National Health Statistics Reports, conducted over a six-year study period (2016-

2021), some glaring trends are revealed, including the age range difference between unhoused ER patients and those who are housed. According to the report, the housed ER patients were primarily children (under 18) and seniors (over 65). However, in contrast, 82% of unhoused ER patients were adults aged 26-65 (Schappert & Santo, 2024). This data suggests that housed ER patients were primarily coming in for abrupt medical needs, potentially related to unexpected developmental or age-related mishaps. However, most unhoused patients admitted to the ER were within a working-age range, implying a reliance on the ER for compounded health concerns that could have been averted earlier.

Ultimately, as the name suggests, the "emergency room" is for just that: emergencies. This is a reactionary and expensive model that is simply not sustainable as a consistent site of care or for addressing preventable, lower-acuity issues for unhoused patients. Consequently, Kate Pocock, a clinical instructor of family medicine at USC, as well as a member of an LA-based street medicine team, concluded that "Prevention is often the best medicine ... this is why I feel strongly about street medicine being an excellent solution for addressing this issue" (Griffith, 2024). As someone with both clinical education and firsthand street volunteering experience, Pocock's credible perspective is part of the larger consensus that street medicine serves as a viable alternative for preventive care in the street community. Moreover, according to a 2-year longitudinal study on unsheltered PEH in a street medicine program in Texas, average quality-of-life scores (calculated by survey) of PEH improved over time, showing a mean increase of 1.17 points from baseline (Perna et al., 2024). This finding suggests that street medicine may play a meaningful role not only in addressing immediate health needs but also in supporting longer-term improvements in overall well-being.

Street medicine combats the ER's reduced accessibility, as healthcare practitioners do not expect unhoused patients to come to them; instead, they travel outside of hospitals to meet PEH in their reality. Moreover, healthcare practitioners working at street medicine sites are expected to have experience with unhoused populations, whereas emergency medicine residents may not. The emergency room alone is not a comprehensive or sustainable model for meeting the medical needs of unhoused populations. While street medicine helps fill some of these gaps through its commitment to preventive and accessible care, it too faces important limitations, such as a lack of continuity of care, limited access to specialized services, and resource and funding constraints. Consulting the perspectives of PEH, physicians, and resources can foster a more fruitful and compassionate model of street medicine care.

THE PATIENT: UNRAVELING THE PEH PERSPECTIVE

Research has found that PEH firsthand perspectives are often neglected when developing healthcare services catered to them (Busch-Geertsema et al., 2010). This seems rather counterintuitive: how can we create effective healthcare solutions without acknowledging the needs of the people it serves, in this case, the unhoused population? Thus, examining and respecting the PEH perspective are critical first steps in navigating a successful street medicine model. By doing so, it becomes clear that the first facet of successful street medicine is consistency. There should be continuity and a high frequency with which healthcare practitioners are on street medicine sites in order to dismantle the distrust that PEH often have for medical institutions.

The unhoused population constitutes a different type of patient population than a traditional one. Unlike conventional patient populations, PEH patients usually don't have a permanent address, a consistent method of contact, or a lot of trust in medical institutions in general. Even beyond street medicine, PEH often experience dehumanizing interactions with case workers or service professionals, feeling as if they are treated as numbers or children rather than adults, and therefore choosing to opt out of services to maintain some semblance of dignity and self-respect (Hoffman & Coffey, 2008). Moreover, a comprehensive review that systematically examined a multitude of literature synthesizing firsthand PEH testimonials found two key issues. Firstly, PEH tend to neglect healthcare services in favor of essential priorities like food or shelter. Second, building relationships with healthcare professionals is invaluable when experiencing homelessness, as the natural need for personal support increases in a time of reduced social networks (Omerov et al., 2020). These two findings initially seem to contradict each other: how can an unhoused individual expect to create connections with healthcare providers while also neglecting healthcare services? Yet street medicine can address these incongruities, as evidenced by first-hand PEH accounts from Dr. Wither's experience. During one of Dr. Wither's first "house calls," he met an 82-year-old unhoused individual known as "Grandpa." Dr. Wither recounts the infectiously charming nature of Grandpa – how he was "wonderful" but "very sick" (Withers, 2011). Grandpa, who had developed severe ulcers on his leg, also had a deep-rooted paranoia that kept him constantly on the run and out of medical care. However, because of his repeated "house calls," Dr. Withers eventually managed to permeate Grandpa's uncertainty and gain his trust. Their connection, built through the frequency and continuity of Dr. Withers's visits, catalyzed Grandpa's willingness to receive healthcare (Withers, 2011).

Grandpa isn't atypical – his journey to medical treatment through personal connection is important among unhoused patients (Omerov et al., 2020). In a retrospective observational study from 2017, PEH patients receiving care in a dedicated homeless clinic were less likely to use the

emergency department (ED) than those seen in a regular hospital clinic, with 29 percent of dedicated clinic patients using the ED, compared with 40 percent in the hospital clinic group (Holmes et al., 2024). After adjustment, care in a dedicated homeless clinic was associated with lower odds of inappropriate ED use (odds Ratio of 0.61), indicating reduced likelihood of inappropriate visits relative to patients in traditional hospital clinics (Holmes et al., 2024). Because the dedicated homeless clinic in the study was staffed by providers specifically trained in and committed to caring for unhoused patients, it offered a higher level of continuity and focused engagement for PEH than the regular hospital clinic. The lower odds of inappropriate ED use for PEH using the dedicated clinic imply that a consistent standard of personal connection and vested provider interest can reduce reliance on emergency care and promote more appropriate, coordinated use of health services for PEH. Even for non-PEH populations, continuity of care has been shown to confer benefits: among 1.4 million Medicare beneficiaries, higher physician-level continuity was associated with lower hospitalization rates and a 14 percent reduction in total healthcare costs (Bazemore et al., 2018). Such findings emphasize that stable, continuous relationships with a provider broadly improve health system engagement.

Therefore, it becomes clear that the first key facet to successful street medicine is consistency. A standard of continuity and longevity among healthcare practitioners would help facilitate stronger connections between PEH and health professionals. This would help PEH establish relationships and trust with individuals representing a system that initially embodied distrust, deconstructing their hesitancy to prioritize healthcare services. Moreover, incorporating this principle increases the empathetic ethos of street medicine: just like any housed patient, an unhoused patient would also feel more comfortable and "seen" by a doctor who knows their story and reduces the disruption caused by changing healthcare providers. Establishing a system of consistency in street medicine will foster increased trust between unhoused patients and their healthcare providers, and consequently, more effective and thoughtful care.

THE PHYSICIAN: THE NEED FOR LICENSED PHYSICIAN PRESENCE

While the direct recipients of street medicine are often considered PEH patients, this field also offers important advantages to healthcare practitioners. From examining their perspective, it becomes clear that the second key marker of successful street medicine is having at least one licensed physician on site.

Although good Samaritan laws may not fully protect physicians performing extensive procedures outside a clinical setting, and state regulations and malpractice frameworks must be followed, doctors' ability to

administer treatment is essential and still expanded compared to roles like nurses, medical assistants, medical students, or local volunteers (Tito, 2023). Physicians have a broader legal and medical scope of practice within the medical hierarchy (*What is Scope of Practice?,* 2022). According to the National Health Care for the Homeless Council protocols, nurses and volunteers on-site must call a physician or emergency services if they encounter a street member with severe symptoms, some of which include altered heart rate, abnormal blood pressure, or cardiac arrest (*Registered Nurse Standardized Procedures*, n.d.). Because these protocols require physician consultation for many atypical scenarios, the intermediate step inevitably delays care for the street patient. However, this can be combated by having at least one physician on-site, enabling immediate and potentially life-saving intervention when lower-ranking healthcare providers lack the authority to make medical decisions.

Furthermore, having a licensed physician on site has essential implications for alleviating moral injury that may be imposed upon physicians when treating PEH inside clinical settings. Moral injury in physicians arises from a direct confrontation with the Hippocratic Oath, when clinicians are compelled to prioritize the demands of stakeholders, such as insurers, hospitals, or healthcare systems, over a patient's needs (Dean et al., 2019). This creates an injurious "wound" in a physician, which deeply upsets their moral beliefs. Moral injury can arise when treating unhoused patients in clinical facilities, where possible insurance denials may directly conflict with physicians' promises to provide all possible care to a patient, thus inducing moral injury. From this perspective, having a licensed physician on site could help alleviate moral injury by providing early, preventive care — care that might prevent patients from reaching the severely deteriorated conditions they often present with in clinical settings.

Thus, we can understand that the presence of licensed physicians not only broadens immediate care options but also can potentially alleviate moral injury in medical workers. Some may argue that this isn't feasible, as we are currently experiencing a physician shortage (*New AAMC Report Shows Continuing Projected Physician Shortage*, 2024). However, incorporating scheduled street medicine shifts into certain MD or MD-MPH residency programs could help make a physician's presence in street medicine possible. This approach is supported by Dr. Kelly Doran, an emergency medicine specialist at NYU Langone Health, who states, "Increased educational and support opportunities for our trainees would assist the next generation of emergency physicians in providing better care for patients who are homeless" (Doran, 2019). While state laws vary regarding nurse practitioner scope of practice, in states that grant full practice authority, incorporating nurse practitioners into street medicine staffing could also increase the on-site presence of licensed clinicians (*State Law Chart: Nurse practitioner practice authority*, n.d.).

Moreover, the use of digital services, such as Telehealth, offers a feasible way to bridge physician consultations with PEH. A survey-based study of PEH patients demonstrated strong acceptance of telehealth, with 92.7 percent reporting satisfaction. Providers also reported feeling more able to positively impact patient health through telehealth than through in-person visits, with 92.2 percent expressing this view compared to 71.4 percent for in-person care, a difference that was statistically significant (Adams et al., 2021). Because physicians who are unable to be physically present can still provide diagnostic input, oversight, and treatment recommendations through telehealth, services like these offer a practical way to expand clinical capacity in street medicine. Reflecting on the case of the man with the infected leg, if a physician had been available on-site, he might have received the necessary care promptly, and we may not have had to turn him away. This example underscores the critical importance of having physicians directly accessible in street medicine settings to provide timely and comprehensive care to unhoused communities.

THE RESOURCES: THE NEED FOR SYSTEMATIC PROTOCOL

Beyond the unhoused patient population and the physician's experiences, the resource allocation perspective is critical to consider in generating a holistic metric of success. Professor Emmanuel Tito, an assistant professor at Johns Hopkins School of Medicine, is one of the loudest voices in academia indicating that a highly underrecognized challenge in street medicine is the storage and dispensing of medication. Currently, there are few to no procedural regulations concerning medication storage or regarding the dispensing of controlled substances such as opiates or mood stabilizers (Tito, 2023). One option Professor Tito proposes is storing medications in backpacks. However, this is a risky solution due to the possibility of external temperature influence and security concerns regarding accessibility or misuse (Battle, 2024).

A more comprehensive and tangible response to the medication storage issue is for street medicine teams to work with local pharmacies (Tito, 2023). By doing this, street medicine teams can create safer and more concentrated medication storage spaces that could decrease PEH misuse and increase medication security. Standardizing medication handling also has implications for increasing street-patient safety. By creating a standardized list of approved medications, healthcare providers can more effectively prescribe medications to reduce wastage and medication errors. Moreover, Professor Tito also emphasizes the need for more thorough dispensing logs. This is important as it can help construct more reliable medication histories for PEH.

While largely an underrecognized challenge in street medicine, better management of street-care resources, such as medication, is important as it could revitalize the unhoused patient's passive experience with street

medicine. Although street medicine is effective and should be consistent, it is not constant. Thus, instilling a more systematic implementation of medication protocol could help prevent misuse of medication when street patients are not under the watchful eye of healthcare providers, increasing their safety. Reasonably, then, we can expect methodical resource allocation and storage to directly increase the efficacy of street medicine, implicating it as the third necessary standard of success for more successful and compassionate care.

LIMITATIONS

Importantly, this is a proposal of a conceptual framework that is synthesized from literature reviews and first-hand experiences. Because the evidence base informing this model is primarily qualitative, the framework cannot establish causal relationships between specific street medicine practices and improved health outcomes. Rather, it reflects patterns and themes that emerge across descriptive studies and program reports. Further research—including longitudinal and quantitative evaluations—will be necessary to determine whether the suggested modifications reliably improve patient outcomes and are scalable across diverse contexts.

Additionally, much of the literature and program reports documented here originate from California and thus may not fully capture geographic nuances among the different regions where street medicine is practiced. Future steps could include these differences for an even more representative framework.

CONCLUSION

It is well understood that traditional healthcare systems fail to effectively reach unhoused populations who face significant barriers to care due to a lack of transportation, distrust of institutions, and complex medical and psychosocial needs. Fortunately, the emerging field of street medicine confronts these difficulties by redefining healthcare as a proactive and mobile force. By constructing a street medicine model based on consistency among its healthcare practitioners, encouragement of on-site physician presence, and systematic resource allocation and management, I argue that this model is not only more effective and successful but can also serve unhoused patients more compassionately. Street medicine matters – it is out there making a difference. However, we can amplify this difference by incorporating and standardizing these principles to enhance and scale this critical movement.

My experience that Saturday morning was just one example of this issue, but its real scale is stunning. In January 2024, nearly 800,000 people in the U.S. were marked as experiencing homelessness—a number that rose 18% from just 2023 (*2024 Annual Homelessness Assessment Report*, 2024). The numbers compel us to recognize that street medicine isn't just a movement worth investing in, but more importantly, one worth improving. By doing so,

we might help move toward a future where quality of life and improved health outcomes aren't privileges tied to a specific address. A future in which fewer individuals fall through the cracks and homelessness isn't so inescapable. And hopefully, one day, a man with a leg infection will walk up to a small pop-up clinic in San Jose and find that he is not the exception, but rather a recipient of a system that sees him. A system that understands him.

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