

# A Systems Level Approach to Innovative HIV Care and Treatment Models in the United States: *Street Medicine and Differentiated Service Delivery*

January 2023



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Street Medicine and Differentiated Service Delivery*

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**Acknowledgements:** This report is the product of a series of virtual meetings organized by HIVMA to accelerate implementation of innovative service models to advance efforts to end HIV as an epidemic in the United States. HIVMA is part of the Infectious Diseases Society of America. Thank you to all of the public health, community and clinical providers, and federal partners who participated.

# INNOVATIVE HIV HEALTH CARE SERVICE DELIVERY

## WHAT IS THE PROBLEM?

We are far short of ending HIV as an epidemic in the U.S. and health equity disparities continue.

Of people living with HIV in 2020:



Of the new HIV diagnoses in 2020:



## WHAT ARE SOME SOLUTIONS?

Person-centered models taking care into communities & developed with meaningful engagement with the communities served.

### STREET MEDICINE



Deliver health services directly to unsheltered populations where they are — this means leaving the four walls of a clinic, carrying supplies in backpacks, and dispensing medications, conducting EKGs, and drawing blood for labs all on the street.

### DIFFERENTIATED SERVICE DELIVERY

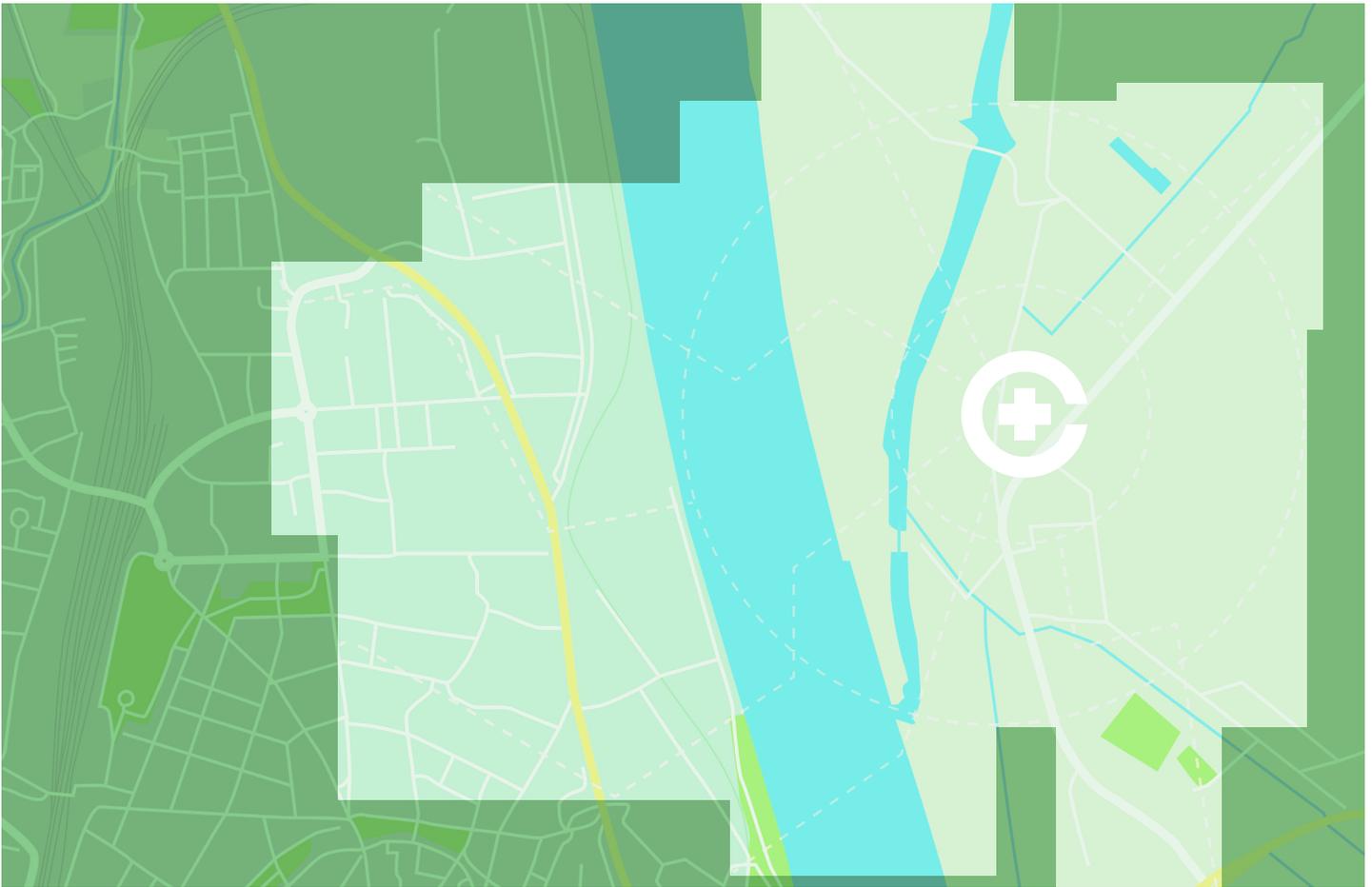


Ratchet up or down both the touch points with the healthcare system and interventions offered based on patient need and preference.

## WHAT POLICY CHANGES DO WE NEED?

To expand and replicate promising street medicine and DSD models, the following policy steps must be taken at the federal, state, and local levels:

- 1 **FEDERAL AGENCIES:** support research & demonstration projects.
- 2 **MEDICAID PROGRAMS & MCOs:** adopt reimbursement models that better incorporate a workforce with lived experience.
- 3 **MEDICAID PROGRAMS:** adopt reimbursement policies to allow providers to bill for services provided in the field and remotely.
- 4 **HRSA/HAB & HRSA/BUREAU OF PRIMARY HEALTH CARE:** support street medicine and DSD expansion within the RWHAP and Community Health Center Programs.
- 5 **CONGRESS:** invest in public health programs, with new funding & flexibility to support scale up of street medicine and DSD programs.
- 6 **STATE LICENSING BOARDS:** amend state licensing requirements to fully leverage community health workers, pharmacists, EMTs and advanced practice providers.



## I. Introduction

Important progress has been made in the United States to increase early access to HIV care and treatment, retain individuals in care and help individuals reach viral suppression (i.e., the virus reaching a level of less than 200 copies of HIV per milliliter of blood). Not only does access to regular HIV care and treatment improve individual health and quality of life, but people with HIV who are virally suppressed cannot transmit HIV to other people.<sup>1</sup>

However, disparities across racial and ethnic groups persist — particularly among African American/Black and Hispanic/Latinx communities, gay and bisexual men, cisgender and transgender women, and adolescents.<sup>2</sup> Geography, housing status, socioeconomic status and events that disrupt health care delivery, such as extreme weather and the COVID-19 pandemic, also increasingly impact access to care and ultimately health outcomes.<sup>3</sup> Nationwide in 2020, for every 100 people diagnosed with HIV, 74 received some care, 51 were retained in care and 65 had achieved viral suppression an important step toward the primary goal of treatment, which is sustained viral suppression.<sup>4</sup> While these numbers have increased over time, they are still far short of the federal Ending the HIV Epidemic (EHE) goal of increasing the percentage of people with diagnosed HIV who are virally suppressed to at least 95% by 2025 and remain at 95% by 2030.<sup>5</sup>

The federal EHE initiative, combined with the ambitious goals of the National HIV/AIDS Strategy,<sup>6</sup> have helped to support the development and implementation of innovative HIV care and treatment models in some communities that are designed to reach people who are not well served by traditional health care systems. These models — including street medicine and differentiated service delivery (DSD) — are designed to “meet individuals where they are,” including meeting unstably housed individuals in nontraditional settings outside the four walls of a clinic and tailoring HIV care and delivery to the acuity and needs of the patient. These types of nimble, patient-centered models have also been critical to allow providers to adapt to HIV care provision during the COVID-19 pandemic to ensure minimal disruptions in HIV care and treatment. Developing and deploying these models require meaningfully engaging communities most impacted by HIV, investing in a cross-disciplinary HIV workforce and identifying a range of sustainable funding streams that are best able to support innovative delivery of services.

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To further the dialogue about the importance of alternative health care delivery models such as street medicine and DSD, the HIV Medicine Association hosted a three-part consultation series in May and June 2022. The series included subject matter experts and practitioners experienced in each model, people with lived experience, federal partners, HIV and infectious disease providers and federal public health leaders. The consultations generated important discussion about the benefits of each model and the significant challenges associated with financing and scaling up these models, with an emphasis on opportunities within the Ryan White HIV/AIDS Program (RWHAP) and Medicaid. Participants also allocated a significant amount of time to generating policy recommendations to help inform federal, state and local actions that will accelerate implementation of street medicine and differentiated service delivery models.

This paper includes a summary of the major findings and themes arising from this consultation series as well as important background and context for the role that street medicine and DSD models currently play in the U.S. HIV response and could play if expanded. The final section includes policy recommendations derived from the consultation series.

## II. Defining the Models

While neither street medicine nor DSD models are new, there are key elements of the model that practitioners and consultation participants identified as essential components.

### Street medicine

#### What Is Street Medicine?

Street medicine is a concept that Jim Withers, MD, FACP, founder of the Street Medicine Institute,<sup>7</sup> defines as “fundamentally a philosophy” just as much as it is a primary care delivery model. At the heart of street medicine is the delivery of health services directly to the unsheltered population. Dr. Withers describes street medicine as a “radical commitment” to the reality of people who are living on the street and a tool to address both the “immediate and social justice needs of people.”<sup>8</sup> The model acknowledges and lifts up the strength and dignity of unstably housed individuals being served and requires providers to approach care delivery with trust building, humility and solidarity.

#### **FIGURE 1: STREET MEDICINE IN ACTION: Tampa Bay Street Medicine**

Launched in 2014, the Tampa Bay Street Medicine program is a voluntary medical primary care program, with medical students and doctors associated with the University of South Florida volunteering their time. The program is able to provide lab services and prescribe HIV and hepatitis C treatment in the field. The program has relationships with pharmacies participating in the AIDS Drug Assistance Program to make access to HIV medications seamless for uninsured patients. The program predominantly serves uninsured individuals and is funded largely through philanthropic grants. The fact that the program operates in a non-Medicaid expansion state makes funding a significant challenge.

The model — which is being implemented primarily in urban settings all over the country, including the Tampa Bay Street Medicine Program (see Figure 1),<sup>9</sup> the Miami Street Medicine Program<sup>10</sup> and the University of Southern California Keck School of Medicine Street Medicine Program<sup>11</sup> — involves meeting would-be patients exactly where they are: on the street. This means leaving the four walls of a clinic, carrying supplies in backpacks, and dispensing medications, performing EKGs and drawing blood for labs outside on the street.<sup>12</sup> The distinction between this model and, for instance, mobile care units may be subtle, but it is important. According to street medicine experts, providing care on the street, where people live, flips the power dynamic in favor of unstably housed individuals, in a world where the power dynamic is often skewed against them. Street medicine requires a recognition of the trauma individuals may have experienced in medical institutions (which can include even mobile clinics) and a commitment to take services directly to where people are on the street. Street medicine requires providers to step into the worlds of the communities they are serving instead of waiting for individuals to enter the providers’ world. This shift can be transformative, facilitating the engagement of patients who were not being reached through traditional models.

### **What Services Can Be Provided via Street Medicine?**

Many services — including HIV prevention, care and treatment services — can be provided on the street, with few limitations beyond the financing and legal impediments that limit reimbursement opportunities and malpractice insurance protection for services provided outside of a clinic. The model can be broken down into three categories: 1) providing direct service delivery to people on the streets (including HIV, primary care and behavioral health services); 2) providing temporizing clinical services with the intent to connect individuals with ambulatory brick-and-mortar facilities or mobile care units; 3) engaging individuals on the street to connect them with inpatient services for more medically and socially complex populations. For procedures that require a brick-and-mortar clinic and for patients who would like to transition from receiving services on the street to entering a clinic model, street medicine experts describe the relationship-building and trust necessary to walk individuals to a location with the infrastructure and expertise needed to provide the specific care they need.<sup>13</sup> Community paramedicine is closely related to street medicine and is another model that meets people where they are to provide services in settings other than brick-and-mortar clinics (see Figure 2).

#### **FIGURE 2: BUILDING ON STREET MEDICINE: Delta County Ambulance District, Community Paramedicine**

Community paramedicine leverages the expertise of paramedics and emergency medical technicians to take on expanded roles in preventive and primary care. In Delta County in rural Colorado, the model allows paramedics to operate at the top of their licensure, providing services — on the street, in someone's home or out of an ambulance — to individuals who cannot access a clinic. This model has been particularly important in rural areas where paramedics fill gaps in clinical access.

The model requires health systems and providers to be as responsive as possible to the needs of the community. This necessitates cross-disciplinary care teams that are nimble and able to cover a lot of ground. The team includes a mix of clinicians and non-clinician providers, including physicians, nurse practitioners and/or physician assistants who have prescriptive authority; community health workers; social workers; paramedics;<sup>14</sup> and health professional students. The Keck School of Medicine of University of Southern California Street Medicine program, for instance, includes a clinician (advanced practice clinician or physician), a nurse and a community health worker.<sup>15</sup>

### **What Communities Are Best Served by Street Medicine?**

As the name implies, street medicine is designed to bring care and services to people on the street. While the model can include people who are in and out of shelters or other housing, including refugees, the focus of the model is to specifically reach an unsheltered homeless population. Street medicine models have typically been deployed in urban settings, mostly due to the greater availability of resources in those settings. The model, however, can be adapted to suburban or rural settings. Successfully reaching unstably housed individuals in rural areas will require taking the model from the streets to the woods and other rural encampment locations.<sup>16</sup>

## Differentiated service delivery

### What Is Differentiated Service Delivery?

DSD is a client-centered approach that simplifies and adapts the intensity, frequency and location of HIV services depending on the needs and preferences of patients.<sup>17</sup> DSD models are used to tailor services to patient needs and to efficiently deploy resources.<sup>18</sup> In low- and middle-income countries, particularly in sub-Saharan Africa, DSD has primarily been used to streamline services for stable patients and offer low-barrier HIV care delivery to meet their needs and preferences, while preserving resources that may be needed for higher acuity patients. In the U.S., this model has been similarly used to create more resource allocation efficiencies, with programs tailoring more intensive services for patients with greater needs and less intensive services for patients who want or need fewer clinical touch points.<sup>19</sup> In Seattle, for instance, the DSD model has been geared toward two different clinic systems (see

#### **FIGURE 3: DSD IN ACTION: THE MAX AND MOD CLINICS, Seattle, WA**

The “**Max**” (**maximum assistance**) Clinic is designed to engage patients with significant barriers to HIV care. The model includes low-threshold, walk-in access to services, combined with high-intensity outreach and cross-program coordination and case management services. The Max Clinic also utilizes incentives and supports (including food vouchers, snacks, bus passes, cell phones and cash) to support patient engagement.

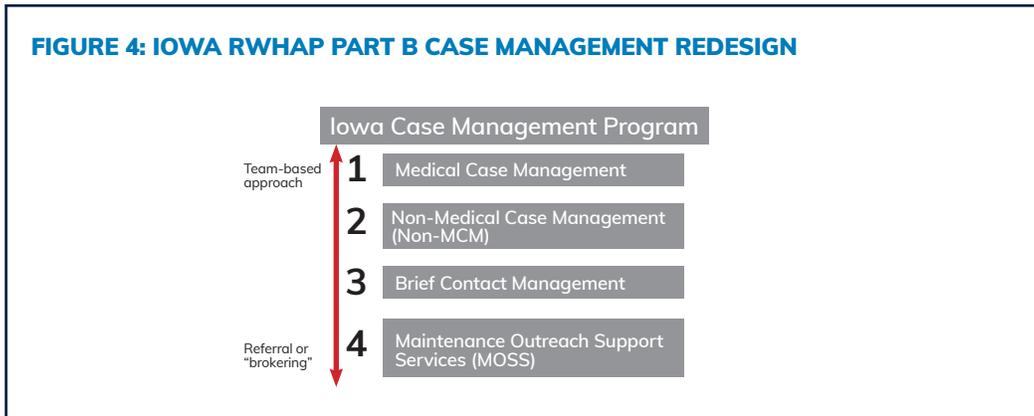
The Max Clinic contrasts with the “**Mod**” (**moderate needs**) Clinic, which is geared toward patients who have difficulties engaging in standard care and need lower threshold access to care, but do not require the Max approach.

figure 3). The Max Clinic offers more intensive services to higher acuity patients while the Mod Clinic is able to offer tailored services to patients whose needs are less. These models have shown success in helping clients achieve viral suppression. For instance, in the Max Clinic, among the first 50 patients enrolled in the program, viral suppression rates increased from 20% in the year before enrollment to 82% in the year after, more than three-fold the increase in a control population.<sup>20</sup> Engagement in care among people who enrolled in the Mod Clinic increased from 37% in the year before enrollment to 86% in the year after.<sup>21</sup> Similar positive outcomes associated with DSD models have been published in other U.S. and global settings as well.<sup>22 23 24 25</sup>

### What Services Can Be Provided via DSD?

The key to service delivery in a DSD model is to ratchet up or down the interventions offered based on patients’ needs and preferences. For low-intensity services, this could mean fewer clinic appointments for patients who are virally suppressed and stable in treatment. It could also include the use of telehealth and remote care technology (e.g., self-testing for STIs). For higher intensity services, the model may look more like the Max Clinic offerings discussed above, with more touch points, service offerings and patient incentives. The model can also be applied to service definitions and standards. In Iowa, for instance, the state health department applied DSD principles to its redesign of the RWHAP Part B case management system (see figure 4). In Iowa’s program, case management services are broken into distinct tiers that are aligned with patient acuity, starting with more intensive interventions and moving to what the program refers to as “brokering” services designed to provide a lighter touch to patients with fewer needs. The DSD model has allowed the RWHAP Part B case management program to

**FIGURE 4: IOWA RWHAP PART B CASE MANAGEMENT REDESIGN**



allocate resources more efficiently, ensuring that higher intensity services are reserved for those with higher medical acuity. A key element of the DSD model is the ability to identify the appropriate service needs for each patient, through an acuity scale or other intake/assessment procedures.<sup>26</sup> This approach must be patient centered and empower patients to work collaboratively with their care team to identify the intensity of services that is appropriate for the individual.

#### **What Communities Are Best Served by DSD?**

Because DSD is designed to tailor services to intensify or de-intensify the delivery model depending on patient needs and preferences, the model could be relevant to a wide range of populations, including those who are relatively stable and whose preference is to have more streamlined appointments and those who may struggle with adherence and benefit from more support or less rigid clinical systems. Low-barrier DSD interventions may also allow for easier access to services through walk-in availability and expanded hours. The model has been important both in the U.S. and globally as a way to tailor service delivery during the COVID-19 pandemic.<sup>27</sup> Allowing for fewer touch points based on patient need and social distancing guidelines not only allowed clinics to deliver care and treatment safely during the pandemic, but also allowed for conservation of resources, particularly as clinics and health centers grappled with severe resource and capacity strains. DSD will likely continue to be an important part of U.S. pandemic and disaster preparedness.

# III. Empowering and Amplifying Communities Most Impacted by HIV

HIV care delivery models must center the voices and lived experiences of those most impacted by HIV. This must include meaningful engagement of people with HIV in every facet of model vision, creation and implementation.<sup>28</sup>

Street medicine and DSD models have potential to be powerful health equity tools, but only if their development and implementation meaningfully engage the communities they will serve. This must include mobilizing the expertise and leadership of people with lived experience, particularly those who identify as Black, Indigenous and/or People of Color (BIPOC), Hispanic/Latinx and LGBTQ+ individuals. Programs that have done this successfully have co-located HIV medical services with community partners and executed memoranda of understanding with community organizations to create formal, paid partnerships and invest in community-based infrastructure.

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“It’s time to start upscaling what community-based organizations do ... We need more community-based organizations with primary care or STD capacity and it’s time to start funding community organizations for what they can actually do.”

—June Gipson, CEO, My Brother’s Keeper

“We are not very often in decision-making processes [as peers]. After all the energy, after all the effort, if we can’t [recognize the value of peers], I have no choice but to take my energy and effort somewhere else. An entire community is waiting for your efforts to have an outcome. And our failure in this area is why we have the rates that we have.”

—Alice Ferguson, HIV Peer, CHW

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Ensuring that individuals with lived experience are an adequately paid and valued HIV workforce is another critical step to ensuring that these models are centered in the communities they serve. Employment opportunities for those with lived experience exist across the service delivery team, including as peers, community health workers, case managers and clinicians. Job-related competencies can be structured in ways that value lived experience as a substitute for academic credentials.

Empowering communities most impacted by HIV also includes supporting an infrastructure of community-based organizations with deep expertise and reach. Both street medicine and DSD models depend on meaningful and intentional partnerships with an array of clinical and nonclinical community-based organizations. Inclusion of these partners in innovative delivery models is essential to ensure that services are not duplicated, that vital HIV infrastructure is supported and that community trust is at the center of the strategy. For instance, the Tampa Bay Street Medicine program paired some of its programming with a well-attended and trusted hot breakfast service. This was a way to build trust from the community and maximize provision of services in ways that met the immediate needs of the communities being served.



## IV. Financing and Sustainability Challenges

Identifying sustainable financing mechanisms for both street medicine and DSD models can be challenging. Providers implementing these models often utilize braided funding streams to patch together a strategy for funding different services and provider types. However, gaps remain, particularly as traditional health care systems and payers struggle to adapt to nonclinical place of service claims, a care team with a mix of clinical and nonclinical providers, and a range of clinical and nonclinical services.

The following are the most significant financing challenges identified by street medicine and DSD model practitioners:

- Traditional health systems' financing mechanisms — i.e., reimbursement models via public and private payers — have strict rules with regard to services and provider types eligible for reimbursement. This includes place of service restrictions that can impede the ability of providers to bill for services provided on the street and scope of practice restrictions that limit reimbursement to clinicians, often excluding peers and community health workers. Public health funding, including RWHAP and grant funding, can sometimes provide more flexibility to cover nontraditional provider roles and holistic services for people with HIV; however, those funds are limited and are not keeping pace with current needs.<sup>29</sup>
- Reimbursement rates from public and private payers for services provided in street medicine and DSD settings are often not enough to adequately support the infrastructure needed for these models to thrive. For instance, telehealth reimbursement for case management services funded by RWHAP Part A in Miami-Dade County, Florida, is \$1.15 per minute for case managers with a degree and only \$.65 per minute for peers and other case managers without a degree.<sup>30</sup>

- Non-Medicaid expansion states face significant funding challenges for nontraditional street medicine and DSD models. In the 12 states that have not yet expanded Medicaid, street medicine and DSD models must be able to serve individuals who are uninsured. Programs in these states disproportionately rely on federal grant funding (including RWHAP funds), charitable giving, manufacturer assistance programs and often volatile program income generated from the 340B program to fund services via innovative models.
- Onerous enrollment and eligibility requirements for public health programs are a barrier to implementing care delivery models that are designed to provide low-threshold, easy access to services. For instance, because of statutory requirements that the program be the “payer of last resort,” RWHAP/ADAP requires clients to demonstrate that they meet program eligibility criteria, including income thresholds, which requires submission of documentation at regular intervals. Providing low-threshold, easily available services, however, is often the best way to reach individuals.<sup>31</sup>

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- The requirements around RWHAP funding and service category definitions can restrict innovation. Both street medicine and DSD models may rely on incentives for patients to participate in programs and engage in care and treatment, yet RWHAP recipients may not spend their federal funds on incentives like cash or gift cards. Similarly, the medical and nonmedical case management RWHAP service definitions are fairly prescribed and do not include low-threshold maintenance services for clients who are primarily self-managed.

# V. Policy Recommendations to Support Scaling Up the Models

To expand and replicate promising street medicine and DSD models, the following policy steps must be taken at the federal, state and local levels:

**1. Federal agencies should support demonstration projects and implementation research on street medicine and DSD models.**

Street medicine and DSD models could benefit from focused and intentional implementation research to better understand the impact of these models on HIV transmission, the cost-effectiveness of each model and the extent to which these models can be tailored to different settings. Research opportunities could include Health Resources and Services Administration (HRSA) HIV/AIDS Bureau (HAB) Special Projects of National Significance in partnership with the Centers for Disease Control and Prevention, the Substance Abuse and Mental Health Services Administration, National Institutes of Health implementation science opportunities and Centers for and Medicaid Services (CMS) Center for Medicare and Medicaid Innovation demonstration projects. It is important to coordinate across agencies to ensure that investments and research aims complement one another and to evaluate how programs are blending funding streams to implement street medicine and DSD models. Research projects should also be designed to be implemented in settings that may be over capacity and underfunded already, including through capacity building and other support, to allow a broader range of street medicine and DSD models to participate.

Research and demonstration projects should also assess what quality measures across RWHP and Medicaid should be used to assess the value of street medicine and DSD models, including person-centered quality measures.<sup>32</sup>

**2. Medicaid programs and managed care organizations (MCOs) should adopt reimbursement models that better incorporate a workforce with lived experience and engage such individuals in program and policy development.**

As the largest source of care for people with HIV, any action state Medicaid programs and Medicaid MCOs take to create more nimble financing mechanisms for street medicine and DSD will have a significant impact. Many state Medicaid programs and MCOs have adopted policy changes that allow peers and CHWs to be credentialed under the program and receive Medicaid reimbursement for services provided to Medicaid beneficiaries.<sup>33 34</sup> This is particularly useful for supporting a syndemic delivery approach that addresses HIV, substance use and mental health, for instance, by engaging peer recovery support specialists to engage and retain the growing proportion of new diagnoses of HIV among people who inject drugs. CMS should encourage all programs and plans to do this. Allowing these integral members of the care team to seek Medicaid reimbursement could help fund elements of both street medicine and DSD programs and support effective treatment for substance use disorder that will improve medication adherence and retention in care. Decisions about reimbursement for peers and community health workers, including the decision about whether to recognize and reimburse these professionals at all and the reimbursement rate, is up to state Medicaid programs and Medicaid MCOs. The reimbursement rates for services provided by peers and community health workers — which are typically

based on 15-minute increments — must provide fair and equitable remuneration for services. Without adequate reimbursement rates, it will be impossible to build a workforce that recognizes the dignity and value of people with lived experience.

**3. Medicaid programs should adopt billing guidance and policies to allow providers to bill for services provided in the field and remotely.**

State Medicaid programs could make it easier for street medicine practitioners to bill for services by clarifying the appropriate place of service codes providers can use for services provided.<sup>35</sup> At the federal level, CMS could also support reimbursement for street medicine in every Medicaid program by adding a new place of service code for street medicine. Similarly, the federal Department of Health and Human Services must continue to allow the telehealth flexibilities in Medicare and Medicaid that were implemented in response to the COVID-19 pandemic. Medicaid programs and MCOs should also utilize payment mechanisms for services outside of traditional billing systems, particularly for services provided by smaller community-based organizations.<sup>36</sup> This could include grant-based funding.

**4. HRSA/HAB and HRSA/Bureau of Primary Health Care (BPHC) should support street medicine and DSD expansion within the RWHAP and Community Health Center programs.**

Both the RWHAP and Community Health Center programs already support innovative, patient-centered models of HIV care and treatment. Building on this work, HRSA/HAB and HRSA/BPHC should consider cross-program guidance to RWHAP recipients and community health centers, highlighting the opportunities to adopt street medicine and

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DSD models. This should include guidance on how to provide services via these models while navigating program rules and policies, including ways to streamline RWHAP eligibility determinations. To facilitate the ability for CHCs to engage in street medicine, BPHC should create a new public health patient category or equivalent that waives the usual primary care patient requirements, allowing providers to focus on the patient's immediate needs, such as was allowable during the COVID-19 pandemic.

**5. Congress should invest in public health programs, with new funding to support scale up of street medicine and DSD programs.**

Congress should increase infectious disease response funding — including RWHAP, HIV prevention, mental health/substance use and pandemic preparedness funding — to ensure the programs are able to work in tandem with health care systems and public and private payers to provide street medicine and DSD models of care. This is particularly important to allow programs to be nimble and intentional in response to infectious disease outbreaks and to use street medicine and DSD to provide a public health response that includes investment in screening, education, outreach and service

delivery not connected to a formal public or private payer. Congress should also prioritize a federal legislative fix to the Medicaid coverage gap in the 12 states that have not yet expanded Medicaid under the Affordable Care Act. Without additional resources for non-Medicaid expansion states, not only will scale up of street medicine and DSD models remain challenging, but HIV disparities will worsen.

#### **6. State licensing requirements should fully leverage the HIV workforce, including CHWs, pharmacists, advanced practice providers, social workers, and EMTs.**

Eighty-three million Americans live in an area designated by the federal government as a Health Professional Shortage Area and nearly 80% of Americans live in a county without a single infectious diseases physician.<sup>37 38</sup> Rural areas hardest hit by inaccessibility of providers continue to experience growing disparities in HIV incidence and outcomes.<sup>39 40</sup> Policy interventions, such as loan repayment for health care professionals and reimbursement rates and financing mechanisms that reflect the value of the services ID physicians provide are needed to address the ID and HIV workforce shortages (See [Infectious Diseases Experts: America's Link Back to Everyday Life](#)).<sup>41</sup> In addition, we need to leverage a broader HIV workforce, including nonphysician providers who are able to operate at the top of their training and licenses to ensure equitable access to HIV care and treatment, particularly in rural areas. As new HIV treatment administration routes become available — including long-acting injectable options that require the availability of providers to administer an injection — a broader and more nimble HIV clinical workforce will be important to ensure that new treatments are available not only in well-resourced urban settings, but by all communities who will benefit from these options. Changes to state licensing requirements allowing health professionals to operate at the top of their education and training also need to be accompanied by changes in health care financing and Medicaid reimbursement policies that adequately support the continuum of health care professionals who are critical members of the care team in traditional and non-traditional health care settings.

## Conclusion

Street medicine and DSD models offer significant promise in engaging communities not well served by traditional health care systems. However, scaling up these models in the U.S. will take public health and political commitment to think differently about the HIV care system and the constellation of provider types, service delivery settings and patient empowerment needed to yield improved results across the HIV care continuum. The National HIV/AIDS Strategy federal implementation plan calls on federal agencies to identify and disseminate best practices for innovative HIV care and treatment delivery models as well as provider capacity building to better meet people with HIV where they are and provide culturally competent and patient-centered care.<sup>42</sup> These federal implementation actions can and should include a commitment to better understanding and expanding street medicine and DSD models. Federal action and leadership are imperative to realizing the promise of these models in ending HIV in the U.S.

# References

- 1 NIH/NIAID. (2019) HIV Undetectable=Untransmittable (U=U), or Treatment as Prevention. <https://www.niaid.nih.gov/diseases-conditions/treatment-prevention>.
- 2 HIV.gov. What Is the Impact of HIV on Racial and Ethnic Minorities in the U.S.? Available at <https://www.hiv.gov/hiv-basics/overview/data-and-trends/impact-on-racial-and-ethnic-minorities>.
- 3 Rajabiun, S. Tryon, J., Feaster, M., Pan, A., McKeithan, L., Fortu, K., Cabral, H.J., Borne, D., & Altice, R. (2018). The Influence of Housing Status on the HIV Continuum of Care: Results From a Multisite Study of Patient Navigation Models to Build a Medical Home for People Living With HIV Experiencing Homelessness, *American Journal of Public Health* 108, S539\_S545.
- 4 Centers for Disease Control and Prevention. [Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019](#). *HIV Surveillance Supplemental Report* 2021;26(2).
- 5 U.S. Department of Health and Human Services. Ending the HIV Epidemic Initiative. <https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview>.
- 6 HHS. National HIV/AIDS Strategy 2022-2025. <https://www.hiv.gov/federal-response/national-hiv-aids-strategy/national-hiv-aids-strategy-2022-2025>.
- 7 Street Medicine Institute. <https://www.streetmedicine.org/>.
- 8 Dr. Jim Withers. May 20, 2022. HIVMA Street Medicine Session.
- 9 Tampa Bay Street Medicine Program. <https://health.usf.edu/medicine/studentorgs/tbsm>.
- 10 Miami Street Medicine Program. <https://www.miamistreetmedicine.org/>.
- 11 USC Keck School of Medicine Street Medicine Program. <https://keck.usc.edu/family-medicine/patient-care/street-medicine>.
- 12 Dr. Brett Feldman. May 20, 2022. HIVMA Street Medicine Session.
- 13 Dr. Jim Withers. May 20, 2022. HIVMA Street Medicine Session.
- 14 Rural Health Information Hub. Community Paramedicine. <https://www.ruralhealthinfo.org/topics/community-paramedicine>.
- 15 Stefanowicz M, Feldman B, Robinson J. (2021). House Calls Without Walls: Street Medicine Delivers Primary Care to Unsheltered Persons Experiencing Homelessness. *Ann Fam Med.*, 19(1):84. doi: 10.1370/afm.2639.
- 16 National Health Care for the Homeless Council. (June 2022) Street Medicine and Outreach: Bringing Care to People Where They Are. <https://nhchc.org/wp-content/uploads/2022/06/healing-hands-june-2022.pdf>.
- 17 Dr. Ingrid Bassett. June 8, 2022. HIVMA Differentiated Service Delivery Session.
- 18 Roy, M. et al. (2019) A Review of Differentiated Service Delivery for HIV Treatment: Effectiveness, Mechanisms, Targeting, and Scale. *Current HIV/AIDS Reports*, 16:324–334.
- 19 Dombrowski, J.C. et al. (2018) The Max Clinic: Medical Care Designed to Engage the Hardest-to-Reach Persons Living With HIV in Seattle and King County, Washington. *AIDS Patient Care STDS*, Apr;32(4):149-156.
- 20 Dombrowski J.C., et al. (2019) HIV care for patients with complex needs: a controlled evaluation of a walk-in, incentivized care model. *Open Forum Infect Dis.*, 6(7):ofz294. PMID: PMC6641789.
- 21 Kumbhakar, R., et al. (2022) The Impact of a Walk-In HIV Care Model for People Who Are Incompletely Engaged in Care: The Moderate Needs (MOD) Clinic. Presented at AIDS 2022, The 24th Annual International AIDS Conference.
- 22 Hickey M.D., et al. (2022) HIV Treatment Outcomes in POP-UP: Drop-in HIV Primary Care Model for People Experiencing Homelessness. *J Infect Dis.*, Oct 7;226(Supplement\_3):S353-S362. doi: 10.1093/infdis/jiac267. PMID: 35759251.

# References

- 23 Hickey, I.E., et al. (2021) Evaluation of the POP-UP programme: a multicomponent model of care for people living with HIV with homelessness or unstable housing. *AIDS*, 35(8):1241-1246. doi: 10.1097/QAD.0000000000002843.
- 24 Limbada M., et al.; HPTN 071 (PopART) study team. (2022) Rates of viral suppression in a cohort of people with stable HIV from two community models of ART delivery versus facility-based HIV care in Lusaka, Zambia: a cluster-randomised, non-inferiority trial nested in the HPTN 071 (PopART) trial. *Lancet HIV*, 9(1):e13-e23.
- 25 Fatti G et al. (2021) Community-based differentiated service delivery models incorporating multi-month dispensing of antiretroviral treatment for newly stable people living with HIV receiving single annual clinical visits: a pooled analysis of two cluster-randomized trials in southern Africa, *Journal of the International AIDS Society*, 24(S6):e25819.
- 26 See, e.g., Levine E., and Rajabiun, S. (2018) From Pilot to Program: Implementing an Acuity-Based Medical Case Management System in Massachusetts. National Ryan White Conference on Care and Treatment. [https://targethiv.org/sites/default/files/supporting-files/12888\\_Levine\\_508.pdf](https://targethiv.org/sites/default/files/supporting-files/12888_Levine_508.pdf).
- 27 For example, in global settings, DSD became a way to ensure uninterrupted access to HIV care and treatment, Grimsrud A, Ehrenkranz P, Sikazwe I. (2021) Silver linings: how COVID-19 expedited differentiated service delivery for HIV. *J Int AIDS Soc.*, 24 Suppl 6(Suppl 6):e25807. doi: 10.1002/jia2.25807. PMID: 34713575; PMCID: PMC8554212.
- 28 AIDS United. (2021) Embodying Meaningful Involvement of People Living with HIV: Putting the Pieces Together. [http://aidsunitedbtc.wpengine.com/wp-content/uploads/2021/05/MIPA\\_Toolkit\\_FINAL.pdf](http://aidsunitedbtc.wpengine.com/wp-content/uploads/2021/05/MIPA_Toolkit_FINAL.pdf).
- 29 HRSA. Ryan White HIV/AIDS Program Funding: FY2014-FY2017 Appropriations by Program. <https://ryanwhite.hrsa.gov/about/budget>.
- 30 Miami-Dade RWHP Part A Telehealth Reimbursement Fee Schedule. Provided to authors by Dr. Asa Oxner.
- 31 Kamis, K.F., et al. (2019) Same-Day HIV Pre-Exposure Prophylaxis (PrEP) Initiation During Drop-in Sexually Transmitted Diseases Clinic Appointments Is a Highly Acceptable, Feasible, and Safe Model that Engages Individuals at Risk for HIV into PrEP Care. *Open Forum Infectious Diseases*, 6, no. 7: 310–317.
- 32 Person-Driven Outcome Measures Help Achieve Equitable Outcomes. <https://www.healthaffairs.org/doi/10.1377/forefront.20220609.309858>
- 33 Centers for Medicare and Medicaid Services. (2007) State Medicaid Director Letter SMDL #07-011. <https://downloads.cms.gov/cmsgov/archived-downloads/SMDL/downloads/smd081507a.pdf>.
- 34 NASTAD. (2019) Case Studies: Medicaid Managed Care Plan Best Practices in Hepatitis C Linkage to Care, Treatment and Retention. <https://nastad.org/sites/default/files/2021-11/PDF-Case-Studies-Medicaid-Managed-Care.pdf> (highlighting Medicaid managed care payment and delivery models for peer services and navigators).
- 35 For instance, California Medi-Cal issued guidance for Medicaid providers to make it easier for street medicine programs to bill for services provided in the field. Medi-Cal, Clarification on Billing Guidelines for Medi-Cal Providers for Street Medicine (December 2021), available at [https://files.medi-cal.ca.gov/pubsdoco/newsroom/newsroom\\_31526.aspx](https://files.medi-cal.ca.gov/pubsdoco/newsroom/newsroom_31526.aspx). Street medicine providers are also asking CMS to add a place of service code for street medicine to allow providers to more easily bill Medicaid for services. Keck School of Medicine of USC, [Letter to CMS Re: Update CMS Place of Service Codes \(POS\) to Align with Increasing Street Medicine and Field-based Practices](https://www.usc.edu/newsroom/2021/11/letter-to-cms-re-update-cms-place-of-service-codes-pos-to-align-with-increasing-street-medicine-and-field-based-practices).
- 36 MCOs have used innovative payment models to reimburse community-based organizations for services, including monthly per member flat fees. NASTAD, Financing HIV Prevention Services: Collaboration and Innovation between Public Health Agencies and Medicaid (October 2017), available at <https://nastad.org/resources/financing-hiv-prevention-services-collaboration-and-innovation-between-public-health-and>. Similarly, during the COVID-19 pandemic, CMS issued guidance allowing services provided by EMTs in ambulances (“treating in place”) to be reimbursed under the Medicare program when patients were not transported to a hospital because of COVID-19 precautions and protocols. CMS, Waiver for Ground Ambulance Services: Treatment in Place, available at <https://www.cms.gov/files/document/covid-waiver-medicare-ground-ambulance-services-treatment-place.pdf>.

# References

- 37 HRSA. (2021) Shortage areas. <https://data.hrsa.gov/topics/health-workforce/shortage-areas>.
- 38 Walensky, RP, McQuillen DP, Shahbazi, S, Goodson, JD. (2020) Where Is the ID in COVID-19?, Annals of Internal Medicine, Oct., Letters.
- 39 Pellowski JA. (2013) Barriers to care for rural people living with HIV: a review of domestic research and health care models. J Assoc Nurses AIDS Care, 24(5):422-437. doi:10.1016/j.jana.2012.08.007.
- 40 Bono R.S., et al. (2021) Human Immunodeficiency Virus-Experienced Clinician Workforce Capacity: Urban-Rural Disparities in the Southern United States. Clin Infect Dis., 72(9):1615-1622. doi: 10.1093/cid/ciaa300.
- 41 Johns Hopkins Center for Health Security and Infectious Diseases Society of America. America's Link Back to Everyday Life. (2022). Online at: <https://www.idsociety.org/globalassets/value-of-id/our-response-to-covid-19/final-covid-action-brief-9.26.22.pdf>. Also see Value of ID at <https://www.idsociety.org/value-of-id/>.
- 42 White House. National HIV/AIDS Strategy 2022-2025. Federal Implementation Plan. [https://files.hiv.gov/s3fs-public/2022-09/NHAS\\_Federal\\_Implementation\\_Plan.pdf](https://files.hiv.gov/s3fs-public/2022-09/NHAS_Federal_Implementation_Plan.pdf).