

Water, sanitation and hygiene services should be promoted as a key pillar of harm reduction

Author: Dr. Alhelí Calderón-Villarreal, MD, PhD, MPH, Assistant Professor, Public Health Department California State University San Marcos, and Founder & Director of the Socio-Environmental Tijuana River Project (www.calderon-villarreal.com)

Background:

Harm reduction has historically focused on syringe exchange, condom distribution, overdose prevention, and safe facilities for injecting drugs. Yet I argue that more attention and recognition should be paid to **water, sanitation, and hygiene (WASH) services**, as **key elements of harm reduction practice**.

In the context of housing crises and threadbare public services, people who use drugs (PWUD) often have poor access to WASH services, which negatively impacts them in numerous profound ways. PWUD may be forced to practice open defecation, be unable to shower, or use unsafe water sources for cleaning wounds and preparing drugs (e.g., saliva, soda or surface water). These practices increase the risk of abscesses and skin and soft tissue infections—a key cause of morbidity, disfigurement and pain among PWUD. Lack of WASH access has also been linked with infectious diseases—such as gastrointestinal and urinary track infections, and may exacerbate HIV and its comorbidities,

tuberculosis and HCV. The inability to clean oneself also increases social exclusion, and risks of menstrual poverty, gender-based violence, hygiene-related stigma, anxiety, police victimization, loss of dignity, and discrimination.¹⁻⁶

In recognition of the importance of WASH, several harm reduction programs globally have implemented innovative programs to improve access for PWUD. For instance, mobile hygiene programs to provide showers and other hygiene services for unhoused clients. These programs often leverage “radical hospitality”—providing extraordinary care and respect to those who often feel overlooked and undervalued, restoring their dignity by unlocking the opportunity to be clean. I argue that this notion is highly compatible with the existing ethos of many harm reduction programs, and I highlight opportunities for academic research and funding to bolster these efforts. A robust body of scientific evidence is needed supporting the efficacy of WASH services, guiding impact to reduce morbidity and improve the quality of life for PWUD.

Why WASH?

Recent publications at the intersection between substance use and environmental health had highlighted the need to expand the inclusion of WASH approaches in harm reduction research, practice and policies.

Human rights and vulnerabilities¹⁻²

- Access to WASH services are human rights and are intrinsically linked with the human rights to housing and health care
- PWUD often experience segregation limiting their access to basic services – including WASH
- Homelessness is an important intersectional vulnerability associated with insecurity accessing WASH among PWUD

Insecurity accessing WASH services¹⁻²

- WASH insecurity perpetuates a cycle of poverty and homelessness
- PWUD in Tijuana, Mexico and San Diego, US have lower access to WASH services in comparison to national averages that are below international guidelines:
 - Only 56% have continuous access to improved drinking water sources (e.g., tap water, water bottles)
 - 97% have daily water intake below medically recommended levels (40 ml/Kg weight)
 - Only 25% have continuous access to toilet not shared with other households/general public (basic sanitation)
 - 20% have to walk more than 10 minutes to find a toilet
 - 38% practice open defecation
- Low water intake and water insecurity can lead to dehydration, impaired cognitive function and kidney diseases

WASH, menstruation and gender^{3-4,7}

- WASH is a key domain of menstrual health – including facilities, comfort, privacy and safety – and gender equity
- Unmet menstrual health need have been associated with self-isolation and intense feelings of self-disgust
- Insecurity accessing WASH services had been associated with anxiety, especially among women who use drugs
- Access to showers, handwashing facilities, soap and private toilet facilities could increase menstrual health access among PWUD, especially among those experiencing housing instability

Violence, dignity and environmental injustice¹⁻³

- Lack of access to body hygiene decreases quality of life and exacerbates social exclusion, discrimination, stigma, police victimization and health risks
 - Hygiene-related stigma interacts with other intersectional stigma such as drug use, sex work status, migration background, gender identity, exacerbating direct and structural violence
 - Police victimization and systematic incarceration could be increased by hygiene-related stigma, preventing medical treatment adherence (e.g. opioid use disorder treatment, tuberculosis, HIV, non-communicable diseases) among PWUD with less access to body hygiene services
 - About 13% of PWUD reported experiencing violence when using the toilet
- Lack of access to WASH-related menstrual health services can increase risks of gender-based violence, loss of dignity and social segregation
- Lack of access to WASH services forces unhoused PWUD to use unsafe water sources and be in contact with contaminated environments, a form of environmental injustice

Figure 1. Water, sanitation and hygiene components that could be incorporated in harm reduction research and practice



Drug-use specific water needs^{1-2,5,8}

- People engaged in drug injection have drug-use specific water needs (e.g., to prepare drugs and cleaning injection related wounds/abscesses)
- Water is used in the preparation of a wide range of drugs for injection (e.g., heroin, fentanyl, methamphetamine)
- Water provided by harm reduction services often was the only improved water source for preparing drugs and cleaning wounds

Abscesses and infectious diseases^{1,4,6,8}

- Among people who inject drugs, insecurity accessing WASH have been correlated with skin and soft tissues infections (SSTI) in cross-sectional and longitudinal studies
 - Open defecation (aHR 1.65), insecurity accessing showers (aHR 1.59) and use of not-improved (unsafe) water sources for preparing drugs for injection (aHR 1.49) is associated with an increase abscess incidence rate
 - Use/contact with contaminated water sources has been associated with SSTI among unhoused PWUD
- SSTI (e.g. abscesses) are highly common among people who inject drugs (50-65% prevalence) and the most common cause of hospitalization
- PWUD had high abscess incidence rates regardless of country of residence and housing status
- If abscesses are not treated can 1) cause a significant level of pain, discomfort, scarring and disabilities, 2) contribute to use of more substances to reduce abscess-related pain, 3) contribute to stigma, and 4) lead to life-threatening complications (e.g., endocarditis, septic shock) (paper 3)
- PWUD in urban centers spend significant amounts of time in environments where infectious diseases can be transmitted
- Insecurity accessing water and hygiene services is a common cause of skin irritation
- Chronic dehydration can lead to urinary track infections and exacerbate risk to respiratory infections
- Lack of access to hand hygiene and sanitation (toilet) increases risk to gastrointestinal infections

Implications:

Access to WASH services is a key element for dignity, health and wellbeing among PWUD. Concentrated efforts are needed to ensure continuously available WASH access among PWUD communities, especially those experiencing housing insecurity. There is an ample room for research, policies and practice in the intersection between WASH and harm reduction (Figures 1 and 2).

Figure 2. Recommend action to promote access to WASH services among PWUD

WASH in Harm Reduction Programs	Mobile hygiene programs (Radical hospitality)	Public toilet facilities (24/7)	Housing (Housing First)
Harm reduction programs could consider explicitly incorporating WASH services and items, including hygiene items, menstrual pads, toilet and shower facilities, laundry services, and drinking water fountains. Often, harm reduction programs already include some of these services and could expand by adding comprehensive WASH services including body hygiene.	Mobile hygiene programs provide body hygiene services with a wide range of complementary WASH services. Both mobile hygiene and harm reduction programs could work together. These programs operates under the principle of radical hospitality, understood as “treating people ... with an extraordinary level of respect and care to restore dignity and unlock the opportunities that come with being clean” [Lava Mae*], fitting well with the established values of harm reduction initiatives.	Harm reduction policies would incorporate WASH approaches and promote policies to ensure continuously available WASH facilities. Open defecation poses risks to PWUD and public health risk of fecal contamination in the wider community. Increases in 24-hr functional public restroom access in neighborhoods among unhoused PWUD could reduce open defecation.	Polices and programs supporting affordable housing not conditioned on behavioral change with functional WASH facilities is crucial for unhoused PWUD.

References:

- 1 Calderón-Villarreal A, Avelar Portillo LJ, Abramovitz D, et al. Water, sanitation, and hygiene access among people who inject drugs in Tijuana and San Diego in 2020–2021: a cross-sectional study. Int J Equity Health 2024; 23: 79.
- 2 Calderón-Villarreal A, Terry B, Friedman J, et al. Deported, homeless, and into the canal: Environmental structural violence in the binational Tijuana River. Soc Sci Med 2022; 305: 115044.
- 3 Calderón-Villarreal A, Avelar Portillo LJ, Abramovitz D, et al. A brief instrument measuring the water, sanitation and hygiene domain of menstrual health among women who inject drugs. PLOS ONE 2024; 19: e0303378.
- 4 Ballard AM, Cooper HLF, Young AM, Caruso BA. ‘You feel how you look’: Exploring the impacts of unmet water, sanitation, and hygiene needs among rural people experiencing homelessness and their intersection with drug use. PLOS Water 2022; 1: e0000019.
- 5 Harris M, Scott J, Hope V, Wright T, McGowan C, Ciccarone D. Navigating environmental constraints to injection preparation: the use of saliva and other alternatives to sterile water among unstably housed PWID in London. Harm Reduct J 2020; 17: 24.
- 6 Calderón-Villarreal A, Abramovitz D, Avelar Portillo LJ, et al. Water, sanitation and hygiene insecurity predict abscess incidence among people who inject drugs in a binational US–Mexico metropolitan area: A longitudinal cohort study. Int J Drug Policy 2024; 129: 104485.
- 7 Avelar Portillo LJ, Calderón-Villarreal A, Abramovitz D, et al. WaSH insecurity and anxiety among people who inject drugs in the Tijuana-San Diego border region. BMC Public Health 2024; 24: 19.
- 8 Marks LR, Durkin MJ, Ayres K, Ellis M. Drug preparation, injection-related infections, and harm reduction practices among a national sample of individuals entering treatment for opioid use disorder. Harm Reduct J 2024; 21: 16.