Addressing hygiene needs of housing insecure populations: A qualitative analysis of Seattle and King County’s mobile hygiene station intervention

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ABSTRACT

Objective: To evaluate the Seattle Public Utility mobile hygiene station program, a program deployed using public funds in response to the large-scale closures of public hygiene facilities due to COVID-19.
Study design: We conduct a qualitative analysis using semi-structured interviews.
Methods: We interviewed four Seattle Public Utility (SPU) and Public Health Seattle & King County (PHSKC) employees involved in the design, deployment, and management of the hygiene station intervention. Data were also collected from communications and reports released through SPU/PHSKC web sources.
Results: Our analysis revealed factors affecting the implementation of the hygiene program included the rental of hygiene trailers, community partnership to mediate between housed and housing insecure populations, funding source and cost-effectiveness, geographic location of the units, and maintenance of the units to continue population hygiene support.
Conclusion: The SPU/PHSKC hygiene station was designed to support the housing insecure and homeless by compensating for the large-scale closures of public restrooms and showers. Several logistical and financing challenges need to be addressed to ensure the continuity of the program.

1. Introduction

Cities throughout the United States have long faced a housing crisis that has left hundreds of thousands of people homeless and millions increasingly housing insecure [1–3]. In the current pandemic environment, individuals who regularly sleep on the streets or emergency shelters are especially at risk of suffering negative health impacts as a result of being exposed to COVID-19 (coronavirus disease of 2019), as they have higher rates of physical health conditions, mental health disorders, and addiction and addiction related diseases [4]. As a result of these underlying health conditions and chronic illnesses, as well as inadequate healthcare and community support, people experiencing homelessness and housing insecurity are more susceptible to increased adverse health outcomes and death if exposed to COVID-19 [5]. In addition to higher susceptibility to the effects of COVID-19, homeless and housing insecure communities lack the healthcare resources and adequate support to isolate themselves if they are exposed, and have minimal access to healthcare workers that could provide them support and testing [6]. Housing insecure populations have been further disenfranchised by COVID-19; their health and security increasingly in danger and their communities under-supported [5].

The COVID-19 pandemic has left homeless and housing insecure communities larger and more vulnerable than ever before. In 2019, the number of people in the United States living in a perpetual state of unsheltered homelessness increased from 17,000 to 211,000 [7]. The sheer number of individuals living on the streets has increased exponentially due to COVID-19, and housing insecure communities as a whole have suffered economically, physically and emotionally due to fallout from COVID-19, such as mass closures of businesses where many found employment, increased eviction rates, closure of shelters and closures of hygiene facilities like public restrooms and gyms [8]. In congregate encampments and slum-like conditions, outbreaks spread more easily and are more devastating than in housing secure communities [9]. In Seattle, large encampments are not uncommon, and act as large scale spread sites for COVID-19 and other viruses. This health disparity is due to several factors impacting health equity, possibly the most prominent of which is access to reliable and sufficient hygiene facilities [10].
Basic hygiene such as regular and thorough washing of hands, as well as regularly showering and wearing clean clothes are highly effective methods of reducing the spread of COVID-19 [5]. Housing insecure populations do not have consistent and reliable access to facilities that would fulfill these needs, which poses a large public health and human rights issue, and increases the threat of spreading COVID-19 in encampments and other housing insecure community occupied spaces. Individual costs as a result of COVID-19 include job loss, further displacement, inability to maintain food supply, increased risk of exposure to COVID-19, and increased risk of adverse health outcomes such as long term lung damage and death if infected with COVID-19 [11]. In order to reduce exposure and transmission of COVID-19 in homeless populations, thus mitigating the negative impacts of the virus, hygiene interventions represent a critical policy that will maintain the health and welfare of housing insecure populations.

Increased promotion of and access to hand hygiene has been an effective preventative measure in reducing transmission of communicable diseases in a pandemic settings [12]. In cities including Los Angeles, San Francisco, and Oakland, mobile hygiene facility programs have been successful in providing increased access to hygiene resources for houseless peoples. For example, The Lava Mae nonprofit delivers mobile shower services to communities experiencing homelessness in California. Lava Mae reported serving over one thousand guests in 2021, and since its inception in 2014 has provided over 60,000 showers to more than 15,000 guests [13,14]. The City of Seattle, along with Seattle Public Utility (SPU) and Public Health Seattle & King County (PHSKC) have championed a program that utilizes “pop-up” hygiene units which include shower facilities, sinks, and toilets. This program is intended to compensate for the mass closures of public restrooms and shower facilities in attempts to reduce the transmission of COVID-19 within housing insecure communities. The locations of the units around the city are determined by densities of homeless populations – units are placed in areas around the city of Seattle to provide maximum access to homeless individuals as possible. This study represents a case study and implementation strategy for how communities can deploy sanitation intervention to support housing insecure and homeless populations.

2. Methods

The investigators conducted four semi-structured interviews with Seattle Public Utility (SPU) and Public Health Seattle & King County (PHSKC) between June and September in 2020 to gain insight into the hygiene intervention. Interviewees were selected based on their knowledge of the process of procuring hygiene units, organizing the program, and deploying/maintenance of hygiene stations. The Implementation, Preparation, Sustainment (EPIS) framework was utilized to select key stakeholder interviewees who could provide insight into both the implementation, management, and potential sustainment of the program. The investigators used convenience sampling to recruit interviewees, and data was analyzed by searching for and identifying patterns and major themes. For this study, semi-structured interview questions centered on four major themes critical to the operational performance of the program: Procurement, Site Finding and Community Partnership, Funding and Cost Effectiveness, Location Logistics, and Maintenance.

All interviewees had no personal conflicts of interest with the interviewers. Data were also collected from reports released through city and county web sources. This project received Institutional Review Board approval from the University of Washington Human Subjects Division.

3. Findings

Interviewees provided information surrounding numerous domains of the city hygiene station program. These domains include challenges and obstacles that organizers and managers of the program continue to engage with, as well as information about the social and economic cost of the program.

3.1. Procuring rental hygiene trailers

Procuring hygiene trailers sufficiently outfitted to support homeless and housing insecure populations was imperative to the deployment of the hygiene station program. This task initially proved challenging, as stated by one SPU employee helping to organize the program:

“At first, one of the biggest challenges was finding shower trailers to rent. It is not just homeless folks who need public showers, all kinds of facilities closed in the wake of COVID-19, and showers were needed across the country. A new focus on hygiene meant that hand washing stations were incredibly expensive and difficult to obtain.”

In the wake of COVID-19, both private and public owned facilities - such as public showers and bathrooms - across the entire United States experienced large scale closures. Within 24 h of Seattle’s first public closures intended to limit social gatherings in March of 2020, 24 libraries and six community centers and public pools that offer public restrooms and shower programs closed [15]. These closures increased national demand for portable and pop-up hygiene facilities to support many different communities, including but not limited to housing insecure populations. As a result, Seattle Public Utilities found that hygiene trailers were difficult to secure and costly to rent. To maximize cost effectiveness and timeliness of the hygiene station program, trailers with multiple hygiene stalls were rented by the city.

3.2. Site Finding and Community Partnership

Determining locations of hygiene trailers with specific emphasis on relationships between housing insecure and housed communities posed additional challenges to SPU and PHSKC. Consideration of housed community attitudes towards the hygiene stations, and relationships between housed and housing insecure communities regarding the operation of hygiene trailers in specific locations was necessary both before and after the deployment of the hygiene stations.

According to an SPU employee responsible for the organization of community partnerships with the city and housing insecure communities, identifying sites that would not create undue difficulty within and between housing secure and homeless communities was a large obstacle. To alleviate some of the predicted friction between communities at potential hygiene station deployment locations, SPU placed trailers in locations associated with public use, such as public parks, and avoided locations near private residences. This was to ensure that residents were not directly affected by the operation and maintenance of the hygiene units. However, some housing secure communities responded negatively to the establishment of a hygiene station in their neighborhood [16]. Complaints such as those expressed by housed communities near the site of the hygiene station at West Seattle Junction are illustrative of this negative response outlined by the SPU employee interview.

Consideration of the concerns surrounding the hygiene program from both housing secure and housing insecure communities SPU/PHSKC is ongoing. One of the organizers voiced highlighted their belief that the tension between the two groups stem from a lack of resources available to housing insecure communities, saying that:

“There is currently a community that is upset about having a hygiene station there because they feel that it attracts homeless folks, and therefore lowers their quality of life because of the behaviors associated with homeless encampments that they are seeing in their community … This is an important issue that needs to be discussed, because if there were sufficient facilities, there would not be the sense that a facility was attracting a population. It is the paucity of facilities that creates the perception and potentially that situation.”
Due to the lack of widespread access to resources and facilities in Seattle, each new potential location draws criticism over who it will attract. Friction surrounding the hygiene station program is exemplified by the outcry from the housed community surrounding and in proximity of the hygiene station placed at the West Seattle Junction [5]. This housing secure community has raised concerns about their quality of living being affected by the deployment of the hygiene station.

3.3. Funding and Cost Effectiveness

Funding to support the costs associated with renting, deploying, maintaining, and managing the hygiene station program was sourced by Seattle City Council and SPU. Requirements surrounding what funds were applicable to be used on the program, as well as how funds were allocated, were determined by both the council and SPU as well, and costs associated with the program were reported by employees overseeing program management at SPU.

The source of funding for the program was specifically aimed to avoid using money generated by ratepayers, meaning funds specifically allocated to running and maintaining public utilities such as water and waste. Restrictions on ratepayer dollars were abided by in the deployment of the hygiene program by SPU and PHSKC. These restrictions were enforced by an SPU employee in a semi-structured interview, who stated that

“Our utility can only spend money on utility purposes, meaning related to the services that we are supposed to provide to our customers. Providing general services is something that we have to make sure we avoid unless the funding is provided not from our ratepayer dollars, but instead by the general fund. Our funds are generated by ratepayers, and general fund dollars are generated by other sources, most often taxation. Utility ratepayer dollars cannot be spent on general purpose needs such as anything related to our clean city program or hygiene program, which are paid for by the general fund.”

Money dedicated to supporting the hygiene station program must come directly from the general fund, which receives taxation fees and related funds. Ratepayer dollars cannot be used to support general programs such as the hygiene station program, as these dollars are earmarked specifically for city utility operation and management.

The total cost of the hygiene station program, as well as the primary costs associated with the program were outlined by an SPU employee who had an integral role in the deployment of the hygiene station program. They estimated the total monthly cost of the program to be $120,000 USD (one-hundred-twenty-thousand US dollars) per trailer per month. The largest costs associated with the hygiene station program include monthly rent paid to the trailer rental company, employing maintenance and cleaning personnel for the upkeep of the hygiene trailers, daily hygiene station pump outs of wastewater and solid waste, and containing and processing waste from the units. According to SPU employees, waste processing includes the pump out and processing of approximately fifty wastewater tanks that hold fifty to one-hundred gallons of waste per day, which has become one of the largest costs associated with the hygiene station program. Minimizing the cost burden of the hygiene program on the general fund and finding avenues for cost effectiveness is at the forefront of future plans for the hygiene station program.

The cost associated with the hygiene station program are currently covered by the city of Seattle’s general fund; however, leaders are presently examining if deploying city built and owned hygiene stations is more cost effective than their current rental-based program. To reduce funding needed to support the hygiene station program, SPU has begun designing and building sink and shower units to eventually supplement and then replace the rented units, to eliminate costs associated with unit rental.

3.4. Location Logistics

Securing locations for hygiene stations that are accessible and essential to housing insecure populations is critical in the success and effectiveness of the hygiene program. An SPU employee described the way in which hygiene stations were made accessible to housing insecure and homeless populations by the hygiene trailer program organizers, saying

“We eventually understood that we needed a “structured delivery system,” which is accomplished by identifying hotspots and providing shower stations to those hotspots as they’re identified.”

Locations of hygiene stations were determined by first identifying “hot spot” areas of high incidence of homelessness (Fig. 1). These “hot spots” were then provided hygiene stations to support housing insecure communities in those areas. Determination of these locations was imperative to ensure accessibility of the program to housing insecure individuals.

3.5. Hygiene trailer maintenance, cleaning, and management

Trailer upkeep and maintenance has proven a challenge in the management of the hygiene program. In addition to daily facility wear and tear, the stations are in constant use with fast turnover to service as many clients as possible. To maintain the cleanliness of the stations and the operation of the unit appliances, SPU hired both maintenance and cleaning professionals to ensure the safety of the hygiene station clients. An SPU employee outlines this professional partnership, stating that

“In order to maintain and operate the hygiene units we have figured out a two-pronged approach. We are hiring for the operation of the shower trailers through the Millionaires Club. We contract the Millionaires Club, which is an organization who hires folks within the community to do wonderful work in the community. So we are providing jobs that pay living wages to folks in the community to help with management of the shower trailers, and the Millionaires Club is helping us implement the guidelines we have created for the shower unit program. We also have hired a cleaning service that cleans between every use of the shower units and hygiene trailers. For the units which are rented, we also have a contract with the rental company to do a daily pump out of waste and wastewater. We also have inspections that are carried out by our Utility and Parks multiple times a day.”

Partnering with companies such as the Millionaires club allows consistent and reliable maintenance of hygiene trailers and provides jobs to individuals within the community. Partnership with cleaning services to provide sanitation in between clients also proves beneficial to reducing the transmission of COVID-19 within the hygiene trailers [17]. In order to maintain the operation of the hygiene units and continue to provide hygiene services to homeless and housing insecure populations, partnerships with cleaning and maintenance companies have been necessary in the deployment of Seattle hygiene station program.

4. Discussion

The City of Seattle’s Hygiene Station Program was spearheaded and deployed by Seattle Public Utility (SPU), along with Public Health Seattle & King County (PHSKC), to increase city sponsored hygiene support to housing insecure communities in the wake of public and private hygiene facility closures [16]. The program has provided supplemental hygiene access in six “hot spots” areas around the city of Seattle that contain high levels of housing insecurity and homelessness [8]. In response to COVID-19 restrictions that limited access to private and public hygiene facilities, the city of Seattle implemented the hygiene station program to combat the further disenfranchisement of homeless and housing insecure populations. This study evaluated the hygiene
One of the largest challenges that the organizers of the hygiene station project encountered was the large negative response from housed communities living around locations where hygiene units have been deployed. Another challenge that organizers ran into was communication to housing insecure communities about the hygiene stations and making sure that homeless communities knew about and were taking advantage of the hygiene stations. Aside from fliers handed out at station sites, SPU reported that information surrounding the availability of hygiene stations is being spread primarily through word of mouth within the homeless and housing insecure population. Communication about hygiene stations through other cities and non-governmental programs such as food banks, shelter programs and illegal dumping programs (which aim to reduce waste in areas with high densities of homelessness) could potentially help spread awareness about the hygiene stations among housing insecure populations. This connection between programs could also lead to future partnerships between the hygiene station program and other service-related programs to support housing insecure communities.

Cost effectiveness and financial sustainability of the hygiene program is also an area which organizers of the program identified as requiring assessment and improvement. SPU is working on building and deploying their own stations to eliminate the costs associated with the rental of hygiene units. Additionally, there are opportunities to address current challenge of financing the hygiene program through the City’s general only by applying to grants (such as the Department of Housing and Urban Development’s Emergency Solutions Grant Program) or seeking state appropriations to provide matching funds for operating hygiene program interventions. Washington state communities managing large and growing populations homeless and housing insecure. Furthermore, SPU and PHSKC have an opportunity to collaborate with state universities to not only receive help on the design of new hygiene units, but also help finance the continued deployment and evaluation of hygiene stations.
Given the critical need for increased access to hygiene resources among housing insecure populations in Washington and the broader United States, these findings can be utilized to inform policy interventions targeting the unique hygiene needs of populations experiencing homelessness in urban settings. However, interventions such as this do not address factors influencing homelessness, and therefore do not affect the root cause of homelessness or upstream barriers to hygiene resources for people experiencing homelessness. Therefore, more research on how to reduce overcrowding and increases in the numbers of people experiencing homelessness is necessary, as these factors contribute to increased transmission of communicable diseases among homeless persons.

5. Public health implications

As a response to the further marginalization and disenfranchisement of homeless and housing insecure populations as a result of the COVID-19 (coronavirus of 2019) pandemic, Public Health Seattle and King County (PHSKC) and Seattle Public Utility (SPU) organized and deployed a mobile hygiene station program to support personal hygiene efforts by these populations. The hygiene station program intended to support housing insecure and homeless individuals by compensating for the large-scale closures of public restrooms and showers, as well as provide hygiene support for personal protection against contracting COVID-19 among these populations. Our analysis of the City of Seattle’s Hygiene Station Program revealed factors affecting the implementation of the hygiene program included the rental of hygiene trailers, community partnership to mediate between housed and housing insecure populations, funding sources and cost effectiveness, determining unit location, and maintenance of the units to continue population hygiene support. These results have important implications for other communities seeking to implement a hygiene intervention to address the hygiene needs of their housing insecure and homeless populations.

Ethical approval

This project received IRB approval from the XXX Human Subjects Division.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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