

March 18th, 2021

Homelessness and Vaccinations for Pandemics and Highly Transmissible Diseases

An Annotated Bibliography and Summary of Prior Research

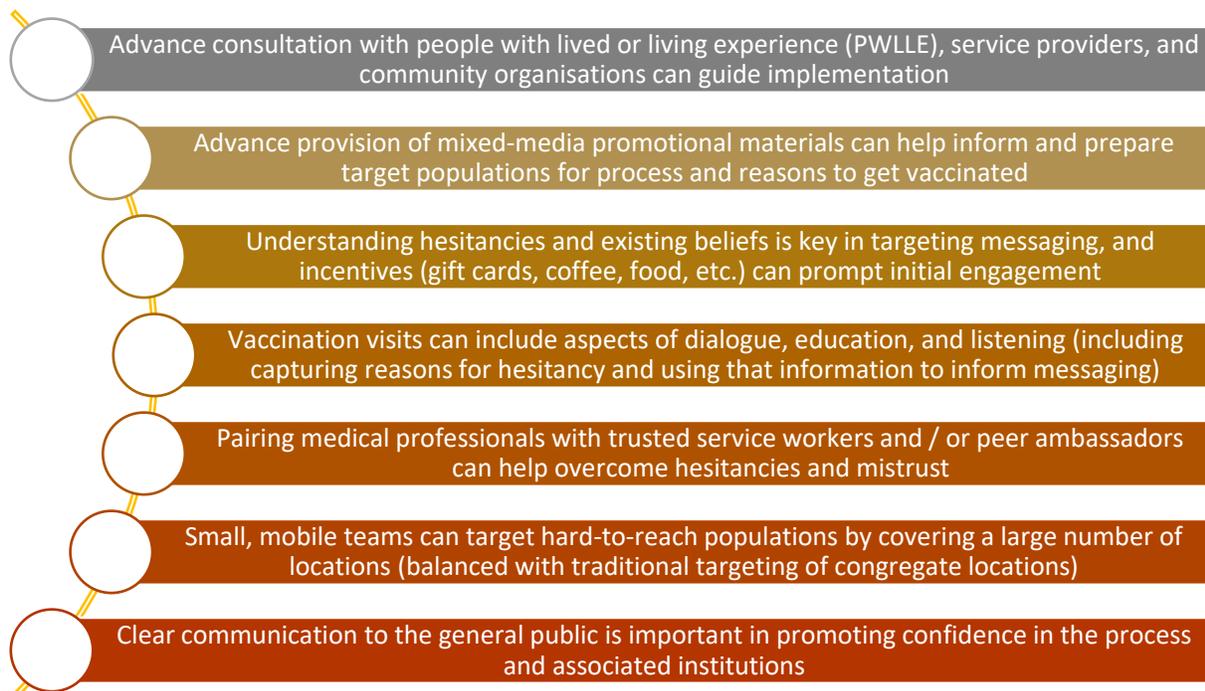
Kelowna Homelessness Research Collaborative (KHRC) | Kyler Woodmass

The below excerpts and citations stem from ongoing work by the Kelowna Homelessness Research Collaborative to review peer-reviewed literature at the intersection of homelessness and pandemics (or other highly transmissible illnesses, such as tuberculosis, influenza, etc.). Ten articles with key information related to vaccinations are summarized below. We have also included relevant passages from the Canadian Observatory on Homelessness' report on lessons learned during the H1N1 pandemic.

COVID-19 represents a uniquely expansive public health crisis with its own unique medical and logistical complexities and contexts, with a public health response that is rapidly developed, implemented, and adapted all in real time. Nevertheless, we hope these prior findings can prompt some opportunities for reflection, in terms of the ongoing planning and intervention to address this current challenge as well as in reviews and revisions of our emergency plans down the road.

Regardless of the individual regional contexts of logistics and regardless of the individual medical context of individual diseases, inquiry on these topics identify two recurring themes: 1) those experiencing homelessness and other vulnerable populations should be incorporated into vaccine planning, for a variety of reasons (see [CAEH Statement, Feb 2021](#)), and 2) "hard to reach" populations are better understood as "easy to miss" (see Article 9 below – [Vlahov et al, 2007](#)). Accordingly, successful implementation requires additional forethought, consultation, planning, and investment.

Overall recommendations and considerations include, but are not limited to:

- 
- Advance consultation with people with lived or living experience (PWLLE), service providers, and community organisations can guide implementation
 - Advance provision of mixed-media promotional materials can help inform and prepare target populations for process and reasons to get vaccinated
 - Understanding hesitations and existing beliefs is key in targeting messaging, and incentives (gift cards, coffee, food, etc.) can prompt initial engagement
 - Vaccination visits can include aspects of dialogue, education, and listening (including capturing reasons for hesitancy and using that information to inform messaging)
 - Pairing medical professionals with trusted service workers and / or peer ambassadors can help overcome hesitations and mistrust
 - Small, mobile teams can target hard-to-reach populations by covering a large number of locations (balanced with traditional targeting of congregate locations)
 - Clear communication to the general public is important in promoting confidence in the process and associated institutions

This work is part of KHRC's ongoing efforts to synthesize information relevant to the intersection of homelessness and pandemics. For additional KHRC content on this and other topics, refer to both our [Resources](#) page as well as our [Publications & Presentations](#). Likewise, stay tuned for our upcoming publication which discusses this intersection in greater detail:

- Babando J, Quesnel D A, Woodmass K, Lomness A, Graham J R. (*Accepted - Forthcoming, 2021*). Responding to Pandemics and Other Disease Outbreaks in Homeless Populations: A Review of the Literature and Content Analysis. [Health and Social Care in the Community](#).

The following is not intended to present official guidance on COVID-19 vaccinations. For your local health information in BC, refer to your [local health authority](#). For other regions, please refer to the [federal info page on COVID-19](#).

How to innovate for vulnerable populations: COVID immunization for people experiencing homelessness (Globe & Mail contribution, March 16 2021)

Monty Ghosh, Jeff Turnbull, Noni Macdonald, Andrew Bond And Aaron Orkin

[https://www.theglobeandmail-](https://www.theglobeandmail.com.cdn.ampproject.org/c/s/www.theglobeandmail.com/amp/canada/article-how-to-innovate-for-vulnerable-populations-covid-immunization-for/)

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- ... we need to **prioritize those experiencing homelessness** for vaccination.
- ... Second, a **targeted, flexible, contextual, and unique approach** to vaccination is required to meet the needs of this group
- ... the conventional vaccine campaign for shelters has operated a giant one-day blitz where public health and health care officials appear on-site as a complex and imposing circus. These blitzes are already underway in some Canadian cities, and while they are delivering vaccines, **they also contribute to vaccine hesitancy**, deepen fears of health authorities, and are having surprisingly limited uptake — sometimes well below 30%.
- Shelters need flexible access to immunization strategies using **small, mobile, and community-based teams**. Nimble teams providing services at a large number of locations quickly and inconspicuously allows for clients to warm up to the concept of vaccination.
- ... **leveraging existing trusting relationships** with this group is essential and can expedite the acceptance and administration of the vaccine. This can be accomplished by having front line shelter workers and shelter health providers, (i.e. those whom clients are already familiar with and regularly work with this population) give the vaccine, with public health workers providing support behind the scene...
- Information, education, and understanding with a highly skeptical and hesitant population involves a **multimodal approach**. With limited literacy, information regarding the vaccine can be shared using not only the **immunization ambassadors**, but also mixed media approaches

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including **infographics, videos, announcements, and posters** (4). **Safe and honest discussions** regarding the vaccine need to be conducted (5). **Myth-busting and debunking** along with strategies to enhance client motivation to obtain the vaccine can be the deciding factor if a client wants to obtain a vaccine or not.

- **Soft incentives** such as gift cards, meals, and coffee encourage vaccination exploration and perhaps eventually, vaccination uptake...

Report: Pandemic Preparedness & Homelessness: Lessons from H1N1 in Canada Compares the response and results in 4 cities: Victoria, Regina, Calgary, and Toronto

Buccieri, K., & Schiff, R. (Eds.). (2016). **Pandemic Preparedness & Homelessness: Lessons from H1N1 in Canada**. Canadian Observatory on Homelessness.

<https://www.homelesshub.ca/sites/default/files/attachments/LessonsfromH1N1-FullBook.pdf>

H1N1 Vaccinations and Victoria (p.94-95):

Several key factors facilitated the vaccination drive. First, clients of homelessness services were prioritized for early vaccination. Second, information about H1N1 and the vaccine was widely distributed to clients at popular services in a variety of ways, and clients were able to ask questions and raise concerns to both agency staff and street nurses if necessary. Third, vaccination clinics were held at services already frequented by people experiencing homelessness. Finally, vaccinations were administered by street nurses who had already built relationships and trust with clients. However, clients did recommend that services have more health care workers available to discuss vaccination issues with clients. Additionally, given the concerns expressed by service provider interviewees about low uptake among youth, a youth-specific vaccination strategy created with participation by youth with experience of homelessness may be required for future scenarios. As recommended by clients interviewed, peer resources should also be considered. Having youth peers available to talk with other clients can be an effective way to disseminate health information and support vaccination efforts.

Future planning efforts should consider how to best deliver vaccinations in more severe influenza pandemics. Many clients indicated they would avoid service facilities if the outbreak of H1N1 had been more severe. This suggests the strategy of facility-based vaccination delivery may be unsuccessful in the event of a more severe pandemic because of lower attendance at service facilities. As an alternative, mobile vaccination programs may need to be considered, for example, by delivering vaccinations in public places frequented by people affected by homelessness, such as parks.

H1N1 Vaccinations and Calgary (p.119; 124):

When clinics specifically intended for the homelessness sector were available, interviewees perceived inconsistencies with the vaccination rollout, with some agencies prioritized without a rationale being provided. Others saw a missed opportunity to increase efficiency in the distribution, as exemplified by the fact that despite the existence of clinical facilities in some agencies, they were not used as vaccination facilities: 'We could have been a centre for distribution at the start, but we didn't get it till December, and by then we were past the point of being effective.'

Of all the topics discussed in our interviews, the most contentious was the media report of the distribution of vaccinations, highlighted by long lines of people waiting to be vaccinated, lack of

adequate vaccination opportunities for chronically ill and elderly people, health workers not turning up to provide vaccination, body-bags (but not vaccine) being sent to nearby First Nations Reserves and the “queue-jumping” of the Calgary Flames and their families. All these contributed to a loss of confidence and mistrust felt by homelessness organization providers in the health system’s response to the H1N1 outbreak. All interviewees emphasized that people experiencing homelessness face many barriers to accessing preventive health care, which contributes to the spread of infections.

AHS authorities should provide timely, accurate information about and delivery of services such as immunizations, and access to these should occur in an equitable fashion, with homeless people included in the recognized “vulnerable populations.” The most challenging consequence with the H1N1 outbreaks was the erosion of confidence in the health authorities. Thus, the generation of confidence in the provincial government system to lead a coordinated pandemic plan is therefore essential.

H1N1 Vaccinations and Regina:

Several strategies were introduced in centres across Regina to enable clients to be vaccinated. These included bringing the service to the clients by offering an H1N1 vaccination clinic on-site and providing transportation to a vaccination clinic.

On-site clinics were offered by RQHR. Transportation was offered by agency staff or by RQHR. Participants believed this process was effective in reaching high-risk clients, helped control the epidemic and was an effective way of communicating information about H1N1 to clients.

All agencies disseminated information on locations and duration of vaccination clinics. Only one agency reported having an on-site clinic for two half-day sessions. This agency was a drop-in centre that dealt with people affected by poverty, not specifically homeless people, although the majority of their clients experienced absolute or hidden homelessness. The agency reported that if another pandemic were to occur, they would offer the clinic for a longer time period, as they estimated that less than 10% of their clients were vaccinated.

H1N1 Vaccinations and Toronto are summarized in more detail in the article below.

Homelessness & Vaccinations for Pandemics / Highly Transmissible Illnesses

A scan of 10 prior studies with related details and key recommendations

1. Buccieri, K., & Gaetz, S. (2013). **Ethical vaccine distribution planning for pandemic influenza: Prioritizing homeless and hard-to-reach populations.** *Public Health Ethics*, 6(2), 185-196.

<https://academic.oup.com/phe/article-abstract/6/2/185/1555903>

Abstract:

The manner in which limited vaccines are distributed during a pandemic is an ethical issue. The utility principle has been used to argue priority be given to certain individuals based on factors such as the epidemiology of the spread of disease and maintaining the functioning of society. The equity principle has been used to encourage fair practices that account for the economic and social costs of all decisions made. We argue that both principles are met through priority vaccination of homeless individuals, as this strategy protects a medically vulnerable population while reducing the chances of

transmission to others as they move through populated urban spaces. We begin by reviewing debates around ethical vaccine distribution. We then argue the homeless are a medically high-risk population who may contribute to the spread of disease through their mobility. As immunization rates are generally lower among the homeless and many do not access mainstream health care, we argue that community vaccine clinics must be used to reach these individuals. We provide support by analyzing Toronto Public Health's operation of vaccine clinics in shelters and drop-in centres during pH1N1 and conclude that this strategy is effective for immunizing homeless individuals, bringing together the equity and utility principles.

Key Details / Recommendations:

- *Our research shows that TPH's community-based strategy was effective not only at raising the immunization rate of homeless and underhoused individuals but also at increasing the rate to match the provincial and national levels as a whole.*
- *The strength of this program was its ability to bring accessible immunization clinics to homeless persons in Toronto, resulting in stronger relationships between TPH and the clients and staff within the homelessness sector.*
- *As part of this initiative, 3841 doses were administered to homeless and underhoused persons at 119 designated clinics in shelters, drop-in centres and community health centres frequented by homeless persons.*

For more information on Toronto and H1N1 see:

Toronto: 2009-2010 pH1N1 Influenza Pandemic Summary Report

<https://www.toronto.ca/legdocs/mmis/2010/hl/bgrd/backgroundfile-30493.pdf>

- *TPH introduced a time-ticket system to reduce time spent waiting in line, by assigning a time to return to the clinic*
- *In October and November 2009, TPH convened dialogues and round-table meetings to share information and hear from ethno-racial and Aboriginal community leaders; shelters, drop-ins, Out of the Cold and other agencies serving priority vulnerable populations; colleges and universities; and faith community leaders*

2. Weatherill, S. A., Buxton, J. A., & Daly, P. C. (2004). **Immunization programs in non-traditional settings.** *Canadian Journal of Public Health, 95*(2), 133-137.

<https://pubmed.ncbi.nlm.nih.gov/15074905/>

Background: The Downtown Eastside (DTES) of Vancouver is an inner-city neighbourhood of 10 square blocks where poverty, crowded housing, homelessness, poor nutrition and hygiene, chronic illness, and substance abuse put residents at risk for communicable diseases. The objective of the program was to minimize the burden of illness from vaccine-preventable diseases in this vulnerable population. This article describes the process and lessons learned to enable others to implement similar programs. Intervention: Influenza and pneumococcal vaccinations were offered in community settings to all persons living in, working in, or visiting the DTES by teams of public health nurses and volunteers in the fall of 1999. Hepatitis A and B vaccinations were offered in January/February 2000. All 4 vaccines were offered in Fall 2000, influenza vaccine alone was offered in Fall 2001 and 2002; and pneumococcal, hepatitis A and B vaccines were offered in June 2002. Results: During the initial 5-week influenza/pneumococcal immunization blitz, 8,723 persons were immunized; 79% received both vaccines. There was a reduction in visits for pneumonia to local emergency departments in the 3

months following this blitz. During the 5-week 2000 hepatitis A and B vaccination blitz, 3,542 persons were immunized; 58% received both vaccines. A reduction in reported cases of hepatitis A followed. Uptake of influenza vaccine was considerably reduced when offered in combination with 3 other vaccines. To maximize uptake, influenza vaccine was offered alone in subsequent years. Conclusions: Immunizations can be successfully delivered to high-risk inner-city populations in non-traditional settings, using public health nursing outreach in a blitz format.

Key Details / Recommendations:

- *To inform the community, a stakeholder meeting was held. Local physicians, clinic representatives, all agencies, mental health and large businesses in the area were invited. Media announcements were made and information posters distributed to planned immunization sites.*
- *A DTES storefront was rented as blitz headquarters. Twelve VRHB nurses and two nurses from the DTES street-nurse program volunteered to be seconded for the blitzes. The nurses received a two-day orientation, which included information on diseases, vaccines, adverse events, street drugs and lingo, harm reduction, mental health issues, safety and street-smart strategies.*
- *Forty resident volunteers were recruited from the DTES and received a half-day orientation. Volunteer roles included distributing posters, knocking on clients' doors and gathering demographic data.*
- *After orientation, teams of two nurses and one volunteer began the influenza/ pneumococcal blitz, visiting sites*
- *We found immunizations can be successfully delivered to high-risk inner-city populations in non-traditional settings, using public health nursing outreach in a blitz format.*

3. Coady, M. H., Galea, S., Blaney, S., Ompad, D. C., Sisco, S., & Vlahov, D. (2008). **Project VIVA: a multilevel community-based intervention to increase influenza vaccination rates among hard-to-reach populations in New York City.** *American Journal of Public Health, 98(7), 1314-1321.*

<https://pubmed.ncbi.nlm.nih.gov/18511725/>

OBJECTIVES: We sought to determine whether the work of a community-based participatory research partnership increased interest in influenza vaccination among hard-to-reach individuals in urban settings. **METHODS:** A partnership of researchers and community members carried out interventions for increasing acceptance of influenza vaccination in disadvantaged urban neighborhoods, focusing on hard-to-reach populations (e.g., substance abusers, immigrants, elderly, sex workers, and homeless persons) in East Harlem and the Bronx in New York City. Activities targeted the individual, community organization, and neighborhood levels and included dissemination of information, presentations at meetings, and provision of street-based and door-to-door vaccination during 2 influenza vaccine seasons. Participants were recruited via multiple modalities. Multivariable analyses were performed to compare interest in receiving vaccination pre- and postintervention. **RESULTS:** There was increased interest in receiving the influenza vaccine postintervention ($P<.01$). Being a member of a hard-to-reach population ($P=.03$), having ever received an influenza vaccine ($P<.01$), and being in a priority group for vaccination ($P<.01$) were also associated with greater interest in receiving the vaccine. **CONCLUSIONS:** Targeting underserved neighborhoods through a multilevel community-based participatory research intervention significantly increased interest in influenza vaccination,

particularly among hard-to-reach populations. Such interventions hold promise for increasing vaccination rates annually and in pandemic situations.

Key Details / Recommendations:

- *...staff conducted outreach to community members, organizations, and leaders; estimated the size of hard-to-reach populations in the target neighborhoods; and completed surveys to examine barriers to vaccination. Results from these surveys helped guide the intervention strategy.*
- *During phase 3, a team of 4 outreach workers and 1 clinician offered vaccination door-to-door in apartment buildings over 8 weeks. Phase 4 was designed to scale up, by aiming to vaccinate 1500 individuals in the remaining 4 neighborhood areas simultaneously during 10 working days*
- *Following 6 weeks of outreach efforts, 4 teams of 2 nurses and 4 outreach workers offered vaccination door-to-door, at street-based venues, and at CBOs [community-based organisations].*
- *At the neighborhood level, outreach workers distributed project informational flyers, a comic strip outlining common vaccination myths, and locations of free vaccine clinics to community residents via door-to-door and street-based venues. Materials were disseminated over the course of the project to raise awareness and visibility and to increase interest in vaccination. A project phone number was included on all materials and calls were answered during business hours*

4. Doroshenko, A., Hatchette, J., Halperin, S. A., MacDonald, N. E., & Graham, J. E. (2012). **Challenges to immunization: the experiences of homeless youth.** *BMC Public Health*, 12(1), 1-10.

<https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-12-338>

BACKGROUND: Homelessness is a critical social issue, both a product of, and contributing to, poor mental and physical health. Over 150,000 young Canadians live on the streets. Homeless youth experience a high incidence of infectious diseases, many of which are vaccine preventable. Early departure from school and limited access to public health services makes them a particularly vulnerable high-risk group. This study explores challenges to obtaining essential vaccines experienced by homeless youth. METHODS: A qualitative research study to explore knowledge, attitudes, beliefs, and experiences surrounding immunization of hard-to-reach homeless youth was designed. Participants were recruited for focus groups from Phoenix House and Shelter, a non-profit, community-based organization assisting homeless youth in Halifax, Nova Scotia, Canada. An experienced facilitator guided the recorded discussions. Transcripts of audiotapes were analyzed using a constant comparative method until data revealed a set of exemplars and themes that best captured participants' knowledge, attitudes, beliefs and experiences surrounding immunization and infectious diseases. RESULTS: Important themes emerged from our analysis. Considerable variability in knowledge about immunization and vaccine preventable diseases was found. The homeless youth in the study had limited awareness of meningitis in contrast to a greater knowledge about sexually transmitted infections and influenza, gained during the H1N1/09 public health campaign. They recognized their poverty as a risk for contracting infectious diseases, along with their inability to always employ known strategies to prevent infectious diseases, due to circumstances. They showed considerable insight into the detrimental effects of poor hygiene, sleeping locations and risk behaviour. Interviewed homeless youth regarded themselves as good compliers of health

professional advice and offered valuable suggestions to improve immunization in their population. CONCLUSIONS: To provide effective public health interventions, it is necessary to consider the knowledge, attitudes, beliefs, and experiences of hard to reach, high risk groups. Our study shows that homeless youth are interested and capable in discussing immunization. Active targeting of homeless youth for public health immunization programs is needed. Working collaboratively with non-profit organizations that assist homeless youth provides an opportunity to increase their knowledge of infectious risks and to improve immunization strategies in this vulnerable group.

Key Details / Recommendations:

- ... immunization is a low priority for homeless youth; finding food, shelter and employment is their pressing preoccupation.
- While there was wide awareness of influenza, there was some confusion about the differences between seasonal and H1N1/09 pandemic influenza
- Clearly, public information campaigns are effective in educating the hard to reach. Targeting the sites that are homeless youth-friendly, and using popular media to convey information about where immunizations can be obtained...
- Alternative facilities to deliver immunization to homeless youth should be considered... Public health providers might explore forging a working relationship with non-profit organizations caring for homeless youth who often have on-site nurses who could readily provide vaccine coverage to this vulnerable population.
- Vaccine education should also be made available to youth while in jail.

5. Castillo, E. M., Chan, T. C., Tolia, V. M., Trumm, N. A., Powell, R. A., Brennan, J. J., & Kreshak, A. A. (2018). **Effect of a computerized alert on emergency department hepatitis A vaccination in homeless patients during a large regional outbreak.** *The Journal of Emergency Medicine*, 55(6), 764-768.

<https://pubmed.ncbi.nlm.nih.gov/30316620/>

Background: While the overall incidence of hepatitis A has declined markedly since the introduction of a vaccine, sporadic cases and outbreaks of the disease continue to occur. Objective: Our aim was to evaluate the effectiveness of an electronic health record (EHR) provider alert as part of an outbreak-control vaccination program implemented in the emergency department (ED). Methods: We conducted a retrospective study assessing the impact of a Best Practice Alert (BPA) built into an EHR to prompt providers when a patient was homeless to consider hepatitis A vaccination in the ED. Data were collected over three 6-month time periods: a historical control period, a pre-intervention period, and an intervention period. Results: There were no vaccinations given in the ED in the historical period, which increased to 465 after the implementation of the BPA. During the implementation period, there were 1,482 visits identified among 1,131 patients that met the inclusion criteria. Of these, there were 1,147 (77.5%) visits where the patient either received the vaccine in the ED, had already received the vaccine, or it was not indicated due to the current medical issue. There were also 333 (22.5%) visits where the BPA was active for potential vaccination eligibility, but did not receive it in the ED. Conclusions: We leveraged an informatics tool developed within our EHR to identify high-risk patients and remind providers of the availability of vaccination in the ED. Using these tools enabled providers to increase vaccination efforts within our ED to help control the community-wide outbreak.

Key Details / Recommendations:

- *As part of the ED outbreak-control vaccination initiative, we created an automated computerized alert, or Best Practices Alert (BPA), embedded within the EHR (Epic Systems, Madison, WI) to prompt providers to order and administer the HAV vaccine for patients identified as homeless in the EHR. The BPA pop-up included quick buttons to order the vaccine or cancel the alert. If ordered, the ED pharmacist would also review for appropriateness by reviewing the county-wide immunization registry for prior vaccinations and either approve, cancel, or modify the order before administration.*
- *The local public health agency implemented a number of response efforts in addition to the ED effort, including direct outreach to homeless patients in the streets and shelters with mobile clinics and provider teams.*

6. Duncan, L. (2018). **A community clinic's response to a hepatitis A outbreak.** *American Journal of Infection Control*, 46(9), 1057-1059.

<https://www.sciencedirect.com/science/article/abs/pii/S0196655318300804>

The current hepatitis A outbreak in San Diego County, largely among homeless individuals and illicit drug users, prompted a community clinic to vaccinate at-risk patients. The clinic marshaled the efforts of multiple departments to educate and vaccinate 7,521 adults in 7 months. Strong support from executive leaders, coordinated efforts from various departments, and leveraged relationships with other community organizations and public health officials are key factors of a strong response to a public health concern.

Key Details / Recommendations:

- *Phone meetings between FHCS [Family Health Centers of San Diego] leadership and public health officials resulted in FHCSD homeless outreach workers partnering with San Diego County public health nurses (PHNs) who took hepatitis A vaccines to homeless encampments.*
- *Many homeless individuals who were encountered during vaccination efforts expressed distrust of vaccines and the vaccinators. Others believed they were able to keep themselves clean and were therefore not at risk. Pairing PHNs with outreach staff who were familiar to the homeless population increased trust levels, and some homeless individuals appeared later at their home clinics to be vaccinated by trusted caregivers.*
- *FHCSD homeless and other outreach workers raised awareness of several vaccination events at FHCSD clinics and participated in outreach efforts for a large county-sponsored vaccination event at the San Diego Public Library, where many homeless individuals congregate.*
- *Leaders at community service agencies were contacted to encourage clients and employees to get vaccinated at FHCSD clinics. Two clinics are located in homeless housing centers, and clinic leadership met with housing staff to plan vaccine clinics and raise client and staff awareness of the outbreak.*
- *PHNs were invited to offer vaccines during syringe exchange times of FHCSD's Safe Point Clean Syringe Exchange Program, resulting in the vaccination of dozens of syringe exchange participants. Medical assistants and physician staff went to one of the organization's freestanding behavioral health centers to vaccinate recovering drug and alcohol users who were receiving services at the clinic, and many clients were vaccinated. Behavioral health providers and HIV counselors at non-clinic sites also referred patients to clinic sites for vaccination.*

7. Kong, K. L., Chu, S., & Giles, M. L. (2020). **Factors influencing the uptake of influenza vaccine vary among different groups in the hard-to-reach population.** *Australian and New Zealand Journal of Public Health*, 44(2), 163-168.

<https://pubmed.ncbi.nlm.nih.gov/32101355/>

Objective: This report describes a mobile outreach influenza immunisation program for vulnerable populations in a resource-rich setting. It explores vaccine recipients' demographics, comorbidities and vaccination histories, and the factors influencing their decision to receive vaccine during outreach. **Methods:** Teams of nurse immunisers visited and provided influenza vaccines to clients from 21 sites (18 community centres for migrants, refugees and the homeless; and three outpatient clinics). Risk factors for severe influenza, vaccination histories and perceived barriers and facilitators to vaccines were collected from vaccine recipients. **Results:** A total of 1,032 vaccine recipients participated in the survey with responses collected from April to October 2018. Of these, 54% reported at least one risk factor for severe influenza. Sixty per cent of recipients had not received an influenza vaccine in 2017, with most of them reporting 'not worried about influenza' as a reason. Pregnant participants most frequently reported a healthcare provider's recommendation as the reason to receive the vaccine. **Conclusion:** An outreach program comprising of a means of taking vaccines to the population was a successful strategy to deliver influenza vaccines to high-risk populations. It needs to be considered in the full range of delivery models to improve influenza vaccine coverage, even in resource-rich settings. **Implication for public health:** Strategies reaching out to vulnerable populations are crucial to maximise vaccine uptake.

Key Details / Recommendations:

- *In 2017, The Southern Eastern Melbourne Primary Health Network (SEMPHN) and Monash Immunisation initiated a mobile immunisation project 'VaxReach' with the aim of identifying hard-to-reach populations and providing a mobile immunisation service to this population. Key stakeholders met and discussed priority populations and potential community sites that would benefit from this initiative.*
- *This pilot project demonstrated that with engagement and collaboration among key stakeholders, influenza vaccines can be successfully delivered to hard-to-reach populations at risk of severe influenza.*
- *In the population reached, awareness about the severity of influenza was the most common reason given that motivated the participants to receive the influenza vaccine. Similarly, being unaware of the severity of influenza infection was also cited as a reason for not having received the influenza vaccine previously*

For more information, see

Giles, M. L., Hickman, J., Lingam, V., & Buttery, J. (2018). Results from a mobile outreach influenza vaccination program for vulnerable and high-risk populations in a high-income setting: Lessons learned. *Australian and New Zealand Journal of Public Health*, 42(5), 447-450.

<https://pubmed.ncbi.nlm.nih.gov/30035839/>

- *One of the most important lessons learned from this pilot was the importance of adequate planning time prior to the arrival of influenza vaccines and the influenza season, especially when targeting hard-to-reach populations. Engagement with stakeholders, communication*

and allowing adequate time for advertising and explaining the service is essential for the success on the day of the site visit.

8. Metcalfe, S. E., & Sexton, E. H. (2014). **An Academic-Community partnership to address the flu vaccination rates of the homeless.** *Public Health Nursing, 31*(2), 175-182.

<https://pubmed.ncbi.nlm.nih.gov/24741686/>

Objective: The objective of this pilot research study was to explore the beliefs and barriers to flu vaccination from a sample homeless population in a small metropolitan community. Design and Sample In a collaborative academic-community partnership of a university undergraduate nursing education program, a local health department, and nonprofit agencies, a social marketing education program was developed by nursing students which included surveying the homeless for perceptions regarding flu vaccinations. There were a total of 87 homeless subjects that were surveyed. Measures The measurements were obtained from various questions regarding flu vaccinations on a Qualtrics survey examining the barriers, beliefs, and practices of the homeless population. The focus addressed health disparities and barriers with nursing students serving as the catalyst to reach the homeless in an educational service-learning project. Results This project demonstrated a positive impact in meeting health care needs of homeless persons as the rate of flu vaccination was doubled from the previous year at one community day shelter. Conclusions Nursing students developed their ability to impact a hard-to-reach population with positive changes in their attitudes by increased understanding of the health needs of the homeless.

Key Details / Recommendations:

- *The purpose of this pilot study was to explore the beliefs and barriers to flu vaccination from a sample with a homeless population in a small metropolitan community. In addition, this project sought to introduce nursing students to the process of developing a service-learning project with a social marketing campaign to address these barriers.*
- *Through the collaborative partnership of a university, a local health department, and community agencies a health education program was developed that demonstrated a positive impact in community health by nursing students. This project addressed health disparities with nursing students serving as the catalyst to reach the homeless.*
- *... through the use of a carefully developed educational social marketing campaign by student nurses, the homeless population may be reached in areas such as day shelters, community agencies, and public parks to present the benefits of receiving the flu vaccination.*
- *Additional findings from this study demonstrated that barriers to perception and receiving the flu vaccination can be addressed through dialogue with the homeless and compares positively to the work of Bryant et al. (2006), Doroshenko et al. (2012), and Vlahov et al. (2007).*
- *These findings from this study compare favorably to the comprehensive literature review conducted by Badiaga et al. (2008) who summarized current findings and reported that the most appropriate interventions for prevention of transmissible diseases was through education that was conducted with street or shelter-based interventions for targeted homeless populations.*

9. Vlahov, D., Coady, M. H., Ompad, D. C., & Galea, S. (2007). **Strategies for improving influenza immunization rates among hard-to-reach populations.** *Journal of Urban Health, 84*(4), 615-631.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2219560/pdf/11524_2007_Article_9197.pdf

Whereas considerable attention has been devoted to achieving high levels of influenza immunization, the importance of this issue is magnified by concern over pandemic influenza. Most recommendations for vaccine administration address high risk groups such as the elderly and those with chronic diseases, but coverage for hard-to-reach (HTR) populations has had less attention. HTR populations include minorities but also include other primarily urban groups such as undocumented immigrants, substance users, the homeless, and homebound elderly. Obstacles to the provision of immunization to HTR populations are present at the patient, provider, and structural levels. Strategies at the individual level for increasing immunization coverage include community-based educational campaigns to improve attitudes and increase motivation for receiving vaccine; at the provider level, education of providers to encourage immunizations, improving patient-provider interactions, broadening the provider base to include additional nurses and pharmacists, and adoption of standing orders for immunization administration; and at the structural level, promoting wider availability of and access to vaccine. The planning process for an influenza pandemic should include community engagement and extension of strategies beyond traditional providers to involve community-based organizations addressing Hard to reach populations.

Key Details / Recommendations:

- **Strategies at an Individual level**
 - *Community-based campaigns have suggested that targeted, culturally sensitive programs can increase immunization rates in HTR populations; many have emphasized partnering with leaders of community-based organizations to enhance rates in these groups*
 - *Another successful strategy used in public health programs in general was mobilizing trustworthy spokespeople, for example local sports figures or members of the clergy*
 - *Other research has shown that community-based campaigns, which involved community or faith-based locations, and which included educational materials that were culturally appropriate, could be successful*
 - *And the message mattered: results from one study suggested that vaccine acceptance was higher if the vaccine was viewed as beneficial for others, such as children and grandchildren*
- **Strategies at the Provider Level**
 - *There is evidence suggesting that patient reminders, provider education and prompting, physician incentives, and standing orders are effective ways to increase adult immunization coverage*
- *Traditional views of “hard-to-reach” populations should be revised so they are seen as “easy-to-miss”; problem solving to assure adequate coverage for this disenfranchised group is achievable*

10. Beers, L., Filter, M., & McFarland, M. (2019). **Increasing influenza vaccination acceptance in the homeless: A quality improvement project.** *The Nurse Practitioner Journal*, 44(11), 48-54.

<https://pubmed.ncbi.nlm.nih.gov/31651763/>

The US homeless population is predisposed to serious complications of influenza with increased likelihood of hospitalization and death. This quality improvement project sought to increase influenza vaccination in the homeless population of a rural area in the Midwest and improve provider knowledge of risks and preventive care responsibilities.

Key Details / Recommendations:

- *Distrust of the healthcare system and providers, the stigma associated with homelessness, and care processes that limit access to healthcare are three main reasons that homeless people delay healthcare. Identifying a place for care, having depression, and having at least one medical condition were associated with the willingness of the homeless to receive care.*
- *Two types of nonadherence to vaccination recommendations exist: **intentional nonadherence**, an active decision to not follow prescribed therapy; and **unintentional nonadherence**, a passive process that includes forgetfulness, scheduling conflicts, or lack of knowledge about vaccine efficacy and safety.*
- *The homeless population has a unique culture that shares values, habits, perceptions, beliefs, and often mutual support. The Theory of Culture Care Diversity and Universality, often referred as the Culture Care Theory, considers culture to be the blueprint for guiding actions and decisions.²⁸ This theory was used to guide the project in gaining gradual acceptance and trust from the homeless population group.*
- *The Culture Care Theory uses **enablers** or facilitative guides that help practitioners identify patients' core beliefs and cultural practices. This approach helps define and structure healthcare that is culturally appropriate for the patient. **Gatekeepers**, who are highly trusted group members, helped the practitioner gain credibility by association and their support. Use of the **Stranger-to-Trusted-Friend** enabler assisted the practitioner to become known as a healthcare provider who was committed to improving healthcare for group members. With this approach, the NP worked with several homeless group members to develop an influenza information sheet, using graphics developed by a previously homeless group member.*
- *During the initial project implementation, the refusal rate for influenza vaccinations was high, so a brief, six-variable, qualitative questionnaire was developed by the NP to help identify reasons for influenza vaccination refusal.*
- *This quality improvement project provided increased and convenient opportunity for influenza vaccination, but resistance to vaccination remained high. Vaccine hesitancy and resistance remains problematic and has a significant impact on public health.*
- *If trust in the healthcare system is lacking, misinformation about influenza is prevalent and available, and peers decline vaccination, there is a normal disinclination to follow recommendations.*