

Strategies for Successful Vaccination Among Two Medically Underserved Populations: Lessons Learned From Hepatitis A Outbreaks

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Traditional models of preventive care rely heavily on delivering services in established clinical settings. These settings might provide incomplete access for certain medically underserved populations, such as people who use drugs (PWUD), people experiencing homelessness (PEH), and people who are incarcerated or detained, because of either barriers in accessing care or past experiences of stigma and discrimination. Missed opportunities for delivering preventive vaccination services to medically underserved populations can lead to increased transmission, morbidity, and mortality. Between 2016 and 2021, widespread person-to-person outbreaks of hepatitis A across the United States—disproportionately affecting PWUD and PEH—highlighted both the challenges encountered and innovative solutions required in bringing preventive

services to medically underserved populations.¹

These same populations are disproportionately affected by the COVID-19 pandemic. Many PWUD and PEH have underlying medical conditions placing them at increased risk for severe illness from COVID-19, which underscores the importance of COVID-19 vaccination.² PEH often live in congregate facilities, and both PEH and PWUD are frequently incarcerated or detained in correctional facilities.^{3,4} In both settings, increased transmission of SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), the virus that causes COVID-19, has been well documented.^{5,6} When COVID-19 vaccine supplies were limited, states used a phased approach. Because of increased risks for people living in congregate settings, some public health departments vaccinated these populations earlier than the general

population (for additional reading, see the Supplemental References, available as a supplement to the online version of this article at <https://www.ajph.org>). Health departments implementing COVID-19 vaccination can adapt lessons learned from the recent hepatitis A outbreaks to reach medically underserved populations and prevent COVID-19.

Hepatitis A, a vaccine-preventable liver infection, is caused by the hepatitis A virus and is transmitted through the fecal-oral route.⁷ From January 2016 through March 2021, 35 US states reported person-to-person hepatitis A outbreaks; these outbreaks accounted for more than 38 000 cases, which is unprecedented in the postvaccine era.⁸ In response, health departments administered millions of hepatitis A vaccine doses (Centers for Disease Control and Prevention [CDC], unpublished data, 2021).⁹ CDC increased technical assistance to state and local health departments and compiled best practices for administering vaccines to PWUD and PEH. Here we describe successes in, challenges of, and strategies for increasing hepatitis A vaccine uptake among PWUD and PEH during outbreaks and their implications for COVID-19 vaccination in these populations.

ENGAGING THE POPULATION

Poor access, distrust of public officials and health care providers, previous experiences of stigma, and vaccine hesitancy can interfere with vaccine uptake among medically underserved populations. To effectively engage medically underserved populations, it is important to understand local attitudes, beliefs, and practices that contribute to

vaccination barriers. To help overcome mistrust, health departments have partnered with community-based organizations, local providers, and peer navigators who have long-standing, trusted relationships with medically underserved populations (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>). Vaccine acceptance during community vaccination events has improved as repeat events have been offered. Concerns about vaccine safety and efficacy or infection risk have been addressed through education and outreach materials.

ADOPTING INNOVATIVE VACCINE DELIVERY METHODS

The Section 317 Immunization Program (Section 317), administered by CDC, supports public health immunization infrastructure in the United States.⁹ Section 317 provides limited funding for states to purchase vaccines for underinsured or uninsured populations. It also provides operational funding to strengthen state immunization program infrastructure, ensuring better vaccine access and improving outbreak response. Because of limited funding, CDC-funded state and city immunization programs decide which vaccine products are purchased and made available to eligible individuals. Immunization programs then identify providers who can successfully distribute vaccines to eligible populations. Some states have provided supplemental funding to Section 317 programs during hepatitis A outbreaks to take advantage of lower federally procured vaccine pricing.

Federally Qualified Health Centers, community health clinics, Health Care

for the Homeless clinics, and local health departments are well suited to administer vaccines; however, prior to the hepatitis A outbreaks, many were not enrolled as providers that could administer Section 317 vaccine. Immunization programs enrolled new providers to increase vaccination coverage among PWUD and PEH. They also adopted nontraditional outreach methods to reach people who do not regularly seek care in traditional health care settings (Table A). Mobile vans and foot teams were used to conduct outreach in locations where vaccinating staff were unavailable and vaccine could not be shipped or stored on site (e.g., outdoor encampments, public libraries). Satellite clinics were used to offer vaccines to an entire facility (e.g., jail, homeless shelter). The goal of these methods was to reach people where they already received other social services, which has been demonstrated as effective in improving vaccine uptake.¹⁰

Many health departments found correctional facilities, and occasionally emergency departments, to be effective venues for reaching individuals at risk for hepatitis A. Partnerships with sheriffs' associations were helpful in establishing connections with local jails, where there is high turnover of PWUD and PEH coming from and returning to the community. Some immunization programs enrolled local jails or emergency departments as providers of Section 317 vaccine or purchased equipment, such as refrigerators and digital temperature monitoring systems, to allow facilities to independently store, administer, and track hepatitis A vaccine. In emergency departments, having a vaccination champion and using standing orders and automated electronic health record alerts were keys to success.¹¹

Given the long duration of community hepatitis A outbreaks, health departments used different surge staffing models and enrolled additional vaccinators to meet increased staffing demands (Table A). States and cities also expanded the scope of practice of pharmacists, emergency medical technicians, and other nonphysician providers to administer vaccinations.

TRACKING VACCINE ADMINISTRATION

An effective vaccine monitoring and evaluation plan can help track the success of vaccination efforts, identify opportunities for improved delivery, prioritize efficient use of limited resources, and ensure that vaccines reach the intended populations. State immunization information systems (IISs) have been used successfully during pediatric vaccine-preventable disease outbreaks for monitoring and evaluation. These systems can also be used to automate reminders and reduce unnecessary duplicate doses. Unfortunately, not all health departments have IISs, and many have encountered challenges using the systems to track outbreak-related hepatitis A doses.

As an example, infrastructure to report adult immunizations is less developed than for childhood immunizations. Also, interoperability between IISs and electronic health records is frequently lacking.¹² Moreover, participation by private pharmacies and providers is often voluntary in the case of adult doses; in 2018, the national estimated percentage of adults with one or more vaccinations documented in an IIS was 56%.¹³ When hepatitis A doses were entered, it was often not possible to record the type of event, the indication for vaccination, or individual risk

factors. This means that it was often difficult during an outbreak to monitor whether hepatitis A vaccine doses were reaching PWUD and PEH.

Health departments and CDC are working to improve IIS infrastructure. Meanwhile, health departments have developed simple, timely, and innovative solutions such as keeping a spreadsheet tally or administering a weekly local health department survey to gather aggregate vaccination numbers. Instead of tracking individual risk factors, health departments record the number of hepatitis A doses administered by event type (e.g., mobile clinic, foot team) or event location (e.g., syringe service program, homeless shelter), which still provides information on whether hepatitis A vaccine doses are reaching appropriate populations. Some health departments have used tablets or smartphones for timely tracking during field events and provided vaccine pocket cards to remind clients when to return for a second dose.

CONCLUSIONS

By engaging medically underserved populations, adopting innovative vaccine delivery methods, and creating flexible solutions to vaccine tracking, health departments have been able to reduce barriers and improve hepatitis A vaccine uptake. Two strategies were consistently successful across health departments during the hepatitis A outbreaks. First, meeting people where they are, a central strategy in harm reduction for PWUD, was the most successful approach employed by health departments. Second, establishing and strengthening partnerships with organizations that have trusted relationships with medically underserved populations was critical to success.

During the current pandemic, many populations in addition to PWUD and PEH are being disproportionately affected by COVID-19, and each state has the complex task of determining vaccination prioritization for these groups. Although approaches to implementation are constantly evolving, PWUD and PEH, particularly those living in congregate settings, were prioritized earlier in some states. Regardless of the prioritization scheme used, the underlying challenges of reaching medically underserved populations, such as distrust and stigma, remain. Lessons learned from hepatitis A outbreaks can help in delivering COVID-19 vaccine to and improving vaccination uptake among a variety of medically underserved populations, including PWUD and PEH.

Some strategies used during hepatitis A outbreaks have already been implemented for COVID-19. Health departments are leveraging and strengthening Section 317 infrastructure, and the Health Resources and Services Administration and CDC are engaging Federally Qualified Health Centers to reach medically underserved populations. Partnerships with trusted providers serving PWUD and PEH will be pivotal in reaching these populations and improving vaccine confidence.

Two COVID-19 vaccines currently administered in the United States require a two-dose series, so recording vaccinations in IISs is even more important to track series completion. Multiple reminder methods, such as vaccine cards, electronic health record alerts, and outreach teams, will be helpful to ensure second-dose follow-up.¹⁴ Protecting medically underserved populations from vaccine-preventable diseases will require continued long-term

investment in vaccination champions, administration infrastructure, IISs, community partnerships, and workforce capacity. *AJPH*

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CONFLICTS OF INTEREST

The authors have no potential or actual conflicts of interest to disclose.

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