



Last-Mile Logistics of Covid Vaccination — The Role of Health Care Organizations

The development, evaluation, and production of vaccines for Covid-19 was the remarkable success story of 2020; the challenge for 2021 is getting those vaccines into the bodies of a critical

For Covid vaccination in the United States, that last mile is a difficult one. About one third of U.S. “customers” are unsure that they want the product and are worried that vaccination might be made mandatory. Most of the others are worried that they cannot be vaccinated soon enough because of limited supplies and

Vaccination has gotten off to a faster start where there is tight integration among public and private health care stakeholders. Israel, for example, has universal insurance coverage and a nationwide digital network integrated with its public health system. Clinical data are available for every person, enabling segmentation of the population by age and medical condition and reliable communication with immunization candidates. Although Israel has failed to include most Palestinians in its vaccination program, by January 17, about 27% of Israeli citizens had been vaccinated,

The first task is earning the trust of people — both in the public and in the health care workforce — who are reluctant to be vaccinated. Though shrinking, this group is still sizable, particularly in the Black and Latinx communities, which have been disproportionately affected by Covid. The proportion of patients saying they were likely to get vaccinated increased from 39% during the week of October 15, 2020, to 64% during the week of January 3, 2021, according to a survey of

66,818 patients conducted by Press Ganey (where one of us is chief medical officer). Over that period, the proportion saying they were likely to be vaccinated was 60% among White patients but 36% among Black patients.

Vaccine skepticism is not based only on mistrust of systems by communities of color. There is also a core group of people who do not trust any vaccine, joined by skeptics who normally believe in vaccinations but have lost trust in the Food and Drug Administration because of the political pressure it faced to approve vaccines before the presidential election. Strategies and messages may need to be different for each of these groups.

In this context, clinicians have a critical role in addressing vaccine reluctance, in part because of lack of trust in alternative messengers. Between mid-November and early January, only 37% of Press Ganey survey respondents indicated that they had confidence in government advice on vaccination, but 67% said they had confidence in their clinician's advice.

So it was helpful that the first person in the United States to get vaccinated outside a research trial was Sandra Lindsay, a Black critical care nurse at Long Island Jewish Medical Center. Similarly, the first person in Florida to be vaccinated was Leon Haley, chief executive officer of the University of Florida at Jacksonville and a Black emergency medicine physician. Both volunteered to go early and be interviewed by the media because of vaccine resistance among Black Americans, and they highlighted that they were doing so because, as Lindsay put it, "I trust science."

Beyond symbolic public events, many organizations are also urging their clinicians to do the "door-to-door fighting" of assessing patients' attitudes toward vaccination and working to persuade those who are resistant. Some organizations are intensively surveying their workforces to understand and address where resistance is most intense. A few organizations are offering employees financial incentives to get vaccinated, but most are relying on behaviorally informed strategies for both employees and patients.^{2,3}

The second task is managing demand and immunizing people who are ready to be vaccinated. Health care organizations got a taste of the complexity of this task when they began vaccinating employees. In this relatively small population with whom interactions should be reasonably straightforward, organizations had to address the same issues they will face on a much larger scale in vaccinating the public, including communication, prioritization, and management of the vaccinations themselves.

For example, Geisinger Health System began planning its program for immunizing its workforce in March 2020.⁴ In addition to doing the basics, such as acquiring storage for the vaccines and setting up high-throughput vaccination sites with Covid precautions, Geisinger spent months developing and communicating plans for who would be immunized first. They developed a scheduling system for both doses of vaccine and staggered the scheduling of frontline workers within each department to reduce the impact of absences due to side effects. They developed a digital

application to manage registration, eligibility, and scheduling and integrated that into a multi-pronged communication program. And they made clear that unexpected issues would be communicated to their Incident Command Center, a small multidisciplinary group that could make decisions quickly for Covid-related problems.

Other large organizations took similar steps — though they didn't all work right away. At Mass General Brigham, 50,000 people tried to log onto the vaccination-scheduling app as soon as it went live; the app immediately crashed. Despite similar problems throughout the country, by early January, vaccination of caregivers was well under way and many organizations were planning for vaccinating first responders and the rest of society. Performing the same functions for patients as they have for their workforces will be a consuming body of work for many months, and organizations can succeed only if they are effective in the third and fourth tasks.

The third task is engaged communication with the public, aiming to go beyond answering "Frequently Asked Questions" to building trust. For example, the community-facing Covid-19 site of Hartford Health has both nationally sourced and locally relevant news items, videos, and podcasts about Covid-related issues, including testing, recovery, and vaccination.⁵ Patients can sign up for vaccine updates by text. The goal is to provide one-stop shopping for information in various formats and to allow patients to have information pushed to them.

Hartford Health's investment in this site reflects Covid-induced insights into the nature of trust.

Traditional health care is a high-stakes, low-frequency event, and patients are somewhat trusting because they are accustomed to the trappings of office visits and the social standing of clinicians. But in times of turmoil, trust can also be built through high-frequency, low-stakes interactions — such as going to an organization's website to get questions answered and needs met, reliably and with transparency about what is known and what is not.

Many of the unknowns can be addressed only by plunging into the fourth task: regional coordination with government and other institutions. Health care providers have had to innovate and improvise to fill the gaps resulting from a long-standing underinvestment in our public health system and the enormity of vaccinating every American rapidly. Working with local government to set up sites for vaccinations at locations such as sports arenas and shopping malls and publicizing prioritization frameworks are two key steps. Another is facilitating information flow. For example, Inter-

mountain Health developed an interoperable interface with the Utah immunization registry that gives clinicians from different health organizations real-time access to its patients' vaccine information — helping to ensure that people receive their second dose of the right vaccine at the right time.

These are just a few examples of the work needed to bridge the divide in the United States between private and public sectors and between health care and public health. The government may be purchasing, allocating, and distributing the vaccine, but last-mile logistics depend heavily on the private sector. Neither government nor private organizations can be successful on their own.

All four tasks represent new types of work for U.S. health care organizations, but the skills they learn as they adapt will make them better organizations in general. To be speedy and equitable in crossing that last mile, they have to build trust, manage operations well, communicate more effectively, and collaborate

with other public and private entities. Covid vaccination is providing a stress test that will help organizations prepare for other challenges that lie ahead.

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