Pandemic Vaccination

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Overview

Although pandemics occur infrequently, they have the potential to cause substantial morbidity and mortality, placing extraordinary demands on public health and health care systems. Vaccination is one of the most effective public health interventions to prevent potentially life-threatening diseases and plays a key role in the multifaceted approach of pandemic response. Effective distribution and administration of vaccines to protect against a novel virus are critical to protecting the public, helping the population reach herd immunity and eventually ending a pandemic.

Jurisdictional public health emergency preparedness and response programs are experienced and equipped to respond to infectious disease outbreaks. Yet the scope and speed of vaccination efforts against a pandemic call for optimized coordination and support by national, state and local officials. State policymakers can work with their state health agencies to identify policies that remove barriers and streamline access to and public confidence in a pandemic vaccine.

The process of developing new vaccines and eventually injecting doses into hundreds of millions of arms is incredibly complex, even with preparation. Despite decades of planning for an influenza pandemic, the nation’s policies to address the 2009 H1N1 influenza pandemic did not fully anticipate or address the particular circumstances that unfolded. During the COVID-19 pandemic, similar challenges—such as funding, limited state and local resources, workforce capacity and logistical issues with vaccine distribution and storage—slowed the rollout of the COVID-19 vaccine. The shared understanding and application of lessons learned by public health leaders and policymakers will continue to influence the successes and challenges of future pandemic response.

Based on research from past pandemics, the federal government has developed several resources and tools to help guide planning and response efforts, including for vaccine allocation and administration. Although these resources outline protocols for influenza pandemics, the strategies can inform responses to any infectious disease with pandemic potential. Vaccine policy considerations during pandemic responses to H1N1 and COVID-19 included similar approaches, such as targeting vaccination phases and priority groups to vulnerable populations, utilizing pharmacies and other partners to contribute to mass vaccination, and frequently and effectively communicating about vaccine safety and efficacy. State policymakers can play an integral role in these and other areas to ensure a smooth, efficient and equitable rollout of vaccines during a pandemic.

Policy Options

Mass allocation and administration of a pandemic vaccine is a major undertaking. State capacities to carry out certain functions—for example, to enroll providers for administration, conduct public education and outreach, set up temporary mass vaccination sites and track these activities—can determine the speed and success of a response. Policies that affect a range of related areas such as public health infrastructure, state vaccination plans, health care workers’ scope of practice and public outreach are all integral components to achieving widespread and effective pandemic vaccination.

Public Health Infrastructure and Funding

As with testing supplies and personal protective equipment distribution, many challenges with a massive vaccine rollout involve logistics around supply chains and states’ abilities to receive, store and distribute large amounts of vaccine. Many state responsibilities around pandemic vaccination surround infrastructure needs, such as receiving allocations from the federal government; managing systems for ordering, distributing and monitoring vaccines; and engaging with communities that may face barriers to access or be hesitant to receive the vaccine. While planning for COVID-19 vaccine distribution, a number of states cited lessons learned from H1N1, seasonal flu and other preparedness activities—such as recent hepatitis A outbreaks—which highlight the need to anticipate reporting capacity, respond to low public demand, and augment funding and resource logistics. Lawmakers may consider strategies to ensure adequate resources for programs and boost health system capacity.
Distribution Plans

The overarching goal in pandemic vaccination is to immunize all people who want a vaccine. However, vaccine demand is likely to exceed supply at the onset of a pandemic, and priority access is generally recommended for critical workers and groups at high risk of severe illness—for example, young children and pregnant women during the H1N1 pandemic, and older adults and people with medical conditions during the COVID-19 pandemic. The Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices provides updated vaccine recommendations and creates guidelines to inform vaccine use and prioritization. State and territorial health officials ultimately craft their own plans around who will be vaccinated first based on ACIP’s guidance and their state needs. State policymakers can play a role in this process by considering their population’s unique characteristics in planning and outreach efforts.

Underlying health and social inequities place many racial and ethnic minority groups at increased risk of certain diseases and play a role in considerations for vaccine distribution. Both H1N1 and COVID-19 disproportionately affected Black, Hispanic and Latino communities through higher infection rates, hospitalizations and deaths. People with developmental or intellectual disabilities may be at increased risk for illnesses like COVID-19, and many are homebound or receive care through congregate living facilities. Rural communities also face distinct challenges, including higher rates of some chronic diseases and limited health care access. These vulnerable or underserved groups already facing a higher risk of infection may encounter certain barriers accessing vaccines during a pandemic.

Distribution of pandemic vaccine and supplies


†VTicks is the Vaccine Tracking System and IIS refers to Immunization Information Systems.
Policies to address such state-specific populations may include strategies to engage vulnerable or underserved communities and provide outreach to those who distrust public health systems. CDC’s Social Vulnerability Index can help states identify areas of high need where vaccine efforts could be focused. Lessons learned from prior mass vaccination campaigns include efforts to utilize existing systems, leverage relationships with community groups, and provide up-to-date, transparent information using pre-established, evidence-based criteria in allocation.

Access and Administration

As vaccines become more widely available during a pandemic and more people become eligible to receive doses, ensuring the public can easily access vaccines can help achieve a more efficient public health response. To prevent costs from deterring individuals from receiving a vaccine, federal rules required private insurance and public programs to provide coronavirus vaccines free of charge. To help alleviate strain on the health care system during a public health emergency, bolstering the number of health care workers authorized to administer vaccines may further streamline immunization efforts. National public health agencies including the CDC identified pharmacists as key partners in the prevention and control of disease. As noted in other sections, pharmacists have the authority to administer certain vaccines in all 50 states, depending on the type of vaccine or the age of the patient, and may play an expanded role during a pandemic. Pharmacies offer a variety of unique benefits, such as expanded evening and weekend hours, convenient locations and vaccinations without an appointment.

In response to the 2009 H1N1 pandemic, states modified their scope of practice policies more broadly than in prior public health emergencies, primarily to increase the number of vaccinators available to meet demand. Pharmacists and emergency medical technician personnel were the two groups states most frequently addressed, though some states authorized other health care workers, including dentists and medical students, to administer the H1N1 vaccine. During the COVID-19 public health emergency, the federal government expanded access through amendments to the Public Readiness and Emergency Preparedness Act, by allowing qualified professionals such as licensed pharmacists, paramedics, dentists and veterinarians to order and administer coronavirus vaccines in every state. Modifying provider scope of practice laws, and certain programs—such as the Federal Retail Pharmacy Program for COVID-19 Vaccination—can help make pandemic vaccines more widely accessible.
State Examples

Public Health Infrastructure and Funding

The federal government allocated billions of dollars to state and local governments to respond to ongoing and emerging pandemic outbreaks during H1N1 and COVID-19.

Several states supplemented federal support with additional state funds during COVID-19, such as Michigan and Massachusetts—which provided millions of state general fund dollars to support the coronavirus vaccine rollout. Massachusetts lawmakers appropriated $1 million to support the design, development, implementation and oversight of a COVID-19 vaccine distribution plan, prioritizing culturally and linguistically focused public awareness campaigns. Michigan allocated more than $48 million to bolster health system capacity to manage the administration of coronavirus vaccines to all Michigan residents, and $2.6 million for administrative staff and contract support costs.

A similar bill in South Carolina appropriated over $100 million from the state’s Contingency Reserve Fund to administer the statewide coronavirus testing plan and expand statewide coronavirus vaccination capacity. This law allocated an additional $100 million to create a COVID-19 Vaccine Reserve Account to pay for the costs of administering the coronavirus vaccine and to reimburse staffing, facility rental, storage and transportation costs, including to purchase and staff mobile health units. In Georgia, an appropriations bill included funding to issue temporary permits for nurses to administer the coronavirus vaccine and monitor patients for any adverse reactions.

Distribution Plans

Most states followed ACIP’s guidance for COVID-19 vaccine allocation, although—especially beyond the initial 1A phase—several diverged from federal guidance and from one another by priority group designation and timeline. One common theme across state plans was the prioritization of health care workers, long-term care residents, teachers and other child care workers. All states’ COVID-19 vaccine distribution plans included older adults and those living in nursing homes in top priority phases. Some states explicitly prioritized people in congregate residential settings, communities of color or people with disabilities.

A National Governors Association analysis of state and territorial COVID-19 vaccine plans found most state plans utilized the CDC’s Immunization (IZ) Gateway, a portfolio of components to support the exchange of immunization data between immunization information systems and other organizations. In addition, many states outlined plans to use their National Guard to support vaccine distribution efforts through transportation and administration efforts. A law enacted in Pennsylvania directed the state National Guard to help plan community distribution and administration operations.

Several other states established allocation committees, task forces or advisory groups to make recommendations on vaccine allocation. The Maryland Vaccine Equity Task Force, for example, was created by the governor’s office and the state National Guard General to focus vaccination efforts on underserved, vulnerable and hard-to-reach populations. In Missouri, an Advisory Committee on Equitable COVID Vaccine Distribution partnered with community stakeholders to ensure accessibility at mass vaccination sites and to vaccinate the homebound, among other actions. The state’s Get a Ride resource provides a list of free and low-cost transportation options across the state to help Missourians find a ride to their vaccine appointment.

Some state legislatures created certain requirements for their state COVID-19 vaccine plans. Lawmakers in Virginia, for instance, enacted a law convening a work group to identify and develop plans to ensure coronavirus vaccines are equitably distributed across the state. Another Virginia bill required the state to include funeral service licensees as essential workers who are included in priority groups regarding access to PPE and vaccines. In California, a law required 10% of the first available doses to be offered to child care and K-12 education workers.

Access and Administration

During the H1N1 pandemic, some states modified scope of practice to increase the number of vaccinators to support mass immunization efforts. For example, the Illinois Department of Public Health issued a proclamation to authorize emergency medical technicians (EMTs) to administer H1N1 and seasonal influenza vaccines. The governor of Ohio issued a similar emergency proclamation to authorize qualified EMTs to perform H1N1 immunizations during the public health emergency.
Several states, including California, Minnesota, New Hampshire and New York, enacted legislation to expand pharmacists’ authority around COVID-19 vaccine administration before the first vaccines to protect against the coronavirus were authorized for emergency use. North Carolina included a process for authorizing pharmacists to administer a COVID-19 vaccine through a statewide standing order. As the vaccine rollout accelerated across states and localities, many additional states modified provider scope of practice for COVID-19 vaccines or during public health emergencies. For example, Indiana, Minnesota and Wisconsin authorized dentists to administer coronavirus vaccinations or other vaccinations during an emergency.

Virginia established a program to enable eligible health care providers to volunteer and undergo training to administer the coronavirus vaccine to residents. Under this law, an eligible health care provider—including a licensed provider, an employee of a pharmacy or hospital, or any health professions student enrolled in an accredited program who is trained in vaccine administration—may administer the COVID-19 vaccine during a state of emergency. South Carolina lawmakers authorized podiatrists to administer premeasured doses of the vaccine, in addition to several other providers, including optometrists; dentists; retired physicians, physician assistants or nurses; students enrolled in an accredited medical school, physician school or nursing program; or unlicensed personnel with current certification and documented training in intermuscular injections.

Mobile vaccination clinics provide increased accessibility to populations who live in rural areas, have trouble accessing transportation or otherwise face challenges leaving their home. Several states included mobile efforts to bridge gaps in COVID-19 vaccine access for high-risk or hard-to-reach populations. For instance, Colorado provided access to free rides to vaccination sites and established mobile COVID-19 vaccination clinics across the state. The Minnesota Metro Transit converted underutilized buses into mobile vaccination clinics and utilized state data, input from community partners and CDC’s Social Vulnerability Index to select locations. In Washington state, residents can fill out a form to request a home-based COVID-19 vaccination. Additional programs in states such as Delaware, Louisiana and New York offered mobile options for people who are homebound.

To help further ensure broad accessibility, California and New York enacted laws requiring paid sick leave for employees obtaining a coronavirus vaccine, including for workers experiencing related symptoms. Under the American Rescue Plan Act of 2021, employers may claim refundable tax credits that reimburse them for the cost of providing paid leave to employees who take time off related to COVID-19 vaccinations. While federal rules require coronavirus vaccines to be provided at no cost, some states pursued their own requirements. For example, bills enacted in Maine and Maryland required health insurance carriers to provide coverage for COVID-19 vaccines with no cost-sharing. In Minnesota, a law increased the Medicaid reimbursement rate for coronavirus vaccine administration.
Resouces

- State Action on Coronavirus, NCSL
- COVID-19: State Health Actions, NCSL
- State COVID-19 Vaccine Resources, National Governors Association
- COVID-19 Social Media Toolkit, CDC
- Characteristics of Homebound Older Adults: Potential Barriers to Accessing the COVID-19 Vaccine, Office of the Assistance Secretary for Planning and Evaluation (April 2021)
- Interim Updated Planning Guidance on Allocating and Targeting Pandemic Influenza Vaccine During an Influenza Pandemic, CDC (last reviewed 2020)
- Roadmap to Implementing Pandemic Influenza Vaccination of Critical Workforce, CDC (2018)
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- Pandemic Influenza Plan, U.S. Department of Health and Human Services (updated 2017)
- Assessing Policy Barriers to Effective Public Health Response in the H1N1 Influenza Pandemic, Association of State and Territorial Health Officials (June 2010)
- Preparing for a Pandemic Influenza: A Primer for Governors and Senior State Officials, National Governors Association (2006)