

Essential Elements of a Successful Mass Immunization Program

As the number of authorized COVID-19 vaccines expands and vaccine supply availability increases, mass immunization efforts offer promise in expanding vaccination capacity and increasing vaccination rates – a critical step toward ending the COVID-19 global pandemic. Rapid immunity will depend on mass immunization programs to complement the role of conventional immunization sites.¹

Leveraging the skills and expertise of the entire healthcare workforce in planning, executing, and communicating are key to a successful mass immunization program. As trusted voices in their communities, healthcare professionals must be visible in their commitment to ensure vaccine safety and successful immunization campaigns. This includes the role of the pharmacy workforce, which provides expertise in the medication-use process, including but not limited to provisioning, inventory management, preparation, administration, and staff and patient education related to medications and vaccines.

ASHP represents nearly 58,000 pharmacists, pharmacy technicians, and student pharmacists serving patients across the continuum of care in their communities. ASHP believes there are seven essential elements to ensure a safe, effective, and efficient mass immunization effort. This document seeks to highlight each while emphasizing evidence-based, best practices in the safe handling and preparation of vaccines for mass administration.

These recommendations were developed from insights shared by health-system pharmacy leaders who have marshaled and coordinated some of the largest and most successful mass immunization programs in the country. The sites represented are each responsible for administering up to 10,000 vaccines per day.



LEVERAGING THE SKILLS AND EXPERTISE OF THE **ENTIRE HEALTHCARE WORKFORCE** IN PLANNING, EXECUTING, AND COMMUNICATING ARE KEY TO A SUCCESSFUL MASS IMMUNIZATION PROGRAM.

¹ Goralnick E, Kaufmann C, Gawande AA. Mass-Vaccination Sites - An Essential Innovation to Curb the Covid-19 Pandemic. N Engl J Med. 2021 Mar 10. doi: 10.1056/NEJMp2102535. Epub ahead of print.



LEADERSHIP

Centralized, interprofessional leadership is critical for mass immunization campaign success.

Pharmacy executives at successful mass immunization programs highlight the importance of centralized leadership and clear command and control. During all phases of a public health emergency, pharmacy executive presence in a hospital or health system's emergency operations command center is pivotal. This is to ensure proactive planning and maintaining a secure, functional, and resilient health and public health infrastructure for a mass immunization program. Pharmacists have demonstrated leadership with many aspects of the vaccination program related to the medication-use process, from inventory and storage controls to vaccine preparation. Successful command center structures include pharmacist, physician, and nursing leadership, as well as leaders from operations, medical informatics, logistics, facilities, environmental services, and security.

LEADERSHIP RESOURCES:

- JAMA [Planning for a COVID-19 Vaccination Program](#)
- World Health Organization (WHO) [Implementation of Mass Vaccination Campaigns in the Context of COVID-19](#)
- Association of Occupational Health Professionals in Healthcare (AOHP) [Preparing for Mass Immunization/Prophylaxis of Healthcare Personnel](#)
- Assistant Secretary for Preparedness and Response, Technical Resources, Assistance Center, and Information Exchange [Mass Distribution and Dispensing of Medical Countermeasures](#)
- Federal Emergency Management Agency [Vaccine Support](#)



PLANNING

Scaling mass immunization programs requires deliberate and iterative planning.

Planning for several successful mass immunization programs began months prior to vaccine availability. Process mapping exercises completed by process engineers to optimize patient registration and throughput will increase efficiency. Pharmacy leadership supports the planning of vaccine storage and accountability, ancillary supplies, vaccine preparation, and medication waste.

In coordination and collaboration with the mass immunization program planning team, the pharmacy workforce contributes to the development of protocols and job action sheets to educate the vaccinator pool and provide clear tactical guidance on roles and responsibilities for specific job functions.

PLANNING RESOURCES:

- JAMA [Planning for a COVID-19 Vaccination Program](#)
- WHO [Implementation of Mass Vaccination Campaigns in the Context of COVID-19](#)
- American Pharmacists Association (APhA) [Planning and Conducting a Large-Scale Immunization Event](#)
- AOHP [Preparing for Mass Immunization/Prophylaxis of Healthcare Personnel](#)
- ASHP [Patient Surge Management During a Pandemic](#)



COMMUNICATION, COORDINATION, AND COLLABORATION

Transparent and consistent communication between leadership and vaccination-site personnel supports coordination and empowers collaboration.

A common theme among successful mass immunization programs is good communication, coordination, and collaboration. Command center leadership regularly communicates with vaccination-site personnel. Several pharmacy leaders at successful mass immunization programs called out the importance of daily huddles (in person or telephone calls) as a means of communication. Regular communication and coordination with the state health department are also important components of a successful mass immunization site.

External communication amplifies awareness of successful mass immunization efforts. A public relations team can ensure the public is aware that the mass immunization site is active and share resources for scheduling appointments. Social media and local media outlets promote the site while local healthcare professionals can address vaccine questions and improve vaccine confidence. Pharmacists and nurses are among the most trusted professions and represent an opportunity to improve trust in vaccine safety and efficacy. Many pharmacists practice in ambulatory and community settings and engage regularly in public health initiatives.

Pharmacists collaborate with other healthcare professionals and patients to provide education and/or training on vaccine reconstitution technique, design of syringe labeling, and providing vaccine and medication education.

INTERNAL COMMUNICATION RESOURCES:

- Agency for Healthcare Research and Quality [Improving Patient Safety and Team Communication through Daily Huddles](#)
- Institute for Healthcare Improvement [Situation, Background, Assessment, Recommendation Tool](#)

EXTERNAL COMMUNICATION RESOURCES:

- ASHP [Which Vaccine is Right For My Community](#)
- ASHP [Addressing Misinformation About the Effectiveness of the Johnson and Johnson COVID-19 Vaccine](#)
- ASHP [Principles for COVID-19 Vaccine Distribution, Allocation, and Mass Immunization](#)
- ASHP/American Nurses Association [COVID-19 Vaccine FAQ](#)
- Centers for Disease Control and Prevention (CDC) [COVID-19 Vaccination Communication Toolkit](#)
- CDC [Myths and Facts about COVID-19 Vaccines](#)



REGULATORY AND REPORTING COMPLIANCE:

The mass immunization program complies with state or local health department requirements related to vaccine reporting and personnel credentials.

Vaccine accountability and reporting are critical components of any vaccination program. Mass immunization sites require large inventories of vaccines and ancillary supplies. Site leaders familiar with state health department reporting for inventory tracking and vaccine administration reporting through Immunization Information Systems will streamline the flow of data.

Compliance also includes ensuring vaccinators and other personnel are appropriately credentialed for their respective roles at the vaccination site. This requires leadership to be aware of rules and expectations from state and local health departments, state licensing boards, and U.S. Department of Health and Human Services (HHS) amendments to the Public Readiness and Emergency Preparedness Act.

COMPLIANCE RESOURCES:

- HHS [Public Readiness and Emergency Preparedness Act](#)
- State health department and licensing board sites
- ASHP [COVID-19 Vaccine Storage, Handling, Safety and Security Guidance](#)
- United States Pharmacopeia (USP) [COVID-19 Vaccine Handling Toolkit](#)
- CDC [Immunization Information Systems](#)



SUPPLY CHAIN MANAGEMENT

Vaccine and ancillary supply accountability, storage, and security will avoid loss or waste of scarce resources.

Maximizing the number of vaccinations requires strict control of vaccine inventory to prevent loss and waste. Pharmacy leadership is responsible for vaccine cold chain storage operations and for daily planning and forecasting of vaccine quantities to ensure the appropriate amount of vaccine doses are thawed and prepared. Daily inventory counts and inventory management are reported according to state health department requirements. Each currently authorized vaccine has different storage and preparation requirements and pharmacists are best suited for managing vaccine inventories. Ancillary supplies also require proper management to ensure appropriate products are available to optimize vaccine preparation and administration.

Pharmacy leaders can support efforts to train and supervise personnel who handle and prepare vaccine doses. Vaccines must be prepared and stored according to emergency use authorizations and supplemental materials issued by vaccine manufacturers. Doses not immediately administered are labeled with appropriate information, including a beyond-use date, to optimize medication safety and minimize vaccine waste. Vaccine vials should be disposed of properly in accordance with federal, state, and/or local requirements.

INVENTORY RESOURCES:

- ASHP [COVID-19 Vaccine Storage, Handling, Safety and Security Guidance](#)
- USP [COVID-19 Vaccine Handling Toolkit](#)



VACCINE SAFETY

Safe vaccine handling and preparation practices will promote efficiency and reduce the risk of harm.

Pharmacist supervision of vaccine preparation will optimize efficiency and reduce risk of preparation errors. Vaccine doses should be prepared in a dedicated location away from patient administration areas, restrooms, or other environmental factors that may impact air quality. Workflow should be designed to incorporate independent checks to ensure vaccine dilution (when necessary) is completed accurately and that doses are drawn up and measured correctly. Vials and syringes should be labeled to prevent administration errors and to ensure beyond-use times are recorded and adhered to.

Vaccine safety includes monitoring after vaccine administration, including the on-site observation period and the v-safeSM after vaccination health checker. Patient participation in the v-safe program will help improve reporting of vaccine efficacy and side effects. Pregnant patients should also be encouraged to enroll in the v-safe COVID-19 vaccine pregnancy registry.

VACCINE SAFETY RESOURCES:

- ASHP [COVID-19 Vaccine Storage, Handling, Safety and Security Guidance](#)
- USP [COVID-19 Vaccine Handling Toolkit](#)
- ASHP, Institute for Safe Medication Practices (ISMP), USP [FAQ for Optimizing COVID-19 Vaccine Preparation and Safety](#)
- ISMP [Learning from Errors with the New COVID-19 Vaccines](#)
- CDC [V-safe After Vaccination Health Checker](#)
- CDC [V-safe COVID-19 Vaccine Pregnancy Registry](#)



STAFF RESOURCES

Personnel are trained and assigned roles according to qualifications and are provided resources to support organized workflows.

Vaccination site leadership is responsible for the scheduling of staff with the appropriate knowledge, skills, and abilities to perform their respective roles. Non-medical personnel can be deployed to register patients, check eligibility, provide directions, and assist in line queuing. Medical personnel can perform medical screening of patients and prepare and administer vaccines. Vaccination site leaders are also responsible for ensuring personnel are appropriately credentialed and trained for the assigned role.

Personnel preparing vaccine doses should be trained in aseptic technique and be familiar with the preparation requirements described in vaccine-specific emergency use authorization fact sheets.

Pharmacy direction and supervision can ensure vaccine doses are optimized by employing preparation techniques that avoid loss of vaccine from vials and maximize doses available in each vial.

STAFF RESOURCES:

- ASHP [COVID-19 Vaccine Storage, Handling, Safety and Security Guidance](#)
- USP [COVID-19 Vaccine Handling Toolkit](#)
- ASHP, ISMP, USP [FAQ for Optimizing COVID-19 Vaccine Preparation and Safety](#)
- CDC [COVID-19 Vaccine Training Modules](#)
- ISMP [Prevent Shoulder Injuries During COVID-19 Vaccinations](#)

ABOUT ASHP

ASHP represents pharmacists who serve as patient care providers in hospitals, health systems, ambulatory clinics, and other healthcare settings spanning the full spectrum of medication use. The organization's nearly 58,000 members include pharmacists, student pharmacists, and pharmacy technicians. For 79 years, ASHP has been at the forefront of efforts to improve medication use and enhance patient safety.

DISCLAIMER: *The information contained in this resource is emerging and rapidly evolving. ASHP has made reasonable efforts to ensure the accuracy and appropriateness of the information presented. However, given the evolving nature of the COVID-19 pandemic and distribution efforts in connection with the COVID-19 vaccines, any reader of this information is advised that ASHP is not responsible for the continued currency of the information, for any errors or omissions, and/or for any consequences arising from the use of the information in this resource. Any reader of this document is cautioned that ASHP makes no representation, guarantee, or warranty, express or implied, as to the accuracy and appropriateness of the information contained in this resource and will bear no responsibility or liability for the results or consequences of its uses.*

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