

RiskTopics

Temporary COVID-19 vaccination sites: risk mitigation

As the demand for the dissemination of the COVID-19 vaccinations increases, local and state government departments of health are asking private property owners to support setting up temporary vaccination sites for the general public, which may change a building's occupancy and premises risks. Risk mitigation planning for the temporary use of venues as COVID-19 vaccination sites requires property, premises, COVID-19 safety, clinical, and other considerations.

Introduction

COVID-19 vaccines will be delivered through doctor's offices, pharmacies, temporary clinics and locations normally managed by the private industry. Large office spaces, sports stadiums, malls and amusement parks are being incorporated as part of a significant public-private engagement for temporary use as vaccination sites.

The COVID-19 vaccine roll-out is a major undertaking and may create challenges of delivering and administering the vaccines at scale. The logistical hurdles and potential risks associated with using a venue in an alternative manner for immunizations are important to consider and special risk treatments will be required. The success of these efforts relies on coordination and collaboration among local and state public health departments, healthcare organizations, logistics providers, venue operations and community leaders.

This document offers guidance for property management and risk managers on the temporary use for public-private sponsored COVID-19 vaccination sites.

Discussion

The unique characteristics for each proposed temporary vaccination site should be reviewed. Consider the size, location (urban, suburban or rural), geography, duration of use, space availability, road access, parking, accessibility for the disabled, number of expected vaccines to be delivered, and reasonably foreseeable health risks. In addition to Centers for Disease Control and Prevention (CDC) guidelines and those developed by the vaccine manufacturers, there are some specific areas to consider when developing a vaccination site mitigation strategy.

Understanding accelerated immunization delivery

Accelerated immunization delivery involves providing vaccinations to a large number of people at one or more locations in a short interval of time. Relevant quality standards should address facilities and supplies, training of professional and paraprofessional staff, education of potential vaccine recipients and methods to screen them for contraindications to immunization, safeguards against anaphylaxis and syncope, documentation, safety surveillance and a quality-improvement program. Because of this, successful programs should include early planning that builds on existing competencies.

Site suitability and location evaluation

Site coordinators should evaluate the proposed location for suitability and possible exposures and vulnerabilities of each site considered for temporary use. The evaluation should include an assessment of the possible risks and exposures with consideration for protection, security, and other mitigation actions including slip, trip, and fall prevention as well as traffic controls.

General site design/areas for vaccination

For **walk-in sites**, the following provides an outline for potential areas of operation:

- Ensure at each stage of the process, social distancing is maintained.
- Walking surface safety to control slip, trip, and falls should follow the guidance provided at the end of this document.
- A registration/question and answer form completion area consisting of multiple tables and chairs. Healthcare professionals and other staff should be available in this area to answer questions.
- An area at the venue entrance where staff greet participants and direct them to a specific line. Staff in this area also might conduct an initial health and temperature screening.
- An area where staff directs persons waiting to be vaccinated to an initial station. Staff in this area also might conduct a health check, e.g., for contraindications to vaccination.
- A station for accepting or processing payment (may or may not be needed).
- An open area to line up for vaccination administration stations. At least some chairs should be available for persons waiting to be vaccinated. Chairs should be sanitized before use and between each occupant.
- Vaccination stations with tables for supplies and seats for providers and vaccine recipients. For large open areas, the stations should be enclosed by portable screens to provide vaccine recipients privacy during vaccination. There should be adequate space to place sharps containers (for used needles) and wastebaskets (for non-medical waste) close to where the vaccinations will be administered.

- A designated area for vaccine preparation by medical staff.
- A post-vaccination observation area with seating. Vaccine recipients may be asked to complete an immunization evaluation at this station. Provide appropriate space for surveillance of vaccine recipients for signs of acute adverse events for timely interventions.
- A private area (behind portable screens) where participants who experience acute adverse events after vaccination or who have medical problems can be evaluated and treated. Ensure adequate space is provided for staffing by vaccine providers to triage and address adverse events.
- An exit separate from the venue entrance. Evaluation forms could be collected as participants exit the site.

For **drive-through operations**, the vehicle areas of operations may include the following:

- Drive-through operations usually have between two to ten lanes with three to four stations per lane that include triage and screening, registration, shot dispensing, and recovery and discharge.
- Establish protocols to ensure vehicles are in “park” or turned off before immunizing occupants.
- A post-vaccination observation parking area. Vaccine recipients may be asked to complete an immunization evaluation at this station. Appropriate space for surveillance of vaccine recipients for signs of acute adverse events for timely interventions.
- A private area (behind portable screens) where participants who experience acute adverse events after vaccination or who have medical problems can be evaluated and treated. Ensure adequate space is provided for staffing by vaccine providers to triage and address adverse events.

Infection mitigation coordinator

The site coordinator should consider assigning one or multiple infection mitigation coordinators for the time that vaccination operations are ongoing. The designated staff should have appropriate medical and risk management knowledge to perform tasks such as:

- Coordinate with the designated Infection Mitigation Coordinator on how to communicate and help implement public health guidelines.
- Work closely with clinical and other venue operators to develop and implement event health plans.
- Verify that existing safety plans are modified for compatibility with new health plans.
- Help create staff training that applies current information about hazards and infection-control measures, including social distancing, handwashing, sanitizing gel dispensers, temperature checking, and disinfecting high-touch surfaces.
- Determine, in conjunction with the venue or event organizer, if a staff or vaccine recipient may safely enter the event space when there is a health concern.

Guidance

COVID-19 safety guidelines

At each site, apply reasonable precautions to minimize possible health risks to staff, providers, volunteers, consultants and vaccine recipients. Verify plans are in place should staff be on leave of absence, quarantined or infected. Examples include:

- Screen all staff before entering the venue by checking their temperatures and having them answer COVID screening questions.
- Screen vaccine recipients outside the venue perimeter. Staff should wear face coverings, gloves and medically-identifiable clothing such as scrubs while conducting a screening of vaccine recipients. Screening should include: no touch temperature check, visual screening for symptoms of possible infection, health screening questions, and a confirmation that the vaccine recipient meets the eligibility or tier requirements.
 - Anyone displaying a fever, exhibiting symptoms, or seen as a risk to others should be taken to a private area for a secondary screening. Staff or vaccine recipients who remain a concern to others should be denied entry and directed to appropriate medical care.
- All staff and vaccine recipients should wear a face covering. Face masks should not be placed on children under the age of two, anyone who has trouble breathing or is unable to remove the mask without assistance.
 - Include task-specific instructions on the required proper use of face covering for all staff.
 - In addition to face coverings and gloves, staff and volunteers should have personal protective equipment (PPE) appropriate for their work. Vendors and independent contractors should provide and use their own PPE.
 - Verify social distancing guidance is followed by including signs, banners and floor markers to instruct staff and vaccine recipients where to stand. Use shields as appropriate when the six-foot minimum distance cannot be observed and verify one-way traffic flow.
 - Where a task cannot be accomplished working alone, staff can limit their exposure by forming a work team in which people routinely work together, while keeping their distance from others.
- Verify the exposures for each staff role to identify the appropriate frequency of handwashing. Hands should be washed with soap for twenty seconds, and then dried thoroughly with a disposable towel or dryer. As a backup, staff may use sanitizer containing at least 60% ethanol or 70% isopropanol when a sink is not available. Staff should also wash their hands at the beginning and end of each shift and break, after using the restroom, sneezing, touching their face, blowing their nose, cleaning, sweeping, mopping, smoking, eating or drinking.
- Gloves made of vinyl or similar non-absorbent material that allows fine motor function without the possibility of contaminating the wearer's hands should be worn when conducting health checks on staff or vaccine recipients, and when using surface cleaning or disinfecting products. Staff should be trained on the proper use of gloves, including frequency of disposal and handwashing based on the staff member's specific duties.

- As soon as staff begins to set up for operations, surfaces and objects that are touched frequently should be regularly disinfected using products approved by the applicable health authority.
 - Verify adequate cleaning supplies are available so workspaces can be cleaned regularly and note the amount needed may be more than normally required. See EPA’s Registered Antimicrobial Products for Use Against Novel Coronavirus SARS-CoV-2 the virus that causes COVID-19.
 - Verify adequate controls have been developed for care, custody, and control of vaccines, supplies, equipment, and storage areas.

Vaccinations on a special event venue

Evaluate and implement steps to mitigate the risk of illness for staff, volunteers, vaccine recipients and other tenants. Documenting procedures and enforcing health policies will be beneficial to establish a duty of care to provide reasonably healthy and safe premises under these circumstances. Documentation should be created to verify that health and safety practices were followed at the correct intervals.

At a minimum, a walk-in venue should be a large, covered, public space that is close to a target population and accessible to elderly persons and individuals with disabilities. It should provide space and facilities for all immunization functions such as screening, registration, vaccine storage, vaccination, and post-vaccination observation/treatment. Ideally, the venue will allow people to enter and move straight through the stations to the exit, rather than having to circle back to the entrance. Additional information on venue and vaccination operations can be found below.

- Verify the venue has appropriate insurance coverage for this temporary use.
 - For clinical management and oversight, confirm that the managing clinical provider has adequate liability insurance that covers off-site immunizations.
 - Verify that the clinical management has adequate general liability coverage.
 - Individual policies for clinical staff or pharmacists may be advisable in addition to coverage through a company policy. The coverage minimums should be in line with your company risk management policies and aligned with industry norms as a minimum.
- Confirm that any required state and local permitting for the site is completed, and regulations are identified. This may include emergency or temporary ordinances, inspections, and site management.
- Where possible when vendors are used, consider incorporating health and safety requirements into their contractor agreements.
 - Staff should notify their supervisor and stay home from work if they have symptoms of acute respiratory illness consistent with COVID-19 — such as fever, cough, chills, muscle pain, headache, sore throat, or shortness of breath — that is not explained by another medical or allergic condition.
 - Request a copy of the cleaning and disinfection plan for any vendors using or bringing equipment on-site.
 - Verify appropriate levels of security screening are conducted on all personnel.

- Schedule training session(s) for staff and volunteers to explain roles and responsibilities. Training should include:
 - Command or supervision structure
 - Care, custody, and control of vaccines, supplies, equipment, and storage areas.
 - Describe the event setup and intended flow of vaccine recipients and vehicle traffic.
 - Discuss important general event policies, procedures and responsibilities including staff and vaccine recipient check-in procedures.
 - Develop a set of FAQs to provide answers to common and anticipated questions.
 - Review all appropriate personal protective equipment and hygiene requirements.
 - Review immunization, documentation and emergency management procedures.
 - Consider preparing a handout as a quick reference for staff.
- Drive-through operations allow people to wait in their vehicles, limiting virus transmission compared to walk-in operations. However, there are increased concerns with weather conditions; traffic, non-medical supervision in cars, difficulty in communication with people in their cars, and carbon monoxide exposure of staff and accessibility for those without cars. To reduce traffic issues for venues, considerations should include:
 - Post-vaccine adverse reaction observation parking areas.
 - A private area (behind portable screens) where participants who experience acute adverse events after vaccination
 - Location near major roads, highways, or freeways
 - Large access and exit points to support multiple lanes
 - Space to accommodate multiple lanes for dispensing
 - Adequate traffic control and safety plans to prevent traffic overflow onto adjacent transportation areas
- For high-volume sites, local governments may choose to provide support with vehicle and foot traffic planning and management to determine entry and exit points that are sufficient and safe for the expected flow of vehicles and people, including ADA accessibility needs and public transportation availability.
- Manage traffic flow with a well-thought-out process and use physical barriers (like Jersey barriers) to protect pedestrians.
- Verify good signage to direct both vehicles and pedestrians.
- Flaggers may be needed to direct traffic. Verify they are trained and have proper high-visibility clothing and signs.
- Consider traffic flow in and traffic flow out as mass-testing sites will often be areas like stadiums that are set up for large influx and large exodus at once, whereas this will require constant in and out traffic.
- Provide easy flow for pedestrians to reduce conflict of people coming in and leaving. Use designated entrances and exits to provide social distancing for reduced COVID-19 transmission.
- Consider peak flow times of vehicles to reduce backups on major roads.

- Coordinate with all parties to establish positive, practical and proportionate safety messaging and rules using websites, social media channels, registration sites, call centers, emails, mobile apps, push notifications, signage leading to the site, instructional photos, storyboards and videos.
 - Consider working with media contacts to carefully promote the event and provide clear instructions for registration, whether in person or online.
 - Ensure all staff and volunteers receive instructions on how to respond to likely COVID-19 or vaccination questions while walking along the line at ingress or among approved vaccine recipients waiting for service.
 - Any on-site announcements should be made audibly and visually to accommodate people with sensory challenges and different language skills.
- Electronic registration sites should require vaccine recipients to confirm they have read and agreed to comply with posted rules. Designated times and point of entry should be predetermined as much as possible for the vaccine recipients as a means to minimize lines and potential mass exposure and transmission.
- Efforts should be made for larger indoor venues to manage crowds, reduce occupant density and verify a well-maintained HVAC.
 - Additional space may be required to accommodate longer but less densely packed lines waiting to enter the venue. For example, in a six-foot social distancing model, up to 36 square feet per unrelated group will be necessary.
 - Use dedicated floor markers, highly visible gaff tape, rope barriers and/or stanchions on the floor of indoor space, and spray chalk, survey flags and cones for outdoor spaces, to mark six-foot separation.
 - If an ingress queue consistent with social distancing would cause the line to extend into a road or pedestrian walkway, consult with local public safety authorities to determine where to safely queue vaccine recipients while preserving emergency access.
 - To verify that vaccine recipients observe social distancing when leaving or returning to their vehicles, parking lot operators can mark out spaces between vehicles. If that is not possible, parking lot operations should emphasize the need for social distancing.
 - Staff should limit the occupancy of restrooms to verify social distancing. Unless portable restroom facilities are added, this will likely result in vaccine recipients waiting outside the restroom doors.
- Site coordinators and local governments should be prepared to provide support for vaccination sites including:
- Authorized administering entities to identify, monitor and provide security covering long wait times, targeted violence, possible sabotage, and other factors that may lead to security issues.
 - Authorized administering entities to identify, monitor and provide security covering long wait times, targeted violence, possible sabotage, and other factors that may lead to security issues.

- Determine needs and requirements for both active security with patrol officers and passive security with video surveillance.
 - Security staff and entry screeners should avoid touching items or vaccine recipients. Electronic passes can be scanned by ticket-takers wearing face coverings and gloves, or vaccine recipients could check themselves in at self-service kiosks outside the health and security screening area, if available. If physical contact is necessary, the staff should immediately discard the gloves, wash their hands and put on fresh gloves before resuming work.
 - Walk-through magnetometers are effective at detecting metallic objects while allowing security staff to maintain social distance. Hand wands are an option, but they require the security staff to be closer than six feet from the vaccine recipients. Pat-downs are least sanitary, and any staff conducting a pat-down search should wear a face covering and gloves and have access to a wash and sanitizing station.
 - For security reasons, bag checks may also be warranted to keep prohibited items out of the venue. To avoid touching vaccine recipients' personal items, organizers may wish to enforce a small bag policy in which vaccine recipients open their bags for inspection.
 - A policy should be in place for aggressive patrons. Security personnel should be trained in and encouraged to use de-escalation techniques as much as possible and refer to law enforcement when needed.
 - In drive-through operations, aggressive behaviors inside vehicles and enacted with vehicles should be anticipated.
- If connecting to the immunization information system, payment processing, etc., consider digital connectivity, infrastructure and information protection risks. Also, consider the potential for targeted cyber events and the potential vulnerabilities of temporary systems and connections.
 - If it is likely that participants will speak languages other than English, at least some staff members should be conversant in those languages or translation services should be made available.
 - Review disability accommodations with a local advocate regarding health screening measures, such as deaf vaccine recipients who read lips who may require screening from staff wearing a clear face covering or one with a see-through window over their mouth. Vaccine recipients whose disability makes them unable to wait in a long line may need a more expedited access procedure.
 - Delivery truck drivers should not leave their cab during offloading unless they receive the same screening and follow the same health procedures as other staff. Staff unloading deliveries should change their gloves and wash their hands between each delivery.
 - Emergency planning should include consideration of weather, power outages, security and human errors with these events operating outside of traditional medical or public health facilities. Review the location and use of portable generators, temporary lighting or pedestrian traffic stanchions.
 - The site coordinator should monitor weather conditions to protect people and vulnerable equipment.
 - If an evacuation, shelter-in-place or take-refuge order is required to protect against a fire, security or severe weather hazard, social distancing may not be possible in existing areas of refuge. Therefore, alternate assembly areas and more egress portals may be needed to mobilize a large evacuation.

- If additional shelter areas are not available, or egress capacity prevents social distancing during an evacuation, then outdoor event organizers may have to reevaluate decision thresholds.

Clinical guidelines for a temporary site

Traditionally, vaccinations are administered by healthcare professionals who are in public health department buildings, hospitals or retail pharmacies. However, like the approach used for COVID-19 testing, public health authorities may be utilizing nontraditional locations, such as amusement parks, sports arenas and parking lots to administer the vaccine. Additionally, local authorities may reach out to business partners to use space within their facility to establish vaccine administration centers.

Facility health and safety leaders will have to assess and identify potential risk concerns and develop risk control strategies to minimize exposure liability.

A large-scale immunization administration event requires three main types of personnel: healthcare professionals authorized to provide vaccinations, healthcare staff (i.e., pharmacy technicians, student pharmacists, pharmacy residents) with knowledge about vaccines and experience handling vaccines and preparing vaccine doses, and nonmedical personnel to fill a variety of support roles.

Staffing may vary based on the scope and scale of the operation. For example, four walk-in vaccination stations used over eight hours, administering 30 vaccinations per hour, may include as many as 29 personnel. Larger scale operations can be extrapolated from this. Conversely, a large drive-through facility with 10 lanes may include as many as 70 medical and non-medical staff per eight-hour shift. A drive-through site needs sufficient space to accommodate several vaccination lanes and their stations, a command post, an employee rest area, logistic and vaccination supply storage, IT and administration spaces, and safety and security vehicles and personnel.

Additional venue considerations to support clinical operations may include:

- A qualified individual designated to oversee infection control and prevention at the site.
- Adequate infection control supplies, including biohazard containers, PPE (including face masks, eye and face protection, garment coverings) and supplies for hand hygiene. Frequent handwashing will be essential. If administering injectable vaccines, adhesive bandages, individually packaged sterile alcohol wipes, a sufficient number of sterile needles and syringes and a sharps container should be provided.
- If using a standing order protocol, confirm the protocol is current and a copy is available at the site.
- Verify that a process for clinical screening for contraindications and precautions is in place.
- A sufficient number of vaccine information statements (VISs or Emergency Use Authorization [EUA]) forms, if required) for each vaccine being offered is available at the site.
- Encourage vaccine recipients to stay at the site for 15 minutes after vaccination to be monitored for adverse events.
- This is an especially important consideration at drive-through or curbside operations where drivers are being vaccinated.

- For walk-in operations, seats are provided so staff and vaccine recipients are at the same level for optimal positioning of anatomic site and injection angle to verify correct vaccine administration.
- To help minimize crowd size, the vaccine provider may utilize the vaccine schedule to stagger the number of recipients present for walk-in operations.
- All biohazardous material should be collected and disposed of properly.
 - According to OSHA fact sheet on “Protecting Yourself When Handling Contaminated Sharps,” the container must be appropriately labeled or color-coded red to warn everyone that the contents are hazardous. The containers must be closable, and the container once filled, must be disposed of according to local guidelines on disposal of hazardous waste. That fact sheet is available to download: https://www.osha.gov/OshDoc/data_BloodborneFacts/bbfact02.pdf
 - Staff administering the vaccine should be trained on proper techniques to minimize exposure to contaminated needles and on proper storage of those syringes and needles in the proper sharps containers.
- Clinical contingency plans for vaccine administration include:
 - A plan if vaccines need to be replaced if compromised before arrival at the site and for vaccine compromised during operations
 - A plan in the event of a shortage in personal protective equipment (PPE)
 - Any persons with a needlestick injury, a vaccine administration error, or an urgent medical problem should be evaluated immediately and referred for additional medical care if needed.
 - An emergency medical kit (including epinephrine and equipment for maintaining an airway) should be at the site for the duration of the operation.
 - Consideration for providing advanced emergency medical care for those experiencing adverse reactions beyond simple first aid, e.g., emergency medical support, transportation, etc.
 - All vaccination providers at the site should be certified in cardiopulmonary resuscitation (CPR), be familiar with the signs and symptoms of anaphylaxis, know their role in an emergency, know the location of epinephrine and are trained in its indications and use.
 - There is a designated area at the site for the management of vaccine recipients with urgent medical problems (e.g., fainting).

Storage and handling

The Centers for Disease Control and Prevention (CDC) and the Advisory Committee for Immunization Practices (ACIP) have provided guidelines for the storage and handling of the different types of vaccines. Each state, in partnership with local public health authorities, has developed its COVID-19 Vaccination Plan which adheres to CDC and ACIP guidelines to distribute the COVID-19 vaccine to anyone in the population who wants the vaccine.

Proper storage and handling of COVID-19 vaccine types (ultracold and/or frozen and refrigerated) is critical to maintaining its potency and protection in efforts to help prevent the spread of the virus. Vaccine cold chain conditions and the chain of custody should be maintained at all times according to manufacturer and CDC guidance. The cold chain begins with the cold storage unit at the manufacturing site and ends with the administration of the vaccine to the patient. Any disruption in the cold chain or exposure to inappropriate conditions can render the vaccine useless.

Key elements of an effective cold chain may include, but are not limited to, trained staff; storage and temperature monitoring equipment; and inventory management according to manufacturer, CDC, state and local guidelines.

Collaborate with your facility building management to complete a physical assessment of the vaccination area. Other considerations include:

- A designated clean area for vaccine preparation should be identified and set up before the site is used.
 - If more than one vaccine type is being administered, separate preparation stations should be set up for each vaccine type to prevent medication errors.
- Determine if the vaccine is to be shipped directly to the site and if temporary and adequate storage is intended to be used. (Direct shipment is preferred for cold chain integrity.)
 - If so, adequate power, emergency power and security should be considered.
 - If vaccines are stored offsite, they will be transported using a portable vaccine refrigerator or qualified container.
 - The amount of vaccine transported should be limited to the amount needed for the workday.
- Upon arrival at the venue, vaccines should be immediately unpacked and placed in proper storage equipment (i.e., a portable vaccine refrigerator or qualified container and pack-out).
- According to the CDC, “Store vaccines in their original packaging with lids closed in separate containers until ready for administration to protect them from light and provide additional thermal stability/protection.”
- The viable, unused vaccine should be placed back in proper storage equipment that maintains the manufacturer-recommended temperature range at the end of the day.

For additional guidance, refer to the CDC’s Vaccine Storage and Handling Toolkit:

<https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/index.html>

Additional exposure: carbon dioxide (CO₂) risk

- The use of dry ice may predispose vaccine providers — packers, transporters, storekeepers and healthcare personnel — to carbon dioxide exposure in enclosed spaces. CO₂ exposure may cause symptoms such as headache, fatigue, asphyxia and frostbite. A person’s response to CO₂ inhalation may vary greatly.
- Pfizer’s COVID-19 vaccine requires ultra-cold temperatures during shipment and will arrive in a dry ice shipping container. Personnel will need proper personal protective equipment (PPE) such as respiratory protection, insulated gloves and safety goggles, and training on how to handle dry ice safely.
 - Dry ice should be stored in a well-ventilated room. Facilities should monitor CO₂ levels for indoor air quality according to OSHA guidelines. Refer to CO₂ provider’s Safety Data Sheet (SDS) for additional guidance on first aid and accidental release measures.

Property guidance

When preparing a temporary vaccination site, consider the following measures from a property protection perspective.

Management practices

The temporary vaccination site may cause an interim occupancy change and a temporary increase in occupant load in portions of a location. With these changes, consider:

- Housekeeping – Specifically, consider the management of wastes generated by the stand-up site including:
 - Ordinary trash
 - Provide non-medical waste receptacles for use by visitors.
 - Provide staff to collect non-medical waste deposited in trash receptacles.
 - Store non-medical waste removed from receptacles following established practices.
This means transferring non-medical waste promptly to larger dumpsters or trash compactors. Limit trash stored in the building to five-feet high. Increase this limit to 10 feet in areas known to be protected by ordinary hazard sprinklers (areas such as loading docks).
 - Biohazardous waste
 - Verify plans for biohazardous waste receptacles to collect vaccination-related waste in the injection area.
 - Verify plans for the storage of biohazardous waste removed from the injection area to await disposal. As biohazardous wastes may involve more plastics than ordinary trash, limit biohazardous waste storage to five feet.
 - Verify plans for daily removal of biohazardous waste.
- Smoking controls – Extend the location’s smoking policy to apply to visitors. This includes those dispensing and receiving vaccinations.
 - For “No Smoking” locations, post additional “No Smoking” signs in areas where visitors will be present.
 - If there are “Smoking Permitted” areas and those areas will be made available to visitors, provide signage for the “Smoking Permitted” areas as well.
- Impairment management – Avoid impairments during vaccine injection hours. This includes impairments to fixed fire protection systems (such as sprinklers) and fixed fire detection systems (such as smoke detectors and fire alarm notification appliances).
- Visitor management – Provide signs to guide visitors receiving a vaccine injection. For example:
 - Post signs to guide visitors along the appropriate path in and out of the facility.
 - Post “Do Not Enter” or similar signage to advise visitors of access restrictions.

Building utilities

The vaccine stand-up site will likely need to use various location utilities in support of their operations. For utilities, consider the following:

- Artificial illumination – It is anticipated a location selected for a stand-up site will already be following local codes for both normal and emergency lighting.
 - Consult with the vaccine injection staff, to verify the normal lighting levels provided for the existing occupancy are also suitable for the planned temporary occupancy.

- Verify emergency lighting is installed and maintained following the latest edition of NFPA 101®, Life Safety Code®:

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=101>

- Electrical connections – Review the adequacy of the electrical system to meet the potential increased demand for temporary electrics. Consult with a qualified electrician.

- Temporary electrics – Where temporary electrics are needed, consult with a qualified electrician and follow the guidance of the latest edition of NFPA 70®, National Electrical Code®:

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70>

- Emergency power – Emergency power may be provided by batteries or emergency generators.

- Where provided, verify back-up batteries are inspected, tested and maintained. For fire alarm systems, follow the guidance of the latest edition of NFPA 72®:

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=72>

- For battery-operated emergency lighting, follow the guidance of the latest editions of NFPA 70, National Electrical Code, and NFPA 101, Life Safety Code (see links above).
- Where provided, verify emergency power systems are inspected, tested, and maintained.
- Follow the guidance of the latest edition of NFPA 110, Standard for Emergency and Standby Power Systems:

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=110>

- Temporary heat - Avoid temporary sources of heat inside and outside of buildings. Where patio heaters are used outside, follow the guidance of the latest edition of NFPA 58, Liquefied Petroleum Gas Code:

<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=58>

Emergency response team (ERT)

Hosting a stand-up site for vaccine injections could lead to added temporary duties assumed by location staff also assigned ERT duties. Take time to verify any added duties will not compromise previously established ERT duties. For example:

- Will additional staff be needed in addition to the normal ERT to help with the stand-up site evacuation during emergencies?
- Will ERT staff still be available to report emergencies, meet and guide arriving emergency responders, manage utilities and more?

Emergency response, additional considerations

When hosting a temporary site for vaccine injections, take time to consider the additional emergency response challenges such as:

- Maintaining emergency access for arriving emergency responders
- Anticipating the challenges of moving all visitors from the building to the public way. Consider:

Keep visitors as close as possible to street-level. This will minimize their overall travel distance to a public way.

- Verify exits are marked, visible and accessible.
- Confirm the number and capacity of exits will not be exceeded. Follow the guidance of the latest edition of NFPA 101, Life Safety Code (see link above).
- Consider where evacuees will assemble once they reach the outside of the building. Consider locations away from hazards and locations that avoid obstructions to exits (so others may evacuate the building) and arriving emergency responders.
- Consider processes to track post-vaccine recipients during an evacuation process to ensure the ability for post-vaccine observation.

Site slip, trip and fall prevention guidance

To control slips, trips and falls (STFs) in vaccination sites, it is important to evaluate key exposure risks that may be present and implement controls that may result in a reduction in STF injury frequency and severity.

- *Surface composition* refers to the type of floor or exterior walking surfaces installed and the coefficient of friction or slip resistance the surface provides. Surfaces such as natural stone, broom-finished concrete and carpet normally provide adequate slip resistance, while hard smooth surfaces — such as vinyl composition tile, ceramic tile, terrazzo, marble and granite — may appear slip-resistant when dry but could be quite slippery when wet. When possible, choose areas/rooms/facilities with surfaces with higher slipresistance. The more slip resistant the walking surface in the area being used, generally the lower the exposure to a slip, trip and fall incident. Many occupancies are placing stickers on floors to designate physical distancing. Assure that if stickers are used, they will not increase the slipperiness of the floor surface.
- In addition to the *floor surfaces* in the building/rooms chosen for the vaccination center, also consider the walkways to and from these rooms. Raised or recessed sidewalk edges or curbing, potholes in parking lots, painted surfaces, loose carpeting, loose or broken tiles, holes or pits on the surface, or unusual wear. Poor surface conditions will increase the likelihood of a slip/fall incident. Review these surface conditions as you consider areas to be used for vaccination sites.
- *Foreign substances* may be present on the walking surface and adversely affect the slip resistance. Items to consider include ice, water, liquids, powders, grease or any substances that could be tracked into the building or spilled in the vaccination area. The higher the potential for foreign substances to be present, the higher the exposure for a slip, trip and fall incident. Consider the use of walk-off mats at building entrances to minimize the tracking of water, snow or ice. Review surfaces periodically to identify potential spills that could cause a slip/fall incident. Also, control the types of and quantities of liquids in the vaccination centers to minimize potential spills. Soft drinks, water and vaccines may spill if mishandled and create a slip hazard.
- *Level changes* along the path to/from the vaccination areas may also represent a slip/fall risk. Generally, significant level changes are defined as floor or exterior walking surface height changes of three or fewer steps or ramps that have an unusually steep slope. Level changes can be particularly worrisome when considering the varying ages and levels of disabilities of individuals that may seek access to the vaccination

center. Review the room/spaces to be used along with the paths of travel to/from the rooms to assure that level changes can be navigated by all the persons expected to utilize the spaces.

- *Obstructions* are another consideration and consist of anything that may protrude into the normal walking path and can contribute to the likelihood of a slip, trip or fall. They include items such as extension cords, hoses, portable freezer storage, concrete posts, parking lot bumpers and temporary storage/holding areas. Factors to consider include the proximity to pedestrian traffic areas and the permanency of the item. The presence of potential obstructions should be reviewed, and obstructions minimized as much as possible. It should be expected that persons coming to the vaccination center will not be familiar with obstructions, such as power cords between treatment rooms. Consider using cord guards or, lacking that, adhesive tape to secure obstructions and minimize the potential trip hazard.
- *Adequate visibility* is important and lighting levels should be sufficient to allow those accessing the vaccination center to clearly see the floor surfaces and any signage that may direct persons to the center. Poor visibility increases the adverse impact of surface changes, level changes and a pedestrian's ability to see potential obstructions. This is particularly important given the potential age demographics of early vaccine recipients.
- It is a reasonable assumption that some people coming to the vaccination center will have different physical capabilities and may need wheelchairs, walkers or canes to assist with ambulation. Assuring the pathway to the vaccination center can easily accommodate individuals with differing physical capabilities is important. It is expected that there will be a wait time to access the center. Railings along walkways must be sturdy if persons lean against them during the wait time. Consider sturdy chairs spaced along the waiting line to allow some individuals waiting in line to sit for a short time.
- If *stairways* are present in the path to the vaccination center, confirm that step geometry is uniform to prevent missteps and tripping or falling. Confirm handrails are uniform around stair corners and do not present an exposure in which users are searching for the next section of the railing. Handrails should be secure and easily grasped. Stair treads should be slip-resistant, well maintained and free of defects. Assure there are alternate ways of accessing the vaccination center for individuals with disabilities. Any escalators and elevators need to be considered, too. When not in operation, escalator steps do not generally meet the standard step geometry for stairs, which could increase the exposure for a slip, trip or fall. Elevator thresholds should be level with the elevator carriage at each level and be slip-resistant.
- *Portable tables and chairs* will likely be used in the vaccination area. Choose one-piece chairs (such as those used for banquets) rather than folding chairs. Given the varying sizes and disabilities of persons coming to the vaccination center, chairs and tables that will not easily collapse should be chosen.

Conclusion

Immunization with a safe and effective COVID-19 vaccine is a critical component in restoring societal mobility, reducing COVID-19-related illnesses, hospitalizations and fatalities. For mass vaccination sites, establishing the operational protocols and understanding appropriate risk mitigation measures is critical in contributing to the overall level of success. The types and locations of sites used for immunizations will increase as more COVID-19 vaccine becomes available for distribution. Support and planning around temporary venues, doctor's offices, pharmacies and temporary clinics as part of a large-scale, public-private partnership will continue to be requested.

More information, planning assumptions, and additional guidance will be released and updated regularly by the CDC at <https://www.cdc.gov/vaccines/covid-19/planning/index.html>.

References:

American Pharmacists Association (APhA–ASP). Planning and Conducting a Large-Scale Immunization Event. https://www.pharmacist.com/sites/default/files/832113R0_APhAEventGuide3.pdf.

Asgary A, Najafabadi MM, Karsseboom R, Wu J. A Drive-through Simulation Tool for Mass Vaccination during COVID-19 Pandemic. *Healthcare (Basel)*. 2020 Nov 9;8(4):469. doi: 10.3390/healthcare8040469. PMID: 33182336; PMCID: PMC7711491.

Centers for Disease Control and Prevention. “Dry Ice Safety For Healthcare Professionals (2021). <https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/downloads/dry-ice-safety-hcp.pdf>

Centers for Disease Control and Prevention, Guidance for Planning Vaccination Clinics. 2021. <https://www.cdc.gov/vaccines/hcp/admin/mass-clinic-activities/index.html>.

Centers for Disease Control and Prevention, Interim Playbook for Jurisdiction Operations. 2020. https://www.cdc.gov/vaccines/imz-managers/downloads/Covid-19-Vaccination-Program-Interim_Playbook.pdfEvent

FDA. THE PFIZER-BIONTECH COVID-19 VACCINE EUA Fact Sheet. (2021) <https://www.fda.gov/media/144413/download>

Grabenstein JD, Nevin RL. Mass immunization programs: principles and standards. *Curr Top Microbiol Immunol*. 2006;304:31-51. doi: 10.1007/3-540-36583-4_3. PMID: 16989263.

NFPA 101[®], *Life Safety Code*[®]. Quincy, MA; NFPA, 2021. Online.

NFPA 110, *Standard on Stored Electrical Energy Emergency and Standby Power Systems*. Quincy, MA; NFPA, 2019. Online.

NFPA 13. *Standard for the Installation of Sprinkler Systems*. Quincy, MA; NFPA, 2019. Online.

NFPA 58. *Liquefied Petroleum Gas Code*. Quincy, MA; NFPA, 2020. Online.

NFPA 70[®]. *National Electrical Code*[®]. Quincy, MA; NFPA, 2020. Online.

NFPA 72[®], *National Fire Alarm and Signaling Code*[®]. Quincy, MA; NFPA, 2019. Online.

R3 Continuum, Covid-19 Scenario Based Response Plan. 2020

RiskTopic “Slip, Trip and Fall Prevention: Medical Offices”

RiskTopic, *Manual fire fighting: Fire team*. Zurich, November 2018.

White Paper “Slips, trips and falls in the Healthcare industry - Zurich’s 10-point program”

January 2021

The Zurich Services Corporation
Risk Engineering
1299 Zurich Way, Schaumburg, Illinois 60196-1056
800 982 5964 www.zurichna.com

The information in this publication was compiled from sources believed to be reliable for informational purposes only. All sample policies and procedures herein should serve as a guideline, which you can use to create your own policies and procedures. We trust that you will customize these samples to reflect your own operations and believe that these samples may serve as a helpful platform for this endeavor. Any and all information contained herein is not intended to constitute advice (particularly not legal advice). Accordingly, persons requiring advice should consult independent advisors when developing programs and policies. We do not guarantee the accuracy of this information or any results and further assume no liability in connection with this publication and sample policies and procedures, including any information, methods or safety suggestions contained herein. We undertake no obligation to publicly update or revise any of this information, whether to reflect new information, future developments, events or circumstances or otherwise. Moreover, Zurich reminds you that this cannot be assumed to contain every acceptable safety and compliance procedure or that additional procedures might not be appropriate under the circumstances. The subject matter of this publication is not tied to any specific insurance product nor will adopting these policies and procedures ensure coverage under any insurance policy. Risk Engineering services are provided by The Zurich Services Corporation.

© 2021 The Zurich Services Corporation. All rights reserved.

