

ASPR TRACIE Training and Technical Assistance

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Response Date: March 16, 2020

Type of TTA Request: Complex

Request:

ASPR TRACIE received a request for information on infectious disease/ COVID-19 drive-through testing.

Response:

ASPR TRACIE compiled and synthesized information from the Centers for Disease Control and Prevention (CDC), local and state health departments, and other open sources. This response highlights resources for healthcare system emergency preparedness planners to use while preparing for and responding to infectious disease outbreaks with drive-through clinic models. Considerations and lessons learned from these materials are also gathered and provided as points for consideration. ASPR TRACIE reached out to members of its Subject Matter Expert Cadre for information and will update this document with additional operational resources and guidance documents as they become available.

Please refer to CDC's [Coronavirus Disease 2019 webpage](#) for the most up-to-date clinical guidance on COVID-19 outbreak management.

Considerations and Lessons Learned

- Many jurisdictions across the nation include drive-through models in their medical countermeasure response plans. While most commonly used for mass dispensing operations, they have also been adapted for immunization and other clinical operations.
- Commonly cited benefits of drive-through operations include:
 - **Speed:** Exercises and real-life emergency responses have demonstrated a higher throughput rate for drive-throughs than other frequently used models. Sample collection at drive-through COVID-19 clinics in South Korea took less than one-third the time of sample collection in hospitals.
 - **Staffing:** Drive-through models generally require less staffing relative to the population served than other more traditional models.
 - **Social Distancing:** Because individuals remain in their vehicles, they do not come in contact with individuals other than healthcare workers in appropriate personal protective equipment (PPE), thereby limiting opportunities for disease transmission.
 - **Convenience:** Individuals remain in their vehicles and do not need to find parking or stand in long lines.

- Those contemplating the use of drive-through clinics should consider the following lessons learned from those who have implemented this model:

Staffing Considerations

- Use the incident command system to organize operations. Participating staff should have clearly defined roles and responsibilities within a defined organizational structure.
- Provide training to all personnel staffing the drive-through. Ideally, operations should be tested prior to opening the site to the public with the personnel who will be staffing the site. At a minimum, just-in-time training should be provided to all personnel to ensure they understand their roles, thereby maximizing efficiency of operations and reducing workplace safety risks. For operations in response to an infectious disease outbreak, it is essential that workers receive training in the donning, doffing, usage, and disposal of the PPE they will wear prior to participating in operations.
- Ensure the site is staffed by personnel with appropriate clinical training. For a specimen collection site, the following personnel with areas of expertise should be included:
 - An infectious disease physician, infection control nurse, or other infection prevention expert to oversee and provide guidance on infection control procedures, including proper PPE usage and maintenance of social distancing practices.
 - A laboratorian with knowledge of procedures specific to specimen collection, labeling, tracking, handling, storage (of specimens and media), transport, and processing.
 - Nurses or other healthcare workers trained in specimen collection and handling.
 - Healthcare workers familiar with the electronic medical records system or other mechanism used to connect individuals with their collected specimens and enable tracking and notification of results (to individuals and healthcare providers).
- Ensure a worker safety plan is in place. Workers operating in close proximity to moving vehicles are at increased risk of injury. Weather and other adverse working conditions should also be considered. Consider rotating staff to limit the amount of time they are standing; plan adequate breaks for rest, hydration, and nourishment; and provide appropriate PPE and hand hygiene stations.
- Consider whether Medical Reserve Corps units or other trained volunteers may assist with staffing.

Messaging

- Be clear about who the drive-through site is intended to serve. Some drive-throughs have been open to the entire community while others have been limited

to specific populations, such as healthcare workers and first responders or those who have been pre-screened. Establish a process to redirect individuals who are not part of the intended population.

- Collaborate with public information officers to ensure consistent public messaging. This includes engaging traditional and social media to distribute messages about the intent of the drive-through site and the populations able to access it.
- Provide clear instructions to individuals expected to use the drive-through site. This includes the address of the site, any special site access instructions, operating hours, and required items, such as identification or a doctor's order.
- Consider options to pre-screen individuals who use the site. Online, telephone, or other pre-screening can increase the likelihood that those who arrive at the site are appropriate users of the provided service. A doctor's order or pre-printed screening form can help organizers plan for an expected number of individuals, particularly if they indicate a time window during which the individual should arrive.
- Determine what information will be provided in addition to the service. If individuals are required to take follow-up steps after the service, consider directing them to online information but have hard copies available for those without internet access. Ensure information is available in languages appropriate for the community.
- Provide information to all drive-through personnel on where to direct individuals for additional information to prevent slowdowns in the drive-through.
- Establish a communications plan at the site and with off-site partners. Maintaining social distancing and limiting traffic congestion may require operations over a large area. Consider how staff on site will communicate with each other (e.g., radios) and a back-up method (e.g., runners). Pre-determine reporting protocols to the sponsoring organization and other off-site personnel involved in the operations.

Access and Security

- Ensure appropriate security and wayfinding. Clear, visible signage accompanied by direction from law enforcement or other public safety personnel is important to minimize traffic congestion and enable efficient operations. Signs should remind individuals to remain in their vehicles.
- Review site considerations. When reviewing potential sites, consider factors such as preventing interference with access to other services and protecting staff from weather conditions. Ensure a reliable power source is available for refrigeration of specimens and laboratory supplies, operation of printer for specimen labeling and computers/tablets for electronic health record or other tracking, and heating/cooling of staff based on weather conditions.
- Provide non-drive-through options. Drive-throughs cannot be the only option to provide the service. Alternatives need to be available for those who do not have

vehicles or cannot drive, such as directing individuals to specific locations for walk-in services.

Have a plan for post-clinic operations. This includes a process for ensuring that all collected and properly stored and labeled specimens are transported to a laboratory for testing and for notifying individuals, their healthcare providers, and, when appropriate, public health authorities of test results. Additionally, this includes capturing lessons learned to incorporate in future operations.

Drive-Through Testing Sample Figures

Figure 1. Diagram of Sample Drive-Through Site Set-Up. (Redacted figure courtesy of SME.)

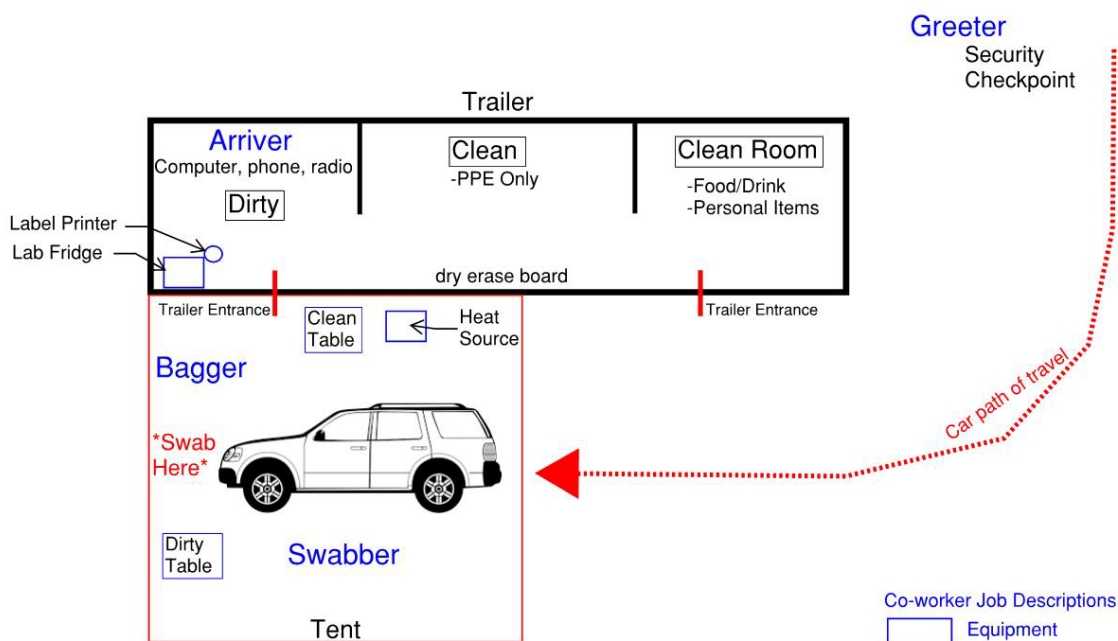
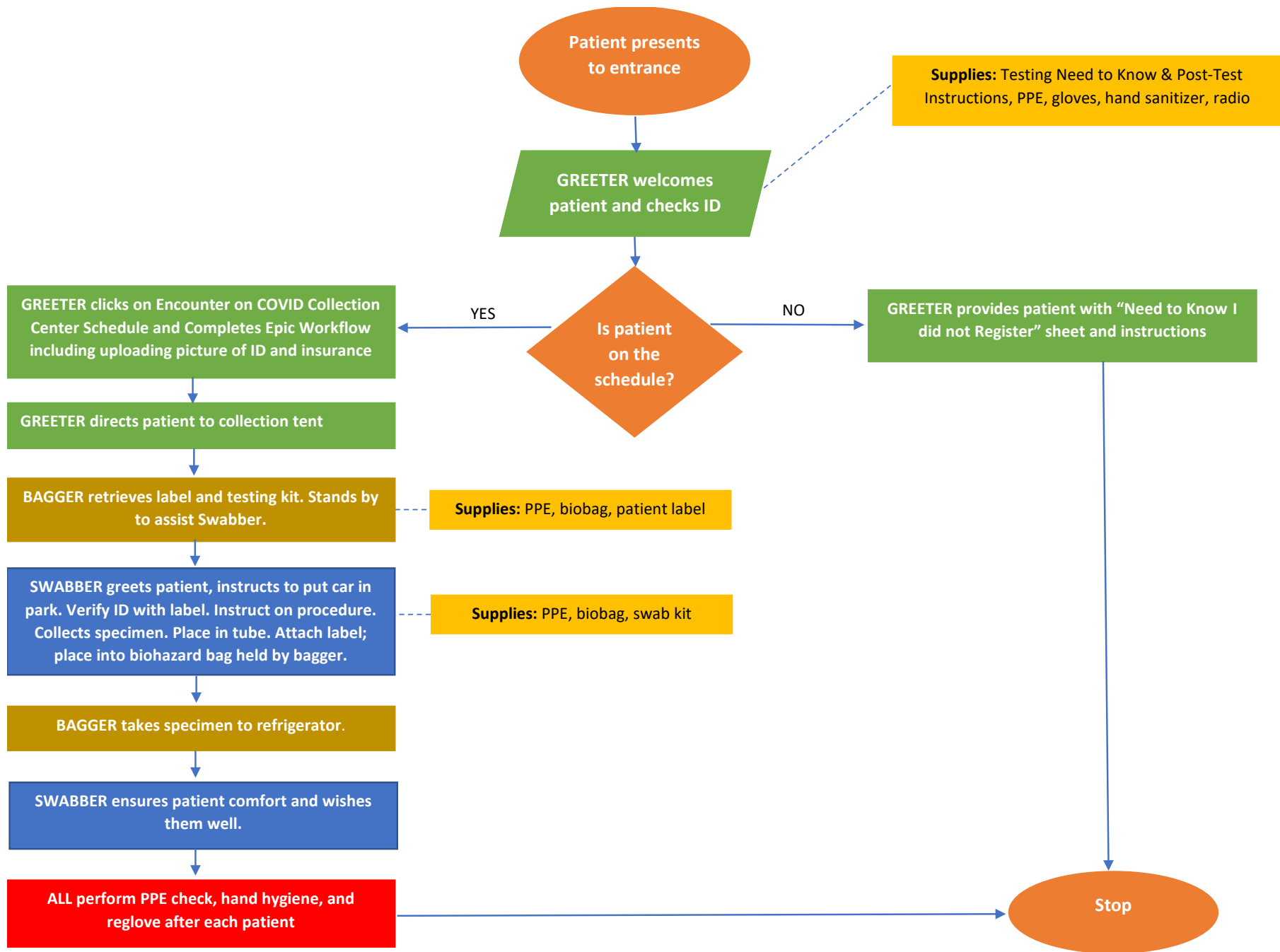


Figure 2. Sample Patient Flow Diagram. (Figure adapted from document provided by SME.)



I. Select Resources

The resources in this section focus on healthcare and public health emergency response drive-through operations. The most significant experience in this approach involves dispensing of medical countermeasures or administration of vaccine. However, the rationale supporting the use of drive-through operations applies regardless of the services provided. Many of the logistics considerations can also be adapted to match the provided services.

13 News Now. (2020). [Sentara Offers Drive-Thru Screening, Testing for COVID-19.](#)

This article describes the establishment of three drive-through screening sites. The article includes information for the public about what they should do before going to a testing site, what they should do when they arrive, and what the testing and post-testing process is. The article also includes a flyer from the sponsoring health system that has addresses and operating hours for the drive-through sites, and algorithm for the public to determine whether they are in the intended population, and information on what to expect. A video accompanying the article shows personnel setting up one of the sites.

Alcock, B., and CNY Medical Reserve Corps. (2015). [Protecting Our Community From the Flu While Practicing Our Response Plans: Annual Drive-Thru Point of Distribution Exercise in Onondaga County, New York.](#) U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

The author of this blog describes the lessons learned from a drive-through point of dispensing (POD) exercise conducted annually in Onondaga County, New York with Medical Reserve Corps volunteers. They list reasons for using this type of POD:

“Why use a drive thru POD? Social distancing, the practice of keeping the sick people away from the healthy people, is critical during a real outbreak. Using a drive-thru POD helps us protect our staff while they dispense medicine. For Onondaga County, the drive-thru model also helps reduce personnel requirements—one large POD is easier to manage than several smaller, simultaneous PODs. How do you meaningfully test your plans to deploy a POD in an emergency with enough people to assess key components of the operation? By involving your partners!”

BBC News. (2020). [Coronavirus: Drive Through Testing Begins at Edinburgh Hospital.](#)

This news article describes drive-through testing centers established in the United Kingdom. Those with appointments drive to a designated location where they are met by healthcare workers who provide information and collect throat and nasal swabs through an open vehicle window. An accompanying [video](#) demonstrates the process.

Center for Infectious Disease Research and Policy. (n.d.). [Medical Countermeasure Dispensing.](#) (Accessed 3/13/2020.)

This webpage includes lessons learned, planning documents, and sample templates from planners across the country to support preparedness for medical countermeasure dispensing.

Chalmers, T. (2009). [Walk-in or Drive-thru: POD Model Comparisons from the Erie County Hepatitis A Experience](#). University at Albany Center for Public Health Preparedness.

This webinar includes lessons learned from Erie County, New York’s Hepatitis A outbreak response in 2008, and compares walk-in and drive-through POD models and experiences.

Cities Readiness Initiative/Point of Dispensing. (2018). [Community POD Planning](#).

This webpage includes links to a multitude of drive-through and walk-through POD exercise resources carried out by Orange County, CA. A “POD Exercise Press & Media Toolkit” section includes links to flyers and public service announcements in several languages, talking points, and social media messages. The “Training” section has links to related YouTube videos.

Colorado Department of Public Health and Environment. (2020). [CDPHE to Open First Drive-Up Testing Center at State Lab in Lowry](#).

This statement announces a community drive-through testing center. The health department updates their web site each day with operating hours and an estimate of the number of people who may be tested at the drive-through site. Individuals drive to a secure area with a doctor’s order and photo identification, remain in their vehicles for specimen collection, and are instructed to stay at home while awaiting test results.

Gupta, A., Evans, G., and Heragu, S. (2013). [Simulation and Optimization Modeling for Drive- Through Mass Vaccination – A Generalized Approach](#). Simulation Modelling Practice and Theory. 37.

The authors describe the simulation modeling work completed for a mass vaccination drive-through clinic in 2009, where more than 19,000 patients were served (more than two-thirds via 10 drive-through lanes). Using this model can help public health emergency planners determine “the required number of POD lanes, number and length of the lanes for consent hand outs and fill in, staff needed at the consent handout stations and PODs, and average user waiting time in the system.”

The authors list the following model inputs for consideration:

- Expected number of arriving vehicles.
- Number of consent form lanes.
- Number of consent form workers per lane.
- Cost per consent form worker per hour.
- Length of a consent form lane.
- Number of vaccination lanes.
- Number of medical workers per lane.
- Cost per medical worker per hour.
- Length of a vaccination lane.

They also list these outputs they accounted for in the study:

- The fraction of vehicles arriving but not entering the system.
- The average number of vehicles in the system.
- The average number of vehicles waiting in queue.
- The average time in system for vehicles.

- The average waiting time in queue for vehicles.
- The utilization of the workers.

Table 1 on page 15 presents comprehensive findings of various scenarios.

Korea Biomedical Review. (2020). [Drive-Through Facilities Allow Quick Sampling for Coronavirus Testing](#).

This news article describes the drive-through testing facilities established throughout South Korea. Completion of a medical questionnaire, body temperature testing, and sample collection at these sites takes less than 10 minutes compared to more than 30 minutes needed to collect samples and disinfect an isolation room in hospitals. The article is accompanied by photos from these sites.

Los Angeles County Department of Public Health, and City of Los Angeles Emergency Management Department. (2011). [Medical Point of Dispensing \(POD\) Incident Action Plan](#).

This regional POD plan was developed in collaboration between multiple counties in California (Orange, San Bernardino, Riverside, Los Angeles, and Ventura) to expand upon each jurisdiction's capability to provide mass prophylaxis in accordance with federal and county standards and guidelines.

National Association of County and City Health Officials. (2012). [Drive-Thru Point of Dispensing Planning Guide](#).

This guide primarily focuses on planning for Strategic National Stockpile (SNS) responses in urban or suburban areas that have difficulties meeting 100 percent prophylaxis coverage of their population within limited time frames using traditional indoor PODs. It includes recommendations, checklists, and diagrams and is broken into two primary sections: pre-event and event planning.

Pre-Event suggestions (e.g., location, amount of supplies, throughput per population, and the like) begin on page 7. Figure 1 on page 10 illustrates a basic drive-through layout. Event planning suggestions begin on page 12 and include traffic control/security, POD management, staffing requirements, and the like.

NOTE: If the hyperlink in the citation does not open, please copy and paste the following URL in your web browser: https://www.rescuepost.com/files/drive-thrupodplanningguide_8-25-10.pdf.

New Mexico Department of Health. (2016). [Point of Dispensing \(POD\) Operations Guide](#).

This plan includes operational considerations related to PODs, and may be referenced and/or adapted by other jurisdictions in the development of their respective countermeasure dispensing plans. **NOTE:** Page 26 includes a diagram of for a drive-through POD model.

Orange County (CA) Health Care Agency. (n.d.). [Point of Dispensing \(POD\)](#). (Accessed 3/16/2020.)

This webpage provides several planning and response documents for PODs. Note planning and response materials are located at the end of the webpage. In particular, the document titled "POD Field Operations Guide v4.1" is a response guidance document to be utilized in the event of POD activation.

Other materials included on this webpage include various POD exercise documents, such as Controller/Evaluator Briefing PowerPoint Presentation, and a media toolkit.

Plumbo, G. (2020). [Mayo Clinic Offers Pre-Screened Patients Drive-Through Specimen Collection for COVID-19 Testing](#). Mayo Clinic News Network.

This article announces a drive-through site in Minnesota. Those who meet criteria via a telephone screen are directed to the site for specimen collection. Multiple photos and a video accompany the article.

Santa Clara Valley Health and Hospital System. (2009). [Drive-Through Medicine: Drive-Through Triage Template](#).

This template guides patient triage and treatment outside a hospital setting in a drive-through format. It includes information on site selection, activation and set-up, communications, staff roles and responsibilities, patient management, and safety and security.

University of Washington Medicine. (2020). [Drive-Through COVID-19 Tests for UW Medicine Employees](#).

This news release describes a drive-through testing site established for University of Washington Medicine staff, faculty, and trainees with COVID-19 symptoms. Set up in a parking garage, drivers are greeted by nurses who obtain two nasal swabs through the open vehicle window and provide guidance on what to do while awaiting test results. Photos and a video accompany the article.

University of Washington Medicine. (2020). [UW COVID-19 Drive Thru Clinic AKA “The CARVID” Clinic](#).

This document provides information on how one health system sets up their drive-through testing clinic. It includes information on staffing and supplies and describes processes for PPE donning and doffing and the swabbing procedure. Photos from the site are also included.

Washoe County Health District. (2017). [Example Public POD Drive Through Organization Chart](#).

This webpage highlights an organization chart specific to drive-through PODs. Clicking on job title (e.g., [Traffic Control Branch Director](#), [Traffic Sorter](#), [Psychological First Aid Team](#)) automatically downloads a customizable Word version of the job action sheet to the user’s computer.

Woolwine, H. (2020). [Patients Who Use MUSC Health Virtual Urgent Care Offered Access to Drive-Through Respiratory Specimen Collection Site](#). Medical University of South Carolina.

This article describes the use of a virtual telehealth platform to screen state residents for COVID-19. Those who meet certain criteria are referred to a drive-through specimen collection site, which is only open to those issued a testing order through the telehealth platform.

II. Guidance Documents and Other Resources

While the guidance documents and other resources in this section do not focus on drive-through operations, they offer general considerations that may be helpful in planning staffing, information sharing, security, public information, and other logistics issues.

California Department of Public Health. (2009). [California Department of Public Health Mass Vaccination Planning Guidance: 2009 H1N1 Influenza Vaccine.](#)

This guidance document is intended to: 1) assist local health departments, emergency planners, healthcare providers and their partners in the delivery of pandemic influenza vaccine in mass vaccination clinics; 2) help build partnerships between the local health departments, schools, hospitals, clinical providers and/or private vaccination companies for the purposes of H1N1 vaccine administration; and 3) outline responsibilities and collaboration between state and local partners.

Centers for Disease Control and Prevention. (n.d.). [Capability 8: Medical Countermeasure Dispensing.](#) (Accessed 3/16/2020.)

The Medical Countermeasure Dispensing capability is one of the 15 capabilities identified in the Centers for Disease Control and Prevention's Public Health Preparedness Capabilities: National Standards for State and Local Planning. This capability provides guidance regarding the following medical countermeasure functions: identify and initiate dispensing strategies, receive medical countermeasures, activate dispensing, dispense medical countermeasures to the population, and report any adverse events.

Centers for Disease Control and Prevention. (2015). [Guidelines for Large-Scale Influenza Vaccination Clinic Planning.](#)

This document provides recommendations and guidelines to assist with planning large-scale influenza vaccination clinics by public and private vaccination groups.

City of Los Angeles Community Emergency Response Team. (n.d.). [Videos – Points of Dispensing \(POD\) Operations, Alameda County, CA.](#) (Accessed 3/16/2020.)

This webpage includes several videos related to POD operations in Alameda County (CA), to include a POD training overview, and others for Leadership, Command, Operations, Logistics, Planning, and Finance/ Administration. It also includes three videos related specifically to vaccination POD trainings for Operations, Logistics, and Operations Clinical Staff.

Hupert, N. (2004). [Community-Based Mass Prophylaxis: A Planning Guide for Public Health Preparedness.](#) Agency for Healthcare Research and Quality.

The first section of this planning guide focuses on surveillance, stockpiling, distribution, dispensing, and follow up for a mass prophylaxis response to an epidemic outbreak. The next two sections provide an overview of planning and dispensing medications or vaccines. The command structure of a dispensing/vaccination center is covered in the final section.

Indiana State Department of Health. (2009). [The Local Health Department Guide for Hosting a Mass Vaccination Clinic.](#)

This document provides guidance to local health departments on the planning, preparation hosting and evaluation of mass vaccination clinics at school-based or community-based locations. While targeted toward the needs of local health departments, many of the resources and planning activities can be adapted for other immunization providers to host mass vaccination clinics when necessary. Appendices in the document also include clinic set-up/ flow charts, health screening questionnaires, and other templates.

Ohio Department of Health. (n.d.). [Open Point of Dispensing Memorandum of Understanding.](#) (Accessed 3/16/2020.)

This document is a sample memorandum of understanding (MOU) between the local health department and a provider to enhance the local public health department's ability to respond to a catastrophic biological incident or other communicable threat of epidemic proportion.

Southern Nevada Health District. (n.d.). [Southern Nevada Point of Dispensing.](#) (Accessed 3/16/2020.)

This website provides an overview of PODs, just in time training, closed POD educational materials, online screening forms, and other materials.

The University of Arizona. (n.d.). [Points of Dispensing: A Pocket Guide.](#) (Accessed 3/16/2020.)

This document provides information on key concepts of POD operations, such as materials to have on the site, site selection criteria, POD layouts and stations, communications with partners and the public, and POD roles.