

Infection prevention in points of dispensing

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Background: Community-based points of dispensing (POD) will be used during disasters to distribute mass quantities of anti-infective therapy/prophylaxis and/or vaccination to an entire community in a short period of time. Without proper planning, staff training, and implementation of infection prevention strategies, disease transmission is possible in PODs. The purpose of this paper is to outline infection prevention recommendations for PODs.

Methods: A literature review and Internet search were conducted in April 2009. A spreadsheet was created that delineated infection prevention issues in PODs that were identified by each source. Infection prevention recommendations were divided into themes/domains for simplification and clarity.

Results: Thirty-one articles, planning documents/reports, and Web-based training programs were identified and screened. Of these, 19 were deemed relevant: 8 were journals articles; and 11 were published reports, planning documents, and/or training programs. Infection prevention themes for PODs identified in the literature included (1) planning for infection prevention in PODs, (2) screening and triage of visitors, (3) using personal protective equipment, (4) implementing hand hygiene, (4) following food and water safety, (5) performing environmental decontamination, (6) communicating and training staff and visitors, and (7) having occupational health protocols.

Conclusion: Infection prevention in PODs is important to prevent communicable disease spread. This article can assist emergency managers in developing an infection prevention program for PODs.

Key Words: Point of dispensing; emergency management; infection prevention; infection control.

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(*Am J Infect Control* 2009;37:695-702.)

Mass casualty events involving a biologic agent (ie, an infectious disease disaster), such as a bioterrorism attack, large-scale outbreak of an emerging infectious disease, or a pandemic, will require rapid identification and response to reduce morbidity and mortality related to the event. The 2009 swine influenza A (H1N1) outbreak illustrates that these events can occur rapidly and with little warning. Communities need to be prepared to respond quickly when such an event occurs, especially when the causative agent is a contagious disease, such as swine flu.

One critical aspect of response to an infectious disease disaster is to implement pharmacologic interventions, including mass vaccination, treatment, or prophylaxis. Pharmacologic interventions must be administered in a short time frame to reduce morbidity and mortality. Time frames for intervention vary, depending on the disease involved, but usually range from 1 to 6 days.^{1,2} For example, postexposure prophylaxis must be provided within 1 to 2 days following exposure to airborne *Yersinia pestis* or a person infected with pneumonic plague to prevent disease from occurring.¹ Smallpox vaccination needs to be administered within 4 to 5 days of exposure to reduce the risk of disease and death.¹ The Centers for Disease Control and Prevention and the Cities Readiness Initiative indicate that communities need to be able to administer prophylaxis and/or vaccination to their entire population within 48 hours.³ Whereas time and efficiency in undertaking such large community distribution processes are important, ensuring worker and visitor safety during this process are also very important.

Dispensing mass quantities of anti-infective therapy/prophylaxis and/or vaccination to an entire community in a short period of time is a complex endeavor that requires extensive planning and practice. Mass distribution of prophylaxis or vaccination can be accomplished through a *push* or *pull* system. Push

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Conflicts of interest: None to report.

0196-6553/\$36.00

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doi:10.1016/j.ajic.2009.09.001

systems are those in which medication is sent to community members through the Postal Service or another mechanism that does not require individuals to leave their homes or work settings.² *Pull* systems are those that require individuals to leave their homes or workplace to travel to community-based dispensing centers designed to administer/dispense prophylaxis or vaccination.² Most communities will likely use both *push* and *pull* systems to distribute anti-infective therapy/prophylaxis and/or vaccination following a disaster involving an infectious disease.² This article will only address *pull* systems.

Mass prophylaxis and/or vaccination *pull* systems consist of community-based points of dispensing (POD). PODs are often located in schools, community centers, or other large buildings in centralized areas that provide easy access to a large portion of the population.⁴ Communities will likely need multiple PODs, especially in more densely populated areas. Although it is preferable to have only healthy individuals visit PODs to pick up medication and/or vaccination for themselves or their family, many community planning agencies assume that some ill individuals will arrive at the POD.^{2,3,5-14} These ill individuals may be infected with the agent/disease involved in the mass casualty event (ie, bioterrorism attack, emerging infectious disease outbreak, or pandemic), or they may be ill with other contagious diseases. In addition, many PODs will be staffed with individuals who lack formal medical and/or infection prevention training because of the large number of people needed to run multiple PODs in a community.⁴ Without proper POD planning, staff training, and implementation of infection prevention strategies, these factors can lead to a risk of infection transmission in PODs.

The purpose of this paper is to outline infection prevention recommendations for freestanding and drive-through PODs. This project was conducted by the authors in their role as members of the Association for Professionals in Infection Control and Epidemiology's (APIC) Emergency Preparedness Committee.

METHODS

A literature review was conducted in April 2009 using the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Healthstar, Psych Info, and Medline databases for years 1966 through 2009. The following terms were utilized as key word searches: infection control, infection prevention, point of dispensing, and dispensing/vaccination center. Only English language articles in peer-reviewed journals were utilized. An Internet search was also conducted in April 2009 using the same search terms as above to identify existing book chapters, reports from response agencies, published standards and guidelines,

and other relevant materials related to PODs. Last, the snowballing technique was used to identify sources that were not found through the literature and Internet searches. Inclusion criteria included articles, planning documents, and published reports that addressed infection prevention issues in PODs.

A spreadsheet was created that delineated infection prevention issues in PODs that were identified by each source. Infection prevention recommendations were divided into themes/domains for simplification and clarity. The authors conducted the literature review and Internet search independent of one another and then collated all sources for the review process. Article review and data extraction were divided among the authors. The primary author reviewed approximately half of the other authors' sources as a quality control process to ensure consistency in data collection. Discrepancies and unclear areas were discussed until consensus was reached. Once all data were collated, the primary author categorized the findings into themes and developed the written recommendations. All authors reviewed the final themes and recommendations. After the manuscript outlining infection prevention recommendations for PODs was drafted and agreed on by the authors, the manuscript was reviewed by other members of the APIC Emergency Preparedness Committee.

RESULTS

Thirty-one articles, planning documents/reports, and Web-based training programs were identified and screened. Of the sources screened, 19 references were deemed relevant: 8 were journals articles; and 11 were published reports, planning documents, and/or training programs. Most POD planning documents and articles did not address infection prevention or did so in only a cursory manner. When such recommendations did exist, they varied widely by the source and often included incorrect terminology or inaccurate/unnecessary interventions. No single document or article identified all of the infection prevention issues that should be addressed by a POD. Infection prevention interventions that should be implemented in PODs are divided into themes for ease of explanation and planning. Community-based emergency managers can use this article as a planning tool for developing policies and procedures that will decrease the risk of infection transmission in PODs.

Infection prevention planning in PODs

It is important for community emergency managers to incorporate infection prevention interventions into POD operation.¹⁰ Infection prevention strategies should be included in POD planning documents and incorporated into pre-event and/or just-in-time training

Table 1. Incident command system position responsibility for infection prevention interventions in PODs

Intervention	Staff responsible for intervention	Direct supervisor
Have refrigeration available at POD for vaccine/medication storage	Supplies/equipment coordinator	Logistics chief
Maintain proper storage of vaccine	Pharmacy staff coordinator and vaccinator	Operations chief Medical staff coordinator
Safe food handling	Workforce coordinator	Logistics chief
Monitor PPE usage	Medical director/advisor	Incident commander
Monitor adherence to infection prevention practices	Coordinator over each station: General staff coordinator Medical staff coordinator Staff resources coordinator	Operations chief Operations chief Planning chief
Develop criteria for triage of contagious illness symptoms	Medical staff coordinator	Operations chief
Triage for contagious illness symptoms	Greeter (initial triage) and interviewer/medical screener	Operations chief Medical screeners group leader
Evaluate/examine triaged patients with contagious illness symptoms	Medical/physician evaluator	Medical staff coordinator
Have separate room/space for evaluating potentially contagious individuals	Logistics chief	POD manager
Identify and document identified contacts of potentially contagious individuals	Contact tracing team	Medical staff coordinator
Develop plan for providing prophylaxis and/or vaccination for POD staff and families	Incident action plan team	Planning chief
Develop plan for transportation of potentially contagious individuals to health care facility	Logistics chief	POD manager
Transport potentially contagious individuals to health care facility using infection prevention practices	Transportation coordinator	Logistics chief
Environmental cleaning/disinfection of POD during operation and when closing	Facilities coordinator Recovery/mobilization staff	Logistics chief Planning chief
Have procedure for transport and disposal of regular trash and regulated medical waste	Logistics chief	POD manager
Food trash/waste removal	Food service coordinator	Workforce coordinator
Have procedure for transport and disposal of sharps	Logistics chief	POD manager
POD visitor education on infection prevention practices	Briefer/educator	General staff coordinator
POD staff education on infection prevention practices	Medical staff coordinator	Operations chief
Food safety education for POD workers	Food service coordinator	Workforce coordinator
Communicable disease prevention during child care in POD	Child care staff	Workforce coordinator
Have infection prevention supplies available in the POD	Logistics chief	POD manager
Occupational exposure management	Infection control safety officer	Incident commander

opportunities for POD staff.^{2,7,10,11} To decrease the risk of infection transmission and ease visitor flow, PODs should not be located in hospitals, alternate care sites, quarantine locations, or other areas in which medical care will be provided or potentially infected individuals may be housed.^{4,10}

The reporting and communication structure of PODs will take place within the framework of the Incident Command System (ICS). Whereas this is not an infection prevention intervention, it is important to understand how infection prevention fits within the ICS structure to ensure that these interventions are implemented in a standardized manner. During mass casualty events, especially those involving an infectious disease/agent, infection preventionists will likely not be available to assist in developing or implementing infection prevention programs for PODs because of their primary responsibilities in health care facilities and agencies. Therefore, the planning and implementation of infection prevention strategies

for PODs will ultimately be the responsibility of the POD manager and/or his/her designee(s). However, the implementation of individual interventions will be spread across multiple roles within the ICS. Table 1 outlines POD staff responsibilities related to infection prevention interventions as viewed through an ICS framework.

Screening and triage

As mentioned previously, it is expected that some ill individuals will show up at the POD. To decrease the risk of infection spread at the POD, it is necessary to identify potentially contagious individuals rapidly and divert them away from others. Screening for illness may also need to be done before administration of certain vaccines, such as influenza.¹⁵ This will require screening and triage of all POD visitors^{2,3,5,7-16} and POD staff.^{13,14} Screening for potentially contagious diseases should be performed as the first step when

Table 2. Screening criteria for identifying potentially contagious individuals at PODs

Flu-like illness
Cough
Sneezing
Nasal drainage/runny nose
Shortness of breath
Fever
Obvious wound/lesion
Rash
Red eye(s) with or without drainage
Event/disease-specific criteria when known
Loose, unformed, watery, diarrheal, or bloody stools
Stiff/sore neck

visitors or workers arrive at the POD or before individuals board mass transit vehicles if the POD uses a satellite parking site.¹⁰ In addition to screening on arrival, POD staff should be taught self-screening for signs/symptoms of potentially contagious diseases and removed from work as soon as symptoms arise.^{13,14}

A variety of screening mechanisms was suggested in the literature: visual screening,^{2,4} direct questioning,² checking temperatures,⁷ or a combination of these methods.^{2,7} Visual assessment of POD visitors should consist of identification of signs and symptoms of the causative agent/disease (if known), flu-like illness, cough, sneezing, nasal drainage, shortness of breath, obvious wound/lesion, rash, or red eye(s) with or without drainage.⁷ In addition to general symptoms of contagious illnesses, event-specific criteria should be developed to be used for screening/triaging of POD visitors and workers for contagious diseases.¹⁰ This will make visual identification of potentially infected individuals more accurate. In addition to visual screening, direct questioning of each visitor may be conducted to elicit more detailed information regarding risk factors for contagious disease, especially symptoms that may not be detected if only visual screening is used. However, POD managers must weigh the cost/benefit of direct questioning as a screening mechanism given the time and resources needed to do this for each visitor. The screening method chosen for each POD must be communicated to POD staff, and workers must be educated on how the screening will be performed. A full list of signs/symptoms that screeners should use to identify potentially contagious individuals at PODs is outlined in Table 2.

Individuals who are identified as having a potentially contagious disease/condition should be separated from others and taken immediately for medical evaluation at the POD.^{2,7-11,17} The POD medical evaluation room/area should be physically separated from areas of the POD where healthy individuals will be

processed.^{2,10} Individuals who are obviously severely ill should be transported to a medical facility immediately,^{8,9} but others can be evaluated at the POD before transfer to a health care facility or release to home. POD planning should include transportation protocols that outline proper infection prevention interventions needed during transfer of potentially contagious individuals to a health care facility.^{2,11} These protocols should include delineation of personal protective equipment (PPE) needed by the emergency medical services personnel during transport.¹¹

Isolation and PPE availability and usage

Traditional isolation, such as that used in hospitals, will be neither feasible nor necessary in PODs.⁶ Potentially contagious individuals should be physically separated from others at the POD and transferred to a health care facility to be placed in isolation as soon as possible. While at the POD and during transfer to a health care facility, potentially contagious individuals should be handled using Standard Precautions. Standard Precautions means that patients' blood and bodily fluids are always considered to potentially infectious and that precautions are taken to prevent the worker from being exposed to microorganisms in these fluids. This involves the use of PPE for greeters (ie, those who conduct initial triage/screening of POD visitors), medical evaluation staff (ie, nurses, physicians, and other health care professionals who evaluate ill and potentially contagious individuals), emergency medical services professionals, and designated cleaning staff. PPE should be chosen based on the patient's symptoms, the transmission route of the agent/disease involved in the event, and the task being performed. PPE should be available in PODs, and staff should be educated on its use, including the proper donning, doffing, and disposal.^{11,14,18} A full list of supplies needed for infection prevention in PODs is outlined in Table 3.

Respiratory etiquette, a component of Standard Precautions, should be implemented in PODs. Respiratory etiquette involves (1) providing a surgical/procedure mask to individuals who are coughing and instructing them on how to don and doff it^{2,6}; (2) having POD workers wear a surgical/procedure mask when in close proximity of coughing or sneezing visitors²; (3) educating staff and visitors on cough etiquette (using a facial tissue when coughing or sneezing and then promptly discarding the tissue and performing hand hygiene, coughing or sneezing into the crook of an elbow or sleeve when facial tissues are not available, and performing hand hygiene after coughing or sneezing); (4) having facial tissues readily available throughout the POD for worker and visitor use; and (5) maintaining

Table 3. Personal protective equipment and supplies needed for infection prevention in PODs

- Personal protective equipment
 - Respirators (N95 or their equivalent)^{2,14,18}
 - Surgical/procedure masks (enough for POD staff and visitors)^{6,18}
 - Patient care/isolation gowns¹⁸
 - Gloves (nonsterile procedure gloves)^{10,15,18}
 - Eye protection (goggles or face shields)
- Hand hygiene products
 - Handwashing station(s) consisting of soap (nonantimicrobial or antimicrobial), water, and paper towels¹⁰
 - Alcohol-based hand rub products and dispenser¹⁰
- Facial tissues^{10,18}
- Refrigerator/cooling unit for storing vaccines/medications^{2,10,15}
- Thermometers
 - Patient care thermometers for screening POD visitors¹⁸
 - Thermometers for monitoring food and refrigerator temperatures¹⁸
- Wound management supplies for covering wounds/lesions¹⁰
 - Bandages, absorbent pads, gauze, tape, and others^{15,18}
- Vaccination supplies
 - Syringes^{15,18}
 - Alcohol swabs^{15,18}
 - Band-Aids (Johnson & Johnson, Langhorne, PA)^{15,18}
 - Needles^{15,18}
- Sharps containers^{10,15,18}
- Waste containers
 - Trash cans and bags for regular garbage^{15,18,20}
 - Red bags or containers for regulated medical waste disposal^{10,18}
 - Biohazard stickers or labels for regulated medical waste disposal
- Environmental decontamination/cleaning disinfectants
 - Antimicrobial wipes/towelettes^{10,18}
 - Disinfectant (Environmental Protection Agency-registered chemical germicide) or bleach solution (0.5% sodium hypochlorite)^{10,18}

a minimum of 3 feet between individuals whenever feasible.¹⁹ Another component of Standard Precautions that should be followed in PODs is to cover all visible wounds and lesions of POD visitors when feasible. Bandages, absorbent pads, gauze, tape, and other supplies needed for covering wounds/lesions readily should be readily available at the POD^{10,18}; see Table 3 for a full list of supplies needed for infection prevention in PODs. Individuals with large rashes that cannot be covered should be instructed to seek medical care rather than reporting to the POD, especially during a smallpox outbreak or other event involving a disease with an associated rash.

Hand hygiene

Hand hygiene will be among the most important measures for preventing the spread of pathogens in PODs.^{11,15,18} Appropriate hand hygiene should be performed in all PODs by workers and visitors. Hand hygiene consists of both handwashing using soap and water and the use of alcohol-based hand rubs to remove or destroy microorganisms on the hands. When hands are visibly soiled, handwashing must be

performed because the mechanical action is needed to remove particles from the hands. Alcohol-based hand rubs, in the form of gels, foams, and liquids, are the preferred method for hand hygiene when hands are not visibly soiled. Hand hygiene will be most critical in the medical evaluation/triage area where POD staff will have contact with potentially contagious individuals, but all POD staff should be educated about how and when to perform hand hygiene. Hand hygiene notices/signs should be posted at all POD entrances, restrooms, and hand hygiene stations to help educate and remind POD visitors about the importance of hand hygiene.

Food and water safety at PODs

Food and water will need to be available for POD workers to eat and drink during breaks. Potable water will be required for drinking.^{2,7,11,15,18} Both workers and visitors may need drinking water, so it is important to have access to enough potable water for the projected size of the POD in terms of human capital. In addition, water will be needed for handwashing and environmental cleaning, such as washing dishes and mopping the floor.

POD worker meals/snacks can consist of regular or shelf-stable food (ie, food that does not require heating or cooling, such as *meals, ready-to-eat* [MRE]).²⁰ If food is to be prepared on-site, food safety principles must be implemented to prevent foodborne illness outbreaks.^{2,10,20} POD managers may choose to have food delivered to decrease the need for food preparation at the POD. However, proper storage and handling of food must still be implemented. The POD should have at least 1 refrigerator on-site that is separate from the cooling unit that will be used for medications/vaccines.¹⁰ The temperature of the refrigerator/cooling unit should be maintained at 38°F to 40°F, and the freezer should be ≤0°F or per manufacturer's recommendations for the specific medication or vaccine.²¹ Perishable foods should be refrigerated when not being consumed; any food that requires refrigeration that has been kept at room temperature for 2 hours or more should be discarded.²² Prepared hot foods must be kept at 140°F.²² Kitchen work surfaces/areas and utensils must be disinfected properly prior to and after food preparation. Kitchen staff must be educated regarding environmental decontamination, food storage and handling, and hand hygiene.

Environmental decontamination

A contaminated environment can contribute to infectious disease spread. Therefore, it is essential that PODs, equipment, and supplies be cleaned/disinfected to decrease the risk of disease transmission.^{10,11}

This is most important during outbreaks of disease that are spread through the direct and indirect contact route, such as smallpox. Supplies and items that are touched most frequently or have the most contact with potentially contagious patients, such as tables, doorknobs, utensils, and medical equipment (ie, high-touch surfaces), pose the most risk to disease transmission and should be cleaned frequently.¹¹ The POD planning documents need to include protocols for cleaning/disinfecting the POD during open hours and after it is closed down.²⁰ High-touch areas/surfaces need to be cleaned at least once every 8 hours that the POD is open or when a body fluid spill or contamination occurs. In addition, the POD needs to be cleaned at the end of each day and after the POD is closed at the end of mass distribution processes.²⁰ Cleaning protocols for the kitchen/food preparation area(s), staff break room(s), restrooms, and medical assessment/triage spaces must all be addressed.^{10,11,20} PODs should be kept free of animal/insect pests.¹⁰ POD planning documents need to have a procedure for implementing and monitoring body fluid exposure protocols, such as the Occupational Safety and Health Administration standards on bloodborne pathogens.¹⁰ Supplies are needed for cleaning/disinfecting the POD and medical equipment.¹⁸ An Environmental Protection Agency-registered chemical disinfectant should be used to clean the POD; these disinfectants should be used in accordance with manufacturer's recommendations in regards to dilution and contact time.²³ Alternatively, a 0.5% sodium hypochlorite (ie, bleach) solution can be used to disinfect POD surfaces.¹⁸

POD planning documents need to include protocols for waste management that conform with state regulations. Rest rooms are needed on-site for POD workers and visitors; the number needed depends on the anticipated patient throughput (ie, number of visitors) anticipated at the POD.^{7,10,11,14,20} Procedures must be in place for regular trash and regulated medical waste management.^{2,11,18} Appropriate supplies must be on hand at the POD to handle and dispose of regulated medical waste, including red bags/containers and/or biohazard stickers/labels (see [Table 3](#)).^{10,18}

Communication and training

Communication related to infection prevention protocols and practices in PODs will be essential. Community emergency managers and/or public information officers should make public announcements directing symptomatic individuals to seek medical treatment and not show up at PODs.^{11,24} In addition, signage or printed information sheets should be available at the POD that indicates that only well people can

enter.^{7,18} Other important information to be communicated to the public during a disaster includes (1) potentially contagious disease(s) associated with the event; (2) signs and symptoms of the associated agent/disease; (3) transmission method of the associated agent/disease; (4) how to prevent being exposure to an infectious disease; (5) infection prevention interventions, such as social distancing, that should be implemented; (6) definition of an infectious disease exposure; (7) who is at risk from an exposure or illness; (8) who should seek prophylaxis or vaccination; and (9) where to go to obtain treatment, prophylaxis, or vaccination.^{10,11} POD planners should also have preprinted brochures or materials that outline the aforementioned information to aid in educating the public and POD workers.¹⁸ Internal and external communication mechanisms need to be in place for POD workers to let others know when a potentially contagious individual has been identified. POD staff need to know to whom to report a potentially contagious individual, including the POD manager, medical triage staff, and emergency medical services personnel who will transport the individual to a medical facility.

POD workers will require training related to infection prevention. Educational topics that need to be provided to POD workers pre-event and/or just-in-time during an incident include (1) cold-chain techniques for handling and managing vaccines, including how to use mobile cold storage devices when necessary²; (2) clinical management of infectious diseases^{7,10}; (3) how to identify a potentially contagious or ill individual⁷; (4) how to select and use the correct PPE^{7,11}; (5) implementation of respiratory etiquette in PODs¹¹; (6) hand hygiene protocols; (7) vaccine administration policies and procedures¹⁰; (8) procedures for dispensing medications¹⁰; and (9) social distancing measures. In addition, certain POD workers will require specific training on infection prevention issues. For example, food preparation staff will need training on safe food handling.¹⁰ POD staff assigned to care for worker or visitor children on-site should be educated about communicable disease prevention among children. Greeters and medical triage staff will require training on how to implement control measures when a potentially contagious individual is identified.¹¹ POD staff who will clean the POD during and after operation will need education on environmental decontamination procedures. A full list of infection prevention educational topics needed for POD workers is outlined in [Table 4](#).

Occupational health for PODs workers

PODs workers will most likely consist of volunteers and not paid employees. For ease of explanation, the

Table 4. Topics for POD staff education related to infection prevention in PODs

Education topics
Self-screening for illness
Screening/triaging of visitors for communicable diseases/conditions
Internal and external reporting and communication procedures
POD policies and procedures related to infection prevention
Disease transmission methods/routes
Respiratory hygiene
PPE selection and use
Hand hygiene protocols
Social distancing
Handling potentially contaminated items or equipment
Occupational exposure reporting, evaluation, and treatment
Environmental cleaning/disinfection
Waste management procedures
Vaccine administration and medication dispensing protocols
Cold chain techniques for handling vaccines and/or medications
Medical management of potentially contagious individuals
Safe food handling

term *occupational health* will be used to describe interventions needed to protect POD workers from infection transmission. POD workers should be offered prophylaxis or vaccination, if available during an event. Protocols and recommendations from local public health officials should be followed regarding the medication/vaccination needed, dosage, administration method, and others. Community-based emergency management plans should include POD workers in their estimations when determining how many doses of prophylaxis or vaccination are needed for a jurisdiction.¹¹ Whenever possible, prophylaxis should be offered to POD workers' family members as an incentive to encourage staff to work during an event.¹⁰ It is essential that PPE and hand hygiene products be made available in the POD for staff, and workers should be trained on hand hygiene protocols and how to select and use PPE appropriately.¹⁵ Prevention of occupational exposures to blood and/or infectious bodily fluids via sharps or mucous membrane exposure should be taught to POD workers.¹⁵ All POD worker education is best done in advance but can and should be reinforced as just-in-time training during an event.¹⁰

Other infection prevention interventions for PODs

Once a potentially contagious individual has been identified in a POD, contact tracing will need to be initiated.¹⁰ Protocols will need to be in place to collect contact information, perform a medical screening, and register identified household and other contacts of the potentially contagious individual.¹⁰ This information should be communicated to the local public health officials, who will be coordinating the outbreak investigation during a disaster. Contact tracing may involve

the need to communicate travel or other restrictions to contacts of potentially contagious individuals.¹⁰ Exact information to be communicated with contacts should be obtained from and coordinated through local public health officials.

Cold chain techniques may need to be followed in PODs, depending on the vaccine or medication needed during an event. Refrigeration or cold storage units must be available in the POD to accommodate medication/vaccine storage, and this cooling system must be separate from refrigeration used for food.^{10,11} POD staff should be trained on cold chain techniques and the need for separation of medication/vaccine from food.¹⁵ Other infection prevention techniques related to handling pharmaceuticals, such as the safe repackaging and preparation of medication solutions and suspensions, need to be practiced in PODs.

POD planning documents will need to include protocols for sharps control.^{10,18} Sharps containers must be available within the POD and located near the area(s) where sharps will be used.^{10,18} POD planners/managers will also need to have procedures for the transport and disposal of sharps.

Drive-through PODs

Most PODs will be set up in buildings or tented areas within a community. However, some communities are also planning to use a drive-through system for distribution of mass vaccination and/or prophylaxis.^{14,15} Drive-through PODs pose less of an infection transmission risk to visitors than freestanding systems because individuals will not be in close contact with other people (except others in the car, who will most likely be household contacts) when utilizing a drive-through program. Despite the lowered risk of disease spread, infection prevention will still be important for drive-through mass vaccination and/or prophylaxis systems.¹⁵ Infection prevention in drive-through PODs will consist primarily of occupational health issues, such as having PPE on hand, safe handling of sharps to prevent exposure, education on correct cold chain techniques, screening visitors for illness to determine contraindications for vaccination, and screening of staff for signs of disease.^{14,15} In addition, POD managers should use the recommendations outlined in this article to determine whether other infection prevention recommendations would be applicable to their drive-through POD, and implement these strategies when appropriate.

CONCLUSION

Mass casualty events, especially those involving a contagious agent/disease, will require the need to distribute vast amounts of medications and/or vaccines

to the community within 2 or fewer days. The primary delivery system for mass prophylaxis and/or vaccination for most communities will consist of PODs. PODs are expected to have many visitors in a short period of time, which will likely include at least some potentially contagious individuals. PODs workers will probably lack formal medical or infection prevention training and could contribute to disease transmission unintentionally by failing to implement appropriate control measures. It is therefore essential that PODs have procedures and protocols to prevent and control the spread of communicable diseases. Topics that need to be covered in PODs planning documents related to infection prevention are outlined in this article. Community emergency managers should use this article to develop and implement an infection prevention program for their PODs. Infection preventionists will likely not be available to assist PODs during an actual event, but community emergency managers are encouraged to involve an infection preventionist in the planning stages.

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