

## ASPR TRACIE Technical Assistance Request

**Request Receipt Date (by ASPR TRACIE):** 30 April 2020

**Response Date:** 14 May 2020; Updated 22 May 2020, 24 June 2020

**Type of TA Request:** Standard

### Request:

The requestor asked for resources related to COVID-19 and secondary disasters (or dual disasters), particularly as it pertains to health and medical considerations and need for facilities and communities to shelter-in-place or evacuate during disasters (e.g., hurricanes, tornadoes, and wildfires) while requiring to maintain social distancing practices.

### Response:

Secondary/ dual disasters (e.g., natural disasters, cyberattacks, large-scale transportation accidents, mass casualty incidents) that strike during the COVID-19 pandemic will further stress the health and medical system and threaten vulnerable residents and infrastructure. Below are considerations for healthcare and emergency management professionals when planning for all-hazard secondary disasters during a public health emergency. Click below to be taken directly to that section.

- I. [Health and Medical Considerations](#)
  - [Telehealth and Utility Loss](#)
  - [Medical Care Delivery](#)
- II. [Healthcare Facility Evacuation](#)
- III. [Sheltering During the COVID-19 Pandemic](#)
  - [Site Selection](#)
  - [Infection Control in Shelters](#)
  - [Screening](#)
  - [Shelter Set Up and Management](#)
  - [Food and Water](#)
  - [Cleaning/Disinfecting and Waste Management](#)
  - [Other Considerations](#)
  - [Planning to Shelter during COVID-19](#)
- IV. [Lessons Learned from Recent Incidents](#)

Please refer to the Centers for Disease Control and Prevention's (CDC) [Coronavirus Disease 2019 webpage](#) for the most up-to-date clinical guidance on COVID-19 outbreak management. Visit the [ASPR TRACIE COVID-19 page](#) for additional healthcare planning resources.

## I. Health and Medical Considerations

- Chronic medical conditions are often exacerbated during disasters; affected patients are even more vulnerable during the COVID-19 pandemic due to:
  - The potential lack of medical access (e.g., closed physician offices, no access to telemedicine, and/or no transportation to get medication or needed healthcare service);
  - Refusal to seek medical care due to fears of contracting COVID-19; and
  - Loss of healthcare coverage or access to medication due to the loss of a job.
- Local healthcare providers and emergency management and public health planners should plan for the evacuation and shelter needs of individuals with new and pre-existing medical conditions, which may have worsened due to COVID-19, including patients:
  - With chronic medical conditions
  - With a mental health diagnosis and/or alcohol or drug dependency
  - Whose conditions must be continually managed by prescription medications (e.g., seizure disorders, and diabetes)
  - Who are dependent on medical devices
  - Who are on dialysis
- Secondary disasters (e.g., floods, earthquakes, fires) may damage hospitals and other healthcare facilities. A plan must be in place for patients separated from their “medical home” who need continued access to healthcare facilities, services, equipment, medications, and records.
- Healthcare leadership should maintain staff morale and promote/encourage use of behavioral health support programs. Healthcare facilities have opened wellness centers, call lines for behavioral health assistance, and encouraged self-care and open communication. Additional resources can be found on the [COVID-19 Behavioral Health Resources](#) page.

### For More Information:

- [Major Earthquakes & Cascading Events: Potential Health and Medical Implications](#)
- [Major Hurricanes: Potential Public Health and Medical Implications](#)
- [Major Radiological or Nuclear Incidents: Potential Health and Medical Implications](#)

## Telehealth and Utility Loss

- The use of telehealth services has significantly increased during the COVID-19 pandemic. Healthcare providers are offering virtual visits to conduct patient screening and triage for COVID-19 and influenza-like illness, pre-and post-operative visits, remote patient monitoring for chronic medical conditions, and acute office visits for conditions that can be assessed and treated remotely.

### For More Information:

- [ASPR TRACIE COVID-19 and Telehealth Tip Sheet](#)
- [ASPR TRACIE Durable Medical Equipment in Disasters](#)
- [Planning for Power Outages: A Guide for Hospitals and Healthcare Facilities](#)
- [Utility Failures Topic Collection](#)

- During a secondary disaster, telehealth services may be an optimal way to reach some patients who have been displaced or may not be able to access a healthcare facility.
- Many secondary disasters, however, will result in potentially wide-scale power outages, loss of internet connectivity, and/or loss of equipment (by both providers and patients).
- Planners and healthcare providers must consider this increasing reliance on telemedicine when planning for the effect that utility outages would have on virtual healthcare. This must be done in conjunction with more traditional planning for power outages (e.g., sustaining durable medical equipment, and HVAC systems).
- Utility outages will also affect respiratory devices and other critical care equipment vital for COVID-19 patients. Hospitals must ensure that their generator capacity is able to withstand this potential increase in demand.

## Medical Care Delivery

- Many emergency departments (ED) across the country have reported an approximate 40% decrease in traditional emergent visits during the COVID-19 pandemic. During a secondary disaster, however, injured victims will need to be transported to and cared for in these hospitals.
- Some hospitals will already be stressed (resources, staff, and space) due to large numbers of COVID-19 patients and will likely have strict precautions in place for testing, receiving, and admitting additional patients. Those hospitals with lighter patient loads also need to take these precautions while managing potentially infected victims of a secondary disaster.
- Initial triage and testing will be imperative to keep patients and personnel safe.
  - Many hospitals currently start the screening process outside of the hospital or in the lobby; patients with respiratory symptoms are typically sent to a separate area. In a mass casualty incident, patient screening and triage will need to be done rapidly and there may not be enough time to screen all patients for COVID-19 symptoms, particularly those with critical injuries.
  - All patients will need to be treated as “COVID-possible” and therefore have their temperature taken and provided a mask if feasible. Healthcare providers may need to take extra precautions such as wearing personal protective equipment (PPE) that would typically not be needed when treating mass casualty victims prior to COVID-19.<sup>1</sup>

### For More Information:

- [ASPR TRACIE COVID-19 Healthcare Delivery Impacts](#)

<sup>1</sup> [CMS has required](#) that all Medicare-certified hospitals with EDs are to provide medical screening to all patients that come into the ED.

- Testing is important to understand the landscape of new patients, the level of PPE worn by providers, and how medical care will be prioritized and delivered to each patient. Testing can also ensure that patients can safely be sent home or to another facility (shelter, skilled nursing facility) upon discharge.
- Patient tracking and reunification is often challenging during natural disasters and mass casualty incidents and may be more so during the pandemic with rules barring visitors due to COVID-19. Hospitals must plan for conducting these activities virtually.

**For More Information:**

- [ASPR TRACIE Family Reunification and Support Topic Collection](#)
- [ASPR TRACIE Tips for Healthcare Facilities: Assisting Families and Loved Ones after a Mass Casualty Incident](#)
- [CDC Strategies to Optimize the Supply of PPE and Equipment](#)

## II. Healthcare Facility Evacuation

Evacuating patients who are on isolation precautions (e.g., confirmed COVID-19 patients) presents significant, unique challenges to an already challenging process. Lessons learned from past incidents, including the evacuation of Coney Island Hospital (NY) prior to Hurricane Irene, of patients who were on isolation precautions include the following:<sup>2</sup>

- Patients should be sent with a printed copy of their discharge summary and an isolation sign, providing a visual cue to the transport team and receiving facility.
- Detailed patient records concerning precautions and receiving facilities should be maintained in the Incident Command Center.
- A designated healthcare provider (e.g., Director of Infection Control) should be assigned to work in the Incident Command Center and have access to the electronic medical records to provide receiving facilities with detailed patient information.
- Medical and nursing staff should accompany patients and work in the receiving facilities for the duration of the evacuation to help provide continuity of care.
- All patient rooms should be terminally cleaned as patients are evacuated if circumstances allow.
- When the evacuated hospital reopens, the transfer process is reversed, and the same process is followed with the original hospital becoming the receiving facility.
- Infection control personnel should be stationed on each unit to ensure appropriate patient placement upon their return.

**For More Information:**

- [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#) (Appendix E-Mass Evacuee Support)

<sup>2</sup> Haag, R. and Marcellino, J. (2012). [Maintaining Isolation Precautions During a Hurricane Evacuation](#). American Journal of Infection Control. 40(5).

The following is an excerpt from a Critical Care Journal article, “[Safe Patient Transport for COVID-19](#)”.<sup>3</sup> These considerations are for staff who are responsible for evacuating confirmed or suspected COVID-19 patients.

- All transport staff should wear appropriate PPE (e.g., N95, face shield, disposable gown, gloves).
- Patients should wear surgical mask.
- Avoid using open breathing circuits or high-flow nasal oxygenation and non-invasive positive treatment during transport.
- Add HEPA filters to endotracheal tubes if bagging is required via bag-valve-mask (BVM) as well as to expiratory limbs of breathing circuits for ventilators.
- Avoid unnecessary breathing circuit disconnection during transport.
- Prepare transport equipment and drugs in anticipation of medical emergencies, such as sudden cardiovascular collapse or hypotension.
- Conduct gentle bagging by BVM to reduce aerosolization in the event of worsening hypoxemia.
- Use pre-planned dedicated transport route to receiving hospitals or other destination.

**For More Information:**

- [CDC Healthcare Infection Prevention and Control FAQs for COVID-19](#)
- [CDC Cleaning and Disinfection for Non-emergency Transport Vehicles](#)
- [ASPR TRACIE EMS Infectious Disease Playbook](#)

---

<sup>3</sup> Liew, M., Siow, W., Yau, Y., et al. (2020). [Safe Patient Transport for COVID-19](#). Critical Care Journal. 24: 94.

### III. Sheltering during the COVID-19 Pandemic

Shelters that are established during disasters are considered temporary; they are not expected to administer healthcare services in the traditional sense. The CDC recommends that during COVID-19, alternatives, such as sheltering in place, should be considered. If that is not an option, the American Red Cross (ARC) identifies three types of sheltering to consider during secondary disasters in the COVID-19 environment: hotel/dormitory sheltering (preferred if available), using campgrounds as shelters, and congregate shelters. The information provided through the end of this tip sheet focuses primarily on congregate sheltering. More detailed information for each of these sections can be found in the [CDC Interim Guidance for General Population Disaster Shelters During the COVID-19 Pandemic](#) and in the [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#)

[FEMA Policy 104-009-18](#) (issued June 17, 2020) provides information on the framework, policy, and requirements for determining eligible work and costs for non-congregate sheltering in response to a Presidentially declared emergency or major disaster (Stafford Act declarations).

#### For More Information:

- [CDC Interim Guidance for General Population Disaster Shelters During the COVID-19 Pandemic](#)
- [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#)
- [CDC Shared and Congregate Housing](#)
- [CDC Going to a Public Disaster Shelter During the COVID-19 Pandemic](#)
- [National Mass Care Strategy](#)

#### Hurricanes

- [FEMA COVID-19 Pandemic Operational Guidance for the 2020 Hurricane Season](#)
- [CDC Preparing for Hurricanes During COVID-19 Pandemic](#)

#### Wildfire

- [CDC COVID-19 Considerations for Cleaner Air Shelters and Cleaner Air Spaces to Protect the Public from Wildfire Smoke](#)
- [IAFC, Using COVID-19 Resources for Local Planning and Response to Wildland Fires](#)
- [National Wildfire Coordinating Group Medical Unit COVID-19 Concept of Operations Plan](#)

#### Heat

- [CDC COVID-19 and Cooling Centers](#)
- [GHHIN, Heat and COVID-19](#)
- [GHHIN, Protecting Health from Hot Weather during the COVID-19 Pandemic](#)

## Site Selection

- When possible, jurisdictions should use alternative facilities such as hotels to provide shelters for localized disasters during a pandemic.
  - CDC recommends hotels/dormitories and small shelters (fewer than 50 residents) to be prioritized over large shelters.
  - Across the U.S., ARC typically has two or three shelters open every night due to a fire, tornado, flood, or other disaster. However, since late March 2020, the ARC has not opened any shelters. Instead, they are placing displaced families into hotels or other temporary housing to reduce the transmission of COVID-19.<sup>4</sup>
  - The ARC document [Sheltering in COVID-19 Affected Areas](#) provides a detailed description of shelter types and pros/cons for each, as well as general considerations for congregate shelters.
  - Supplemental facilities, such as military shelters and closed hospitals may also be considered.
- A [Federal Medical Station \(FMS\)](#) is a U.S. Department of Health and Human Services (HHS) deployable healthcare facility that consists of enough equipment and supplies to operate a temporary medical facility and treat 50 to 250 patients within an “appropriate building of opportunity.” Much of this HHS asset and federal medical personnel are currently deployed to respond to the COVID-19 pandemic and therefore may not have the typical availability to respond to a secondary disaster. However, some of these facilities may be utilized if needed as a result of a secondary disaster.
- Emergency managers planning for community evacuations should consider screening evacuees for symptoms of COVID-19, and those with symptoms should be placed in separate facilities, if possible. The elderly and immunocompromised should be separated as much as possible and housed in similar facilities.<sup>5</sup>
- This table for shelter facility selection is an excerpt from the [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#) (Appendix A, page 13):

### For More Information:

- [American Red Cross Sheltering in COVID-19 Affected Areas](#)
- [COVID-19 Federal Healthcare Resilience Task Force Alternate Care Site Toolkit](#)
- [National Weather Service COVID-19 Temporary Medical Facility Forecasts](#)
- [Healthcare Capacity Building: Alternative Care Sites and Federal Medical Stations](#)

<sup>4</sup> Almenara, F. (2020). [Red Cross Sets Up Temporary Hotel Shelter For Madison Fire Victims](#). WKOW.

<sup>5</sup> Clark-Ginsberg, A., Cecchine, G., Fugate, C., and Bond, C. (2020). [Imagine Hurricane Katrina During a Pandemic. The US Needs to Prepare for That — Now](#). Vox.

Task	Standard/ Concurrent Procedure	Guidance for Pandemic	Jurisdiction Action
<b>Congregate Shelter</b>			
Determine capacity per facility	<ul style="list-style-type: none"> <li>• Current space requirements of 20/60+ square feet.</li> <li>• Ensure facilities can accommodate people with disabilities and/or others with access and functional needs.</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate with appropriate State, Local, Tribal, and Territorial (SLTT) governments; and federal health officials to ensure compliance with current guidance.</li> <li>• For long-term sheltering, provide 110 square feet per person, based on CDC guidelines.</li> <li>• Sheltering space will be reduced drastically.</li> </ul>	<ul style="list-style-type: none"> <li>• Reevaluate the jurisdiction’s shelter plan and adjust number of available shelter spaces based on pandemic guidelines and identify additional facilities, if required.</li> <li>• Factor in an additional 10,000-15,000 square feet for other activities (e.g., registration, quarantine etc.).</li> <li>• Increase sheltering capacity and capability, (including a process to rapidly identify and survey spontaneous shelter sites during activations).</li> <li>• Utilize shelter tracking system designated by jurisdiction to track shelter populations and determine available space.</li> </ul>
<b>Non-Congregate Sheltering</b>			
Identification of Facilities	<ul style="list-style-type: none"> <li>• Vacant hotel/motel, retreat center, dorm, assisted living facility or converted building space.</li> <li>• Facilities may be fully private or include use of communal bathing or feeding areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Documented through an official order signed by a SLTT public health official.</li> <li>• Coordinate with state and local health officials to ensure compliance with current guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify vacant government- or privately- owned property for potential use as a shelter.</li> <li>• Work with local real estate or property management firm to identify other potential facilities that can be used as shelters.</li> </ul>

Table 1. FEMA recommendations for facility selection for congregate and non-congregate shelters

## Infection Control in Shelters

- Shelter staff and residents should always wear a face covering or mask except when not practical (eating, showering). Face coverings should not be used by children under age 2, anyone who has trouble breathing, is incapacitated or otherwise unable to remove the mask without assistance.
- It is critical to identify potentially infectious or acutely ill individuals to prevent the spread of disease within the shelter. This can be done through triage, and infection prevention and control strategies.
  - Those that are ill or require specialty care should be transferred to a medical facility or [alternate care site \(ASC\)](#) as soon as feasible.
  - When potentially contagious individuals cannot be transferred, shelter staff must implement infection prevention and control interventions to decrease the risk of disease spread within the shelter.
  - Each shelter should develop a communicable disease assessment plan. Formal assessment and triage should be conducted on sheltered individuals and staff operating the shelter to identify any potential infectious diseases or conditions.
- If possible, an infection control professional or designee should be involved in local and regional emergency preparedness planning and be available for consultation during the secondary disaster due to the potential for infection transmission in shelters. This person should be identified for each shelter and be part of the Incident Command staff. This should be done in coordination with local public health communicable disease officials who may be aware of additional helpful local and regional resources.
  - An infection control professional can assist with the following: developing a shelter needs assessment; identifying disease surveillance needs; performing surveillance; monitoring on-site infection control practices; and intervening during potential infectious disease outbreaks.
- Appropriate hand hygiene should be practiced in all shelters. It is required as an important measure for preventing the spread of pathogens and whenever significant hand contamination is possible.
  - This includes activities involving contact with mucous membranes, blood or body fluids, secretions, or excretions.
  - Hand hygiene should also be practiced after touching inanimate sources, which are likely to be contaminated with virulent microorganisms.
  - Hand hygiene is particularly crucial following contact with a symptomatic individual.

### For More Information:

- [CDC Use of Face Covers to Help Slow the Spread of COVID-19](#)
- [CDC Recommendation Regarding the Use of Face Coverings, Especially in Areas of Significant Community-Based Transmission](#)

## Screening

- Shelter staff can use verbal screening and non-contact infrared thermometers for entry screening and place potentially ill evacuees in a separate room.
- CDC recommends that shelter managers screen residents daily for symptoms of COVID-19 and other illnesses, monitor for mental health concerns, and provide a daily status update to the local health department and other relevant agencies.<sup>6</sup>
- If feasible, local jurisdictions should supply shelters with COVID-19 testing kits to test individuals who may possibly have COVID-19.
- If partitions or barriers cannot be in place for screeners, they should use PPE such as facemasks, eye protection (goggles, face shields), and disposable gloves.

### For More Information:

- [CDC Verbal Screening and Temperature Check Protocols](#)

## Shelter Set Up and Management

- The proximity of sheltered individuals and staff in conjunction with a decrease or lack of routine sanitary services can increase the risk of disease transmission. After Hurricane Katrina, overcrowded living conditions contributed to the spread of communicable diseases. Main areas for concern specific to congregating groups in shelters during a pandemic include crowding, shared spaces, fewer volunteer staff, increased need for PPE, and screening.<sup>7</sup>
  - Provide supplies for sanitization to staff and sheltered individuals in common areas, such as soap, alcohol-based hand sanitizers that contain at least 60% alcohol, tissues, trash baskets, and, if possible, face coverings/masks that are washed or discarded after each use.
  - Place posters that encourage hand hygiene to help stop the spread at the entrance to the facility, at sinks in restrooms, and other areas they are likely to be seen.
- Individual placement within the shelter should be determined based on triage and syndromic surveillance assessments.
  - Whenever possible, families should be placed together within the shelter, especially those with small children.

### For More Information:

Considerations for facility set up and management for both congregate and non-congregate settings can be found in [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#) (Appendix A). This includes guidance on creating quarantine and isolation areas, temporary barriers, cot spacing, surveillance, registration, staffing, and security.

<sup>6</sup> CDC. (2020). [Interim Guidance for General Population Disaster Shelters During the COVID-19 Pandemic](#).

<sup>7</sup> APIC Emergency Preparedness Committee. (2008). [Infection Prevention and Control for Shelters During Disasters](#).

- Sleeping areas (including cots) should be arranged so that individuals are separated by putting a minimum of 6 feet between individual sleeping areas (or cots) to prevent the spread of infections. In addition, sheltered individuals should be instructed to sleep head to toe.
- Shelters should plan for fewer volunteers. Individuals may be reluctant to volunteer due to fear of becoming ill or needing to care for a loved one should they become ill.
- Volunteer organizations should provide updated training and guidance to volunteers on specific precautions they should take when setting up and operating shelters during a pandemic.
- Shelters should have one entrance. Anyone entering must be logged in after having their temperature scanned and must answer a series of questions about whether they have any symptoms or have recently had contact with anyone who might be infected.
- Clear markers should be placed on the floor to maintain proper social distancing.
- The shelter should have a designated isolation area for infectious and potentially infectious individuals.
- Shelter areas may be divided into the following areas (this is not an all-inclusive list): kitchen, dining, bathroom, dormitory/sleeping area, common play area, medical/first aid area, and isolation-designated area.
- Cleaning crews should wear appropriate PPE and circulate all day to continuously sanitize the facility.
- Additional rooms may also be created within a shelter to establish further social distancing practices.
  - Immunocompromised individuals should be separated as much as possible or housed in separate facilities.
  - State or local recommendations on occupancy can be used during disasters in which social distancing requirements are needed. Rates may be calculated using existing fire codes or square footage.
    - Example: Buildings under 10,000 square feet use a 25% of fire code occupancy, buildings over 10,000 square feet use 10% of fire code occupancy.<sup>8</sup>

## Food and Water

- During disasters, shelters may experience an increased need for potable and non-potable water. In some secondary disasters, such as a flood or hurricane, the municipal water

### For More Information:

- [Red Cross Guidelines for Feeding Operations in COVID-19 Congregate Shelters](#)
- [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#) (Appendix B)

---

<sup>8</sup> Ibid, page 6.

supply may become compromised. Microbial contamination of water poses a large health risk.

- In the event of water contamination, safe water reserves must be identified and made available to shelters.
- Back-up supplies of potable water for human consumption, sanitation, and hygiene are essential to the safe operation of shelters.
- Food must be provided to individuals in shelters during emergencies. However, this can pose an infectious disease risk if food is not stored, prepared, and handled appropriately.
  - Serve pre-packaged meals or individual meals dispensed by food service workers.
  - Cafeteria-style service is preferred over self-service, buffet, or family-style.
  - If a cafeteria setting is present, individuals should maintain a minimum of 6 feet of distance between people of different households.
  - Shelter planners should work with registered dietitians and licensed sanitarians when developing plans for obtaining, storing, rotating, and dispensing food supplies.
  - Services from dietitians and sanitarians should be coordinated and made available through local and state public health agencies and/or community emergency management.

## Cleaning/Disinfecting and Waste Management

- Disinfection practices should be conducted using U.S. Environmental Protection Agency (EPA)-registered disinfectant.
- Local jurisdictions should have standing arrangements for trash management during disasters, including handling medical waste. Shelter planners should work with local emergency management and public health agencies to ensure a multidisciplinary approach.
  - Increase frequency of garbage collections.
  - Trash receptacles should be made readily available and emptied on a regular basis.
  - Regulated medical waste (e.g., biomedical waste/body fluids and/or used needles and sharps) should not be mingled with regular trash.
  - The holding area for disposal of waste materials should be kept safe, clean, and free of access by vermin and insects.
  - After trash is picked-up for disposal, the holding area should be cleaned and disinfected to remove accumulated organic material in order to prevent insects, animals, and vermin activity.

### For More Information:

- [CDC Cleaning and Disinfection for Community Facilities](#)
- [CDC/EPA Cleaning and Disinfection Guidance](#)
- [CDC Cleaning and Disinfecting Your Facility](#)

- Proper cleaning and disinfection of the shelter environment (e.g., surfaces in sleeping and kitchen areas) are crucial to decrease the risk of disease transmission. Shelter staff should be provided with clear, related guidance and training.

## Other Considerations

- If there is a designated play area for children, the shelter should have a written plan and proper staff training for toy storage, monitoring, and cleaning.
  - These areas should be cleaned and disinfected every 4-6 hours.
  - Toys should have non-porous surfaces, which are less likely to become contaminated and can be easily cleaned, disinfected, and dried.
  - Crib mobiles, soft/stuffed toys, hand-held electronic games, and wooden and blow toys should be avoided since they are difficult to clean, disinfect, and dry.
  - Bath or other toys that retain water should also be avoided because they can harbor germs.
- Some individuals may arrive at the shelter with their pets. Close contact with animals can pose an infection risk if the animal bites or scratches a human.
  - Many shelters cannot accept animals because of health and safety regulations. Community disaster plans should include provisions for pet shelters adjacent or close to human shelters if possible.
  - Shelter workers should also coordinate with local and state animal rescue agencies to provide shelter for pets.
- Community disaster plans for shelters should include the following recommendations for pest control:
  - Eliminate sources of food for pests.
  - Eliminate areas for nests, burrows, or breeding grounds.
  - Asses the inside and outside of the shelter facility for potential entrances for vermin, such as windows with torn or missing screens, doors propped open, standing water, and the like. Seal and eliminate any potential problem areas.
  - Work with a community pest control team/company if needed.
- Community disaster plans should include post-mortem care. Procedures for handling the deceased are regulated at the local and state level. Shelter staff should coordinate with local, state, and federal disaster planning groups, to include Disaster Mortuary Operational Response Teams (DMORT), local medical examiners, and coroners.

### For More Information:

- [CDC Keeping Children Healthy While School's Out](#)
- [AVMA Interim Recommendations for Intake of Companion Animals from Households where Humans with COVID-19 are Present](#)
- [ADA COVID-19 Resources](#)
- [ASPR TRACIE COVID-19 At-Risk Individuals Resources](#)
- [FEMA Mass Care/ Emergency Assistance Pandemic Planning Considerations](#) (Appendix C- household pets, services, and support animals)

- Clear, concise messaging should be conducted to staff, volunteers, and evacuees during an outbreak. Setting clear expectations and explaining restrictions early can help prevent conflict and emotional distress.
  - Post cough and hand hygiene literature in various areas and ensure adequate supply of hygiene products are available for staff.
    - CDC: [Communication – Print Resources](#).
    - CDC: [Cleaning and Disinfection Recommendations: Interim Recommendations for US Community Facilities with Suspected/Confirmed Coronavirus Disease 2019](#).
  - Post the [same literature in different languages](#) throughout the facility.

**For More Information:**

- [CDC Interim Guidance: Public Health Communicators Get Your Community Ready for COVID-19](#)

## Planning to Shelter During COVID-19

- In California, the sheltering of evacuees after a secondary disaster may be further complicated because utility companies have shut off power during periods of high winds and dry conditions to keep damaged equipment from sparking fires. For example, in 2019, shelters were set up during the wildfires for vulnerable residents who needed power to operate medical equipment.<sup>9</sup>
- In preparation for hurricane season, Pinellas County (FL) began editing their community’s hurricane preparedness pamphlet to include safety guidelines from the CDC. Plans were later updated to include considerations for social distancing, use of PPE, and hygiene protocols.<sup>10</sup>
- Pinellas and Hillsborough Counties (FL) worked with shelters to increase the square footage each evacuee will have to comply with social distancing if a hurricane hits.
- Hillsborough County (FL) also considered adding more schools to their shelter list and other non-occupied facilities, such as vacant hotels, in preparation for hurricane season.<sup>11</sup>
  - Sheltering evacuees in hotels would address social distancing challenges because families/ individuals could be placed in individual rooms.

**For More Information:**

- [American Meteorological Society, Tornado Sheltering Guidelines During the COVID-19 Pandemic](#)
- [State of Missouri, Show Me Strong Recovery Plan - Guidance and Frequently Asked Questions](#)
- [Association for Professional in Infection Control and Epidemiology \(APIC\) Emergency Preparedness Committee, Infection Prevention and Control for Shelters During Disasters](#)

<sup>9</sup> Associated Press. (2020). [What if California Faces a Disaster During the Pandemic?](#)

<sup>10</sup> Cody, T. (2020). [Hillsborough, Pinellas County have Hurricane Season, Social Distancing Top of Mind](#).

<sup>11</sup> Mower, L. and Solochek, J.S. [COVID-19 Could End Florida’s Use of Schools as Hurricane Shelters](#). Tampa Bay Times.

- For their safety, individuals should always seek refuge from a tornado, despite the fear of infection from COVID-19. Proper steps should be taken to ensure people follow CDC guidelines for social distancing.
- Clear communication within the community is crucial. For example, individuals in the storm surge zone should evacuate while others should be encouraged to shelter in place and be prepared for wind, rain, and power outages. Additionally, there may be community members that traditionally rely on shelters during storms/ power outages that may not be open due to COVID-19; early communication can allow them to make alternate plans.

## **Lessons Learned from Recent Incidents**

### **Civil Unrest**

The ASPR TRACIE team interviewed Dr. John Hick and Seth Jones from Hennepin County Medical Center (Minneapolis, MN) to better understand how days of civil unrest affected emergency management, the emergency department, emergency medical services, and the community hospitals, and how this factored into the hospitals COVID-19 response. [This article](#) provides challenges and considerations to help stakeholders with similar planning and response efforts.

### **Flooding**

Many communities across the Midwest have faced the dual disaster of a flood during COVID-19. The American Flood Coalition developed the [Dual Disaster Handbook: 6 Recommendations for Local Leaders Responding to Floods During COVID-19](#) that provides checklists and recommendations. This resource also provides case studies from Helena, AK and Oslo, MN floods.

### **Tornadoes**

The National Geographic highlighted the following case study in their article, [What Happens when Natural Disasters Strike During a Pandemic](#). During the recent tornadoes that hit Tuscaloosa, AL, two shelters, located in schools, were opened. Shelter workers advised people to stay 6 feet apart in accordance with CDC social distancing rules. Evacuees were also asked whether they felt ill, and those who said they did were directed to an isolation room near an exterior door. Shelter staff noted that people were honest with their answers. One elderly couple even isolated themselves in a teacher's lounge.

### **General Info**

[This memo](#) from the National Governor's Association provides considerations for simultaneous emergencies to include case studies/anecdotal stories from various states on these specific topics: emergency powers and authorities, capacity of response systems, complications for evacuation and sheltering, resources and supply chain, and public information and warning.