

# A Public Health Guide for Emergency Shelters in Missouri

for Shelter Coordinators  
and Staff



Missouri Department of Health and Senior Services

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## Introduction

A disaster can strike practically anytime, anywhere—a storm, plane crash, flood, chemical spill, terrorist attack. These emergencies are different, but they could have one crucial element in common: large numbers of people could be forced from their homes with little warning.

When a disaster forces people to evacuate, they need a place to go until it is safe to return home. They may need to stay for only a few hours, but it could be for days, even weeks. There might be only a dozen families seeking help, or it could be an entire town. Some may already be sick or have special needs, and there may be many children. These people need food and water, a place to sleep, and lots of help. What these people need is an emergency shelter.

Could your community offer emergency shelter to a potentially large number of people for several days?

This guide was developed to introduce and discuss some of the many aspects of planning for and opening an emergency shelter. The role of any emergency shelter is to provide the most basic elements that people need to survive. The Missouri Department of Social Services is the state agency responsible for coordinating with other departments, agencies, and organizations to accomplish mass care in an emergency shelter. Shelters

for the general population may be co-located with special needs shelters, or there may be stand-alone special needs shelters. The Missouri Department of Health and Senior Services coordinates the public health concerns of typical shelter operation services in both mass shelters and special needs shelters to prevent the spread of communicable diseases associated with environmental exposures. This guide provides a brief overview of the related areas of these public health concerns plus the main areas of concern for shelter operations such as food and water, pest control, waste management, and life safety. These are broad guidelines so check with your local public health agency to see if they have more stringent local ordinances. At the end of the guide is a comprehensive checklist of public health concerns to be used when planning a shelter or during a “walk-through” when the shelter is ready to open. Also provided is a list of other resources where you can find more information on emergency shelters.

This guide will give you a starting point on your way to developing and providing a safe, secure and helpful shelter for the people of your community when they will need it most—when the next disaster strikes.

## Planning a Shelter

One of the foundational concepts of emergency response and recovery is that how well we plan and prepare

for an emergency usually defines the success of our emergency response. While there will always be countless variables and unforeseen problems for which pre-planning is impossible, there are crucial elements that can be addressed that remain constant regardless of the emergency or the community.

Probably the most important of these “constants,” and the one objective every emergency planner should pursue is a strong relationship with key partners. Because disasters affect communities, they require a community response. When planning an emergency shelter, contact should be made with the Emergency Management Director (EMD) of the local jurisdiction, who is responsible for the Local Emergency Operations Plan. The EMD is responsible for seeing that shelters are opened when necessary.

Additional contacts can be made with local agencies and organizations with primary and support roles in community emergency response including the local Department of Social Services office, local public health agency, fire and rescue, law enforcement, code enforcement, hospitals, and the American Red Cross. Also included in the list of key community partners would be in-home and home health providers, long-term providers, local churches, schools, The Salvation Army, and service/civic groups like Eagles, Elks, or Lions clubs. Because

these organizations are part of your community, they should be part of your emergency response planning.

Your emergency planning partners can provide vital insight in choosing an emergency shelter site that meets needs from their perspective as well as including public health, security, life safety, community access, and space.

Jurisdictions and communities are encouraged to establish partnerships with their local American Red Cross Chapters, who can provide the knowledge, resources, expertise, and training that will provide the best possible response and service. Local faith-based groups, social service advocacy agencies and other community-based organizations can establish several models of sheltering agreements with the American Red Cross. The different models have varying levels of American Red Cross support and administrative control, ranging from the traditional shelter model, where the American Red Cross does all of the planning and organizing and controls every aspect of the shelter services, to a model where the participating organization assumes responsibility for the planning and organizing and maintains administrative control of their facilities and the services provided. Community response in sheltering, feeding, and meeting the emergency needs of those affected by disasters is maximized by having sheltering agreements in place and by having local staff who are trained to operate those shelters.

## Facility Selection and Life Safety

The role of any emergency shelter is to provide the most basic elements that people need to survive. By opening your shelter, you are providing displaced persons a safe environment until they can return home. Because you want to provide a safe place for displaced persons seeking assistance during a disaster, you must plan to protect your residents’ physical and emotional well-being. Consulting with local partners, as discussed earlier, is a critical component for the facility selection portion of the planning phase. Generally, those selecting the shelter site should first consider churches, schools, hotels, arenas, and community buildings as these facilities normally contain the right mix of amenities to make them ideal as shelters. However, keep in mind that even with the best site things can go awry as the site is only part of the equation. Properly trained staff in everything from fire extinguisher use to security to determining proper egress to mental health issues will be critical. In regard to life safety, the chosen shelter site should provide:

- Accessibility to persons with disabilities.
- Enough sleeping space (40–60 square feet per person) with provision to provide separate spaces for families, single men, and single women.

- One main entrance and several other remote emergency exits.
- Accessible, well-marked and illuminated exit signs and emergency lights.
- Fire detection and response elements including smoke and carbon monoxide detectors, fire extinguishers and sprinkler systems, and automatic or manual fire alarms.
- Adequate number of accessible, grounded electrical outlets.
- Emergency electrical generator or transfer switch hook-up (and a knowledgeable operator).
- Ample parking lot space for increased traffic and fire department access roads.
- Compliance with any applicable fire or safety codes. (Consult with local fire officials for assistance or contact Missouri Division of Fire Safety.)
- Personal safety and security from on-site law enforcement or security professionals.

## Food and Water

Of course, in addition to a safe place to stay, two of the most basic human survival needs are food and water. While this is a simple concept, providing a consistent and ample supply of fresh, safe food and water to your shelter residents while in your care will be a major challenge full of potential problems. These issues multiply as the number of people to be fed and the length of time they are to be cared for increases. Planning for

provision of these most basic needs now, before a major disaster strikes, is crucial.

## Food

There are many considerations that must be addressed when planning for emergency mass feeding services. Added to issues of adequate food quality, quantity, and variety are the potentially serious risks of food-borne illness. We recommend you contact your local public health agency to provide expert advice on food-safety issues, such as safe temperatures for food service and storage. In addition, they may have more stringent local ordinances regarding food-safety issues that need to be complied with. When planning to feed a potentially large number of people, even for a short time, the following should be included:

- **Supply and Storage:** Do you have an established source of emergency food (e.g. local market, grocery supply)? Do you have space for storing large amounts of food, including ample refrigeration?
- **Preparation, Service, and Storage:** Are there kitchen facilities for safely preparing and serving several meals to many people? Can you maintain food at safe temperatures while it is being prepared, served, and stored? Is there space for tables and chairs where several people can eat at one time or in shifts?

- **Food Waste:** Is there a place where large quantities of food waste can be gathered and stored?
- **Volunteer Training:** Are your volunteers trained in safe food handling techniques to reduce the risk of food-borne illness?
- **Arrange for regular cleaning of the food preparation area and feeding area.**

## Water

Safe drinking water is another of the most critical necessities to human survival, but one that is often directly affected by disasters. Therefore, providing drinking water may be another challenge you may face in providing emergency shelter for persons displaced by a disaster. While not as complex as food service, careful planning for providing a safe, adequate supply of water to your shelter residents is crucial. When planning for your shelter water supply, you should consider:

- **Plans for securing safe water if the public water supply is shut off or contaminated (e.g. broken water lines, flooded treatment system, boil orders), such as a source for bottled water.** If the shelter's water source will be from a private well, local public health should test the water for safety during the early planning stages and again just prior to opening the shelter.
- **Identifying location and space needs for stored (bottled) water.** Suggested quantity for emergency

water is one gallon of water per person per day.

- **Plans for serving water throughout your residents' stay (e.g. bottled water, drinking fountains, water coolers).**
- **Significant additional amounts of clean, safe water will be needed for other shelter operations including cooking, cleaning, and personal hygiene.**

## Waste

One of the many unavoidable realities of life is that wherever there are people there will be waste. It is a fact that the basic processes of living create waste, including paper, plastic, and food refuse, as well as human waste. Because waste also is a reality of shelter living, you must carefully plan for it prior to a disaster and effectively deal with it while your shelter is operating. It may be unpleasant to discuss, but it will be much more unpleasant to deal with problems created by the lack of planning. Here are some aspects of waste management you must address:

- **Enough toilets for everyone, including people with disabilities?** Recommended one toilet per 40 residents.
- **On-site sewage/septic systems (independent of public sewers) evaluated for capacity to handle increased sewage flow during emergency shelter occupation.** Assess potential public health

risk of septic system failure or overflow.

- **Source of commercial chemical toilets (Porta-Potty) and plans for location, delivery, and servicing.**
- **Information on and plans for alternate waste collection (trash bags, toilet liners, etc.).**
- **For other solid waste (trash/garbage), adequate number and size of garbage bins, trash cans, and trash bags.** Appropriate location to store solid waste until trash collection service resumes.
- **Arrangements for regular cleaning of restrooms and shower facilities.**

## Disease Prevention and Control

Another reality that should be addressed and planned for is illness prevention and control. While your shelter probably will not provide medical services to shelter residents, it is possible that some of the people who come to your shelter will be sick when they arrive. There could be illnesses that range from a common cold or stomach virus to more serious diseases such as hepatitis or even tuberculosis. We strongly encourage you to contact your local public health agency for expert guidance in planning for disease prevention and control in your shelter. In the meantime, here are a few issues to consider:

- **Because handwashing is key to lowering the risk of disease**

transmission, assure adequate hand sink facilities with warm running water, and ample supplies of soap and paper towels.

- Ensure the shelter is well stocked with plenty of cleaning/ disinfecting products and supplies such as mops, brushes, sponges, etc. Consider providing training for shelter volunteers in proper cleaning and disinfection methods.
- Consider the need for dealing with medical and other waste such as providing separate, approved receptacles for used medical supplies and other medical waste products, sharps containers for syringes (e.g. insulin), and red trash bags for medical waste.

## Medical Services

As a rule emergency shelters for the general population only provide treatment for minor illnesses and injuries and it is important to have staff on hand who are trained to provide basic medical functions like basic first aid and CPR. These shelter staff should be able to perform a basic medical assessment and recognize when someone needs to be taken to a hospital or specialty shelter (such as neighborhood emergency care centers, acute care centers, and special needs shelters) for professional medical treatment.

These issues, including coordinating appropriate agreements and

procedures with local hospitals, home care providers, and emergency medical services, should be addressed during the shelter planning phases.

Your community should carefully consider the need for an emergency specialty shelter as part of the overall emergency shelter evaluation and planning stages. It is beyond the scope of this guide to provide in-depth guidance on establishing specialty shelters. Included in these evaluations should be discussions on issues such as how non-specialty shelters will meet emergency medical needs; how the shelter will cooperate with specialty shelters, local hospitals and emergency medical services; professional medical staffing needs; and necessary medical machines and supplies. Also to be considered are site location evaluations and careful coordination with other shelter planners to ensure that potential problems are avoided early, such as two planners choosing the same site for two different shelters.

## Special Needs Shelters

Special needs shelters may be set up in order to maintain the current health, safety and well-being of dependent individuals who are acutely ill or individuals who meet a multitude of human needs both physical and psychological under adverse conditions. The Missouri Department of Health and Senior

Services is the lead state agency to facilitate the medical function of the special needs shelters, but the primary responsibility for special needs is at the local level.

Several options exist for establishing special needs shelters on the local level. The first option would be to co-locate special needs shelters within general population shelters. The second option is a stand alone special needs shelter. Local authorities will need to work with the organization(s) within their communities designated to provide sheltering to determine which model of special needs sheltering will be used in their community or jurisdiction. Special needs shelters may be co-located with American Red Cross general-population shelters or may be stand alone facilities. Individuals with personal and/or medical special needs may be transferred into and out of a shelter as medical conditions, diagnoses, shelter capabilities, and staff skill levels vary.

## Child Needs

Your community likely comprises a diverse population, including families with children. In a disaster, there could be many children seeking refuge in your shelter. Because children's needs vary by age, planning for meeting those needs presents a distinct challenge. From baby food to toys for older children, from a need for baby beds to a place for kids to

run and play, sheltering children is no easy task. Here are some things to help you start planning:

- Source to obtain and place to store baby food and diapers.
- Toys and designated play area.
- Safety and security (check-in and tracking security procedures).
- Diaper changing area with hand washing and other sanitation facilities nearby.
- Private, secure area for nursing mothers.
- Activities for older children.

## Pets and Service Animals

When a disaster strikes, people will not have time to make arrangements for their pets' care or they may be unwilling to be separated from their animals. Likewise, there may be people with disabilities who require a service animal, such as a seeing-eye dog. As a general rule, shelters do not accept pets, and while a shelter is not required by law to accept service animals, it may be driven by public opinion. You must develop plans and policies that define where you will shelter the pets that will not be allowed to stay in shelters with their owners. You must also develop procedures for dealing with the issues created by service animals that are brought into shelters housing people. The local humane society chapter and local veterinarians are good sources.

Here are some items for further thought and planning:

- Service animal owners must be made aware of their responsibility for feeding and care of their animals. Designate a relief area and provide disposal containers.
- Because of allergy or fear-of-animals issues, clients with service animals should be offered a separate sleeping area or an area with fewer people.
- Pet shelters should be established as close as possible to general population and special needs shelters.
- Pet shelter facilities should have a designated holding area for disruptive animals identified.

## Pest Control

Another area of planning with which your local public health agency can help is in controlling disease-spreading insects and animals. Depending on where the shelter is located, and the time of year, you may be forced to deal with a wide variety of pests and problems they can create. Pests can carry diseases that put humans at risk, as well as cause high anxiety and disruption for your residents, so planning for effective pest control is prudent. Some aspects of pest control include:

- Planning for and dealing with the variety of potential pests: insects (flies, mosquitoes, fleas, lice), mammals (rodents, bats, skunks, wild dogs and cats).

- Identify entry points and potential attractants.
- Establish protocols for eliminating or trapping pests, including approved use of insecticides and rodenticides.

## Using the Checklist

Local public health agencies around the state have environmental public health specialists on staff who are available to provide information and assistance in planning for public health operating issues in an emergency shelter. Familiar with the emergency shelter checklist, these public health experts will be able to provide helpful advice on safe shelter set up and procedures. Specialists from the Missouri Department of Health and Senior Services are also available to assist when needed. The checklist is designed to make shelter managers aware of possible risks and to offer guidance in providing the safest emergency shelter environment possible.

# Mass Shelter Environmental Health Specialist Checklist

## Mass Feeding Centers

- Food from approved or known sources
- Assure potability of water sources
- Prepare food for immediate use; avoid leftovers
- Ensure leftover food that can spoil is cooled quickly and held at appropriate temperatures (above 135 degrees if held for serving)
- Minimum hand contact when preparing food
- Use single service eating and drinking utensils
- No contact between raw and ready-to-eat foods to avoid cross contamination
- Four separate sinks: handwashing, dish/utensil washing, sanitizing, and food preparation
- Sanitizing solution strength: 100 parts per million; 30 second soak
- Food stored in pest-proof containers, located off ground
- Have ability to test for residual chlorine in facility water supply
- All food preparation and serving areas to be cleaned prior to use
- All food contact surfaces sanitized
- Proper disposal of solid and liquid waste
- Avoid self-service of food by shelter residents unless food is sealed in original wrapping
- Observe food handlers in shelter, such as good food handling practice and no illnesses
- If pests need to be controlled, use only approved pesticides
- Prevent cross-contamination by providing separate food service changing area
- Provide handwashing soap and paper towels at toilet facilities
- Conduct brief training in handwashing and sanitary practice

## Liquid Waste/Sewage

If the disaster situation leaves the sewage system infrastructure intact, there should be no concern for disposal of liquid/sewage waste. The following measures can be used to remove or contain liquid sewage wastes in a shelter setting without sewage services. Evaluate the operational condition of the public sewer system.

If non-functional:

- Secure commercial chemical toilets and arrange for their servicing
- Provide information on alternative disposal units
- Supervise the construction of alternative disposal units, both for toilet waste and laundry or sink water
- Non-commercial toilet examples include:
  - 10-16 gallon garbage cans and covers, with 2½ gallons water and ½ lb lye or caustic soda
  - Box type pit latrines
  - Pit privy properly constructed or located above the first compartment of a septic tank
  - Large, extra-strength trash bags (double bagged) can be placed in plastic or metal containers
  - Large, extra-strength trash bags (double bagged) can be used as liners in toilets
- Use household disinfectant for odor control

## Emergency Decontamination of Water

Without a functioning, disinfected water supply, expectations of a functioning shelter cannot be provided. Relocation to another, more suitable site is recommended.

## Solid Waste Disposal

In a disaster situation, solid wastes will require proper storage and/or treatment until the routine collection process can be restarted. It will be up to the environmental health specialists inspecting the mass shelter environments to determine whether there is sufficient and adequate garbage bins, cans, bags, or room to allow garbage to be held for resumption of normal collection.

## Pest Control (disease-spreading insects and animals)

- Inspect shelter facility for entrance routes for various vector hosts
- Identify any pesticides in the shelter environment

## Service Animal Environmental Issues

Although it is not mandated that service animals be allowed in the mass shelter environment, it may be driven by public opinion. Environmental health specialists should be ready to provide for inspections and recommendations that will preserve the public health in shelters with service animals present.

- Animal waste disposal addressed
- Animal feeding areas identified
- Isolation of human food preparation areas from animals
- Designated holding areas for disruptive animals
- Cleaning supplies for animal owners for self-cleaning of animal accidents

## Medical Wastes

Most mass care shelters will not be providing medical services to shelter residents but specialty shelters, such as neighborhood emergency care centers, special needs shelters, and acute care centers will be treating or assisting people with a variety of needs. Even in the most basic special needs shelter, medical waste may be generated.

- Segregated receptacles for used medical supplies and waste products
- Sharps containers for any injections that have to be provided
- Red trash bags for medical wastes

## Diaper Changing Areas

- No utensils or toys washed, rinsed or stored in diaper changing area
- Hand sink with warm running water located in diapering area
- Diapering surface smooth, easily cleanable, nonabsorbent, in good repair
- Soiled diapers stored in solid, nonabsorbent container with tight fitting lid
- Soiled diaper container emptied, washed, rinsed, and sanitized daily

## Life Safety

- Smoke detectors present
- Approved fire extinguishers
- Approved (fused) power strips
- Evacuation/emergency plan
- Exits
- Illuminated exit signs
- Emergency lights
- Proper people placement within the building for accessibility/egress (i.e. elderly, infants and other vulnerable populations where they may be easily evacuated or accessed for medical care)
- Approved hood extinguishing system for cooking equipment
- Has local fire department been notified of emergency shelter location (Pre-emergency Fire Department Notification form available at [www.dfs.dps.mo.gov](http://www.dfs.dps.mo.gov) including consultation.)
- Scheduled emergency walk through (fire and police)
- Carbon monoxide monitors present
- Electrical outlets not overloaded

## Other Resources

- Missouri Department of Social Services Local Offices  
[www.dss.mo.gov/offices.htm](http://www.dss.mo.gov/offices.htm)
- Missouri Department of Social Services  
Division of Financial and Administrative Services  
Emergency Management Section  
573-751-3870  
800-347-8898
- Missouri Local Public Health Agencies  
[health.mo.gov/living/lpha](http://health.mo.gov/living/lpha)
- Missouri Department of Health and Senior Services  
Division of Community and Public Health  
573-751-6161  
Center for Emergency Response and Terrorism  
573-526-4768  
800-392-0272  
[health.mo.gov](http://health.mo.gov)
- Missouri Division of Fire Safety  
[www.dfs.dps.mo.gov](http://www.dfs.dps.mo.gov)
- Missouri Department of Natural Resources  
[www.dnr.mo.gov/disaster.htm](http://www.dnr.mo.gov/disaster.htm)
- American Red Cross  
[www.redcross.org](http://www.redcross.org)
- The Salvation Army  
[www.usc.salvationarmy.org](http://www.usc.salvationarmy.org)
- Humane Society of Missouri  
[www.hsmo.org](http://www.hsmo.org)
- Centers for Disease Control and Prevention  
Shelter Assessment Tool  
[www.bt.cdc.gov/shelterassessment/](http://www.bt.cdc.gov/shelterassessment/)



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To report a public health emergency, call 1-800-392-0272.

This toll-free phone number is staffed 24 hours a day, seven days a week.

Alternate forms of this publication for people with disabilities may be obtained by contacting the office listed above.

Hearing-impaired citizens telephone 1-800-735-2966.

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