

## OVERVIEW

Evacuation is an unlikely possibility in a bioterrorism event. Sheltering in place is more likely to be a better option given the rapid inactivation rate of most bioagents, the likely slow pace of evacuation, and the possibility of the spread of contagious bioagents with the requisite large groups of people during evacuation. For ongoing aerosolized exposure, public buildings and private homes provide a degree of protection. However, if the need for evacuation is determined, it must be done in an orderly fashion. An orderly evacuation supports the parallel movement of supplies, personnel, and patients; maintains the health infrastructure for those being evacuated and those who remain in place; and reduces public panic, which in turn will minimize injury during evacuation.

## OBJECTIVE

Ensure that the public is informed of the need to shelter-in-place or evacuate in order to avoid exposure to toxic chemical or radiological plumes or aerosolized bioagents.

## DEFINITION

This protocol includes procedures to require the public to evacuate an area or to shelter-in-place in order to avoid or minimize exposure to a chemical, radiological, or biological hazard. This protective action is taken when the on-site Incident Commander determines that exposure is likely and dangerous. The type and quantity of the exposure and the time required to evacuate safely determine whether an order is given to evacuate or shelter-in-place. The Health Officer may be consulted to make this determination. "Shelter-in-place" refers to an order to remain indoors, with all doors and windows closed and HVAC systems turned off.

For non-chemical, non-nuclear, biologic events, a "shelter-in-place" order may be issued, during which residents are instructed to remain in home isolation, avoiding contact with others outside the household for

**TAB E**

## EVACUATION/ SHELTER-IN-PLACE

### FOR MORE INFORMATION

Tab C, Casualty Management  
Tab D, Quarantine/Isolation  
Tab F, Risk Communication (for pre-scripted notification to the public to shelter-in-place or evacuate)

#### References:

EMSA Shelter Medical Group  
Toolkit: Local Emergency Preparedness  
Planners Guide  
for the Care and Sheltering of the  
Medically Fragile, published  
by the EMSA Shelter Medical Group,  
September 6, 2001:  
[www.emsa.cahwnet.gov/dms2/  
toolkit.pdf](http://www.emsa.cahwnet.gov/dms2/toolkit.pdf)

California Office of Emergency Services:  
Legal Guidelines for Controlling  
Movement of People and Property During  
an Emergency

Oakland MMRS Deliverable #3,  
January 14, 2001

the duration of the outbreak, or up to at least one incubation period for the biologic agent involved.

While sealing windows and shutting down HVAC systems would not be required in this instance, persons would be advised to have no contact outside their own households and to remain at home.

## **STAFFING**

- !" Communicable Disease Staff
- !" Health Officer
- !" Public Health Nursing Director
- !" Public Health Nursing Staff
- !" Community Health Outreach Workers
- !" Building Supervisor
- !" Information Systems  
Public Information Officer (PIO)

## **PRE-EVENT ACTIONS**

- !" The Health Officer provides basic evaluation guidelines to all facilities, local clinics, and community agencies.
- !" Alameda County Public Health Department (ACPHD) personnel will provide basic emergency training to all facilities, clinics, and community agencies.
- !" ACPHD personnel will ensure that all facilities and organizations are aware of and follow Standardized Emergency Management System (SEMS) guidelines in responding to disasters.

## **EVENT ACTIONS**

1. The release of hazardous materials (chemical, radiological, or biological) is assessed at, or near, the scene by a fire or law enforcement Incident Commander. The Health Officer will be asked to determine a protective action strategy.
2. The Health Officer, in coordination/collaboration with the Incident Commander at the scene, determines the protective action needed, based on the:
  - !" Nature of the release
  - !" Direction of the plume
  - !" Population in the area

3. The decision to evacuate all or portions of Alameda County, with the exception of Berkeley, rests with the ACPHD Health Officer. The decision to evacuate the City of Berkeley rests with the City of Berkeley Health Officer.
4. Once a decision has been made to evacuate or shelter-in-place, the Health Officer informs the Public Health Department Director, Agency Head, and Board of Supervisors.
5. The Health Officer requests a State of Emergency Declaration, if one has not already been made.
6. The Health Officer requests activation of the Emergency Operations Center (EOC) if it is not already operational.
7. If the decision is to evacuate, the Health Officer, in collaboration with law enforcement and others, determines sites to receive evacuees. If these sites are out of the county, the Health Officer or designee communicates with appropriate County officials to determine whether infrastructure is in place in the receiving county to accommodate the evacuees. At a minimum, this must include:
  - !" Food
  - !" Shelter
  - !" Water
8. The Health Officer or designee determines hospital and non-hospital provider resources to shelter medically fragile persons when they are evacuated and/or require shelter. A bed availability report is requested from the Department Operations Center (DOC) Operations Section. The Health Officer or designee informs hospitals or other care providers of the imminent need to receive evacuees and their immediate medical needs, if applicable.
9. The Health Officer determines whether evacuees will be sent to a medical treatment shelter because they require medical treatment. Additionally, the Health Officer must determine whether there are infected patients, and if so, separate these individuals from the general population, and coordinate out-of-hospital treatment and/or isolation of these individuals. Determination of the site will be made based on:
  - !" Number of individuals exposed/infected
  - !" Agent
  - !" Level of medical care required
  - !" Location of exposure
10. The Health Officer or designee works collaboratively with the PIO to inform hospitals, nursing care facilities, and other medical care facilities of the need to evacuate and of the appropriate strategy, which includes the following. (See Appendix E1, Evacuation Strategies, which describes the following in more depth.)
  - !" Sheltering-in-place without moving clients

- !" Sheltering-in-place to a safe area on the same level
- !" Sheltering-in-place vertically (up or down)
- !" Evacuating just outside the facility
- !" Evacuating to a nearby like facility
- !" Evacuating to a distant like facility
- !" Evacuating to a shelter designated as a medical treatment unit (and the originating facility continues to provide all staff and support services)
- !" Evacuating to a shelter designated as a medical treatment unit (and local health officials provide all staff and support services)
- !" Evacuating to a general public shelter with a temporary infirmary

11. The Health Officer or designee works collaboratively with the PIO to prepare Emergency Alert Messages, press releases, and public information announcements in multiple languages, informing the population of the need to evacuate or shelter-in-place and which safety measures should be taken. (See Appendix E2, Shelter In Place Instruction Sheet.) These will be broadcast through multiple sources, including the emergency alert system, public-address system, or door to door. (For more information, see the Tab N, Communication/IT.) Additionally, this information will be placed on the ACPHD Emergency Response Communication System (ERCS).
12. The EOC coordinates delivery of medical equipment, supplies, and medications to shelter sites.
13. The EOC coordinates staffing for mass care shelters and/or alternate treatment sites.

## Evacuation Strategies<sup>1</sup>

***Sheltering In Place Without Moving Clients:*** Depending on the degree of risk, facility staff may decide to remain in place because the threat may have less impact on client health and safety than a voluntary evacuation.

**Example:** A facility becomes aware of a chemical release that will affect it within a short period of time and local government advises staying indoors or evacuating the area. Evacuation could expose patients/residents to greater risks than sheltering in place.

***Sheltering In Place To A Safe Area Or Refuge On The Same Level:*** An evacuation may be necessary from one side of a building to another based on an approaching threat. Staff would be expected to identify the path and speed of the threat to ensure the timely movement of patients and critical equipment.

**Example:** An evacuation may be necessary from one side of a building to another based on an approaching or impending threat. Staff would be expected to identify the path and speed of the threat to ensure a timely movement of patients and critical equipment.

***Sheltering In Place Vertically (Up Or Down):*** For fast-moving, short-duration events it may be necessary to move residents above or below the ground floor. This is usually done because time in which to respond to a serious hazard is extremely limited. Lower-level sheltering may be required for high wind scenarios or during threats from some man-made threat (e.g., a nearby impending explosion). Upper-level sheltering may be required for scenarios involving very fast-moving waters or during the release of ground-hugging chemicals in the immediate area.

**Example:** A two-story facility has a fall-out shelter in the basement. The National Weather Service has announced a tornado warning in the area. A staff member's relative has already seen a funnel cloud touch down less than a mile from the facility. Staff should consider moving patients from the upper floor, and those near windows, to the security of the basement until the tornado warning has subsided.

***Evacuating Just Outside The Facility:*** There may be an internal emergency, which will require staff to evacuate patients from the building. This could be for an immediate problem or a long duration event. The evacuation plan should include locations where facility staff can perform an inventory of those who have left the building. The plan should also include contingencies for this occurring during inclement weather, and the possible need for further evacuation to nearby like facilities.

**Example:** Staff smells smoke in the facility and calls 9-1-1. They are directed to move patients out of the building. Upon authorization from the fire department, they return indoors.

***Evacuating To A Nearby Like Facility:*** Facilities with medically fragile residents should consider movement of patients/residents and staff to a nearby facility, with like capacity for

---

<sup>1</sup> Excerpts from the EMSA Shelter Medical Group Toolkit- Local Emergency Preparedness Planners Guide for the Care and Sheltering of the Medically Fragile, published by the EMSA Shelter Medical Group, September 6, 2001

## Appendix E 1

care of patients/residents. This evacuation type might be considered during a voluntary or precautionary evacuation, and would definitely be appropriate during a mandatory evacuation order. It is critical that facilities have agreements with nearby like facilities to take clients. More than one facility should be identified, usually in opposite directions from the affected facility, in case the primary site is impacted by the same threat. Facilities should identify whether other medical and residential care facilities are also planning to use the same location to receive clients. In addition, plans should address accessible evacuation routes (depending on risks) and transportation logistics.

**Example:** Local government authorities have warned a facility that flood controls may fail within six hours. The facility has a high risk of being flooded within the next two days. Staff have been given adequate time to secure bed space and care at one of the predestinated like facilities. They have also been given time to arrange for transportation and verify a safe route for evacuation.

***Evacuating To A General Public Shelter With A Temporary Infirmary:*** In worst-case scenarios, facilities may have little choice but to evacuate to the nearest available general population shelter. This decision is made only when there is no other option available, and when there is an immediate peril to life and safety of clients if they are not immediately moved to the closest available shelter. The plan must recognize this as a temporary condition requiring immediate triage activities, in coordination with local government, to move the arriving patients to the closest like facility available, whether or not there exist any previous agreements.

**Example:** A massive earthquake has rendered a facility unsafe for occupation. Staff has used every method available to safely move the patients out of the building. The only available shelter is a school auditorium two miles away. There is a temporary infirmary as part of the general population shelter, with limited nursing staff, medical supplies and support. Facility staff will need to set up a working relationship with local government as soon as possible to arrange for the movement of the patients to a like facility.

## Shelter-In-Place General Instruction Sheet

**IF YOU ARE ASKED TO SHELTER IN-PLACE:** Monitor the Emergency Alert System Radio Station

AM Radio Station \_\_\_\_\_

FM Radio Station \_\_\_\_\_

- Listen for instructions and updates and remain in shelter until authorities indicate it is safe to come out.
- Close all doors to the outside and close and **lock** all windows.
- Set all ventilation systems to 100 percent re-circulation so that no outside air is drawn into the structure. When this is not possible, **ventilation systems should be turned off.**
- Turn off all heating systems.
- **Turn off all air-conditioners** and switch inlets to the "closed" positions.
- Select a room in the building where occupants can be the most comfortable and which is easy to **seal off**. This room should, if possible, provide access to water, toilet facilities, and adequate room for people to sit or lie down. Ideally, the room should have a battery-powered radio, snack foods, and bottled water.
- **Seal any gaps** around windows, doors, and window type air-conditioners with tape and plastic sheeting, wax paper, aluminum wrap, or wetted towels or clothes.
- **Turn off all exhaust fans** in kitchens, bathrooms, and other spaces.
- Close all fireplace dampers.
- Close as many internal doors as possible in your home or other building.
- Use tape and plastic food wrapping or aluminum wrap to cover and seal exhaust fan grilles, range vents, dryer vents, and other openings to the outside to the extent possible.
- If the gas or vapor is soluble or even partially soluble in water -- hold a wet cloth or handkerchief over your nose and mouth if the gases start to bother you. For a higher degree of protection, go into the bathroom, close the door, and turn on the shower in a strong spray to "wash" the air. Seal any openings to the outside of the bathroom as best as you can.
- Take a pre-packaged "go-kit" into the safe room to have access to first aid supplies and other items to provide support and comfort.
- If an explosion is possible outdoors -- close drapes, curtains, and shades over windows. Stay away from external windows to prevent potential injury from flying glass.
- Minimize the use of elevators in buildings. These tend to "pump" outdoor air in and out of a building as they travel up and down.
- Tune into the Emergency Alert System Station on your radio for further information and guidance.

## Appendix E 2

- Remain sheltered until advised by authorities that it is safe to come out.
- Once the “all clear” signal has been given, and it is safety to go outside; open doors and windows to air out the facility and return HVAC systems to normal settings.

### **SHELTER IN PLACE BUILDING SUPPLIES**

In most chemical releases, sheltering in place in a facility will be of relatively short duration (2-12 hours). Therefore, on-site supplies should not necessary. Standard facility earthquake emergency supply caches should be sufficient for most situations.