

Hospitals and Community Emergency Response – What You Need to Know

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Preplanning

Ideally, employers within the community will have coordinated emergency response planning with the hospital prior to any emergency event. However, the hospital may need to treat contaminated victims of emergency incidents without the benefit of pre-emergency planning. Both scenarios need to be addressed in the hospital's Emergency Response Plan, along with plans for responding to a hazardous substance incident that occurs in the hospital itself.

The hospital should prepare an Emergency Response Plan even if community coordination has not been initiated or completed. The hospital's Emergency Response Plan must be prepared in writing and established prior to an actual emergency. All employees and affiliated personnel expected to be involved in an emergency response including physicians and nurses, as well as maintenance workers and other ancillary staff should be familiar with the details of the plan.

Elements of a Hospital Emergency Response Plan

This Emergency Response Plan is intended for hospitals involved in a community response to a hazardous substance incident. The plan should address the following elements:

- pre-emergency drills implementing the hospital's emergency response plan;
- practice sessions using the Incident Command System¹ (ICS) with other local emergency response organizations;
- lines of authority and communication between the incident site and hospital personnel regarding hazards and potential contamination;
- designation of a decontamination team, including emergency department physicians, nurses, aides and support personnel;
- description of the hospital's system for immediately accessing information on toxic materials;
- designation of alternative facilities that could provide treatment in case of contamination of the hospital's Emergency Department;

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*ICS is an organized approach to effectively control and manage operations at an emergency incident.

- plan for managing emergency treatment of non-contaminated patients;
- decontamination procedures and designation of decontamination areas (either indoors or outdoors);
- hospital staff use of PPE based on routes of exposure, degree of contact, and each individual's specific tasks;
- prevention of cross-contamination of airborne substances via the hospital's ventilation system;
- air monitoring to ensure that the facility is safe for occupancy following treatment of contaminated patients; and
- post-emergency critique of the hospital's emergency response.

When a hospital has been designated by the LEPC, it must prepare to fulfill its role in community emergency response. This is accomplished by engaging in emergency response planning activities that involve all segments of the community (i.e., employers, other emergency response organizations, local government, and the emergency medical community). With this in mind, the hospital should consider the following:

- The hospital must define its role in community emergency response by pre-planning and coordinating with other local emergency response organizations, such as the fire department. In particular, the hospital must be familiar with the ICS used by other local organizations during emergencies and should participate in training and practice sessions using the ICS.
- All hospital personnel who are expected to respond in emergencies where hazardous substances are released must be trained in handling contaminated patients and objects including body fluids.
- Training must be based on the duties and responsibilities of each employee.
- Hospitals should have a contingency plan for managing other patients in the emergency response system when contaminated patients are being treated.
- There should be communication between other members of the ICS, the incident site, and the hospital personnel regarding the hazards associated with potential contaminants.
- Hospitals should have access to a database that is compiled by the LEPC to provide immediate information to hospital staff on the hazards associated with exposure to toxic materials that may be used by local employers.

Training Employees

HAZWOPER requires varying levels of training for personnel involved in hazardous material releases or clean-up. The community may determine that it is appropriate for the fire department to develop a small group of highly trained hazardous materials technicians and specialists, called a "HAZMAT team," or may find that the community does not require a HAZMAT team and that less intensive training is adequate. Likewise, all emergency medical technicians (EMTs) (e.g., ambulance corps members) do not need to be trained to treat contaminated victims.

To determine the appropriate level and type of training under HAZWOPER, community response agencies will need to consider the hazards in their community, and determine what capabilities will be required to respond effectively to those hazards. This determination is to be based on worst-case scenarios. All individuals must be adequately trained to perform their anticipated job duties without endangering themselves or others.

Medical personnel who will decontaminate victims must be trained to the First Responder Operations Level² with emphasis on the use of PPE and decontamination procedures. (Refer to 29 CFR 1910.120(q)(6)). The employer must certify that personnel are trained to safely perform their job duties and responsibilities. This includes a minimum of 8 hours of training or demonstrated competencies and an annual refresher. Hospitals may develop an in-house training course on decontamination and PPE use and measures to prevent the spread of contamination to other portions of the hospital, or provide additional training in decontamination and PPE use after sending personnel to a standard First Responder Operations Level course.

EMS personnel are often the first on the scene and should be given First Responder Awareness Level³ training as a minimum. There is no specific hourly minimum required but the training must be sufficient or the employees must have proven experience in specific competencies with an annual refresher. EMS personnel who have received only Awareness Level training should not be involved in the transport or treatment of contaminated patients. EMS personnel who might be exposed to hazardous substances because they are expected to transport or treat contaminated patients at the release area should be trained to the First Responder Operations Level.

Individuals who develop the decontamination procedures and select PPE for the workers who help decontaminate patients, must be trained to the First Responder Operations Level with additional training in decontamination procedures, but such individuals would not need the lengthy specialized training required for a hazardous materials technician.

Every member of the emergency room clinical staff, plus any employee who might be exposed to hazardous substances during an emergency response incident, should (1) be familiar with how the hospital intends to respond to hazardous substance incidents, (2) be trained in the appropriate use

² Operations level training, enables employees to respond initially to a hazardous substance release and to take defensive action to protect people, property, and the environment.

³ Awareness level training enables employees to recognize an emergency event and to begin responding.

of PPE, and (3) be required to participate in scheduled drills. Such a pre-designated decontamination team might consist of emergency physicians, emergency department nurses and aides, and other support personnel such as respiratory therapists, security, and maintenance personnel.

Under life-threatening emergency situations, other hospital personnel may need to enter the decontamination area to monitor and treat the victim. These employees may be considered Skilled Support Personnel⁴. All hospital employees, including ancillary personnel such as housekeeping and laundry staff, must be adequately trained to perform their assigned job duties in a safe and healthful manner. If ancillary personnel will be expected to clean up the decontamination area they must be trained in accordance with 29 CFR 1910.120(q)(11), and have access to Material Data Safety Sheets (MSDSs), for those chemicals that may be used to decontaminate equipment and area. Coordination with community resources for clean-up assistance is included in the contingency plan.

Performing Emergency Drills:

Emergency response drills are considered part of "Pre-emergency planning" and can be used to evaluate HAZWOPER compliance. Drills are required under SARA Title III as part of the local contingency plan, and under 29 CFR 1910.120 for hazardous waste sites. Emergency medical responders should be involved in drills through the LEPC.

JCAHO requires accredited hospitals to implement their response plan, twice a year, either to reply to an actual emergency or in a planned drill [1]. These drills may be combined to fulfill dual requirements.

Documenting Training:

Employees need not necessarily receive a certificate, but the employer must certify training with some form of documentation. It is considered good practice to provide employees with a training certificate as well as to document the training in the employer's records. The hospital also must document its training plan for personnel who respond to hazardous substance incidents and contaminated victims in its ERP.

Defining Personnel Roles:

Personnel roles and responsibilities, including who will be in charge of directing the response, training, and communications must be included in the hospital's overall ERP. The ERP should also have an evacuation plan and identify alternative facilities that could provide treatment in the event that patients would need to be rerouted due to contamination of the Emergency Department. The plan should identify PPE including type, quantity, location, and use, and specific decontamination procedures, materials, and equipment.

It should also cover plans for critique and follow-up of drills and actual emergencies.

Responding to Emergencies

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Skilled Support Personnel must be given an initial briefing, at the time of the incident, including instruction in the wearing of appropriate personal protective equipment, what hazards are involved, and what duties are to be performed

Once an emergency actually occurs, the benefits of pre-planning will be immediately apparent, especially in identifying the hazardous substances involved. Pre-planning with the LEPC identifies known chemical hazards in the community; this includes information gathered from MSDSs. First Responder Awareness Level and Hazard Communication training enables responders to determine the presence or release of a hazardous substance. Data from those at the scene of the incident may identify or help identify hazards. Resources including printed reference materials, computer databases, and telephone hotlines are available to help identify hazards not immediately recognized. (DOT requires a 24-hour a day telephone number to be available from the chemical producer or shipper to assist the emergency response community in getting accurate information on chemical hazards.)

Selecting PPE

Personnel who will be involved in decontamination must be equipped with PPE that is appropriate for the hazardous substances expected to be encountered.

Reference guidebooks, database networks, MSDS's, and telephone hotlines may also be useful in determining suitable PPE. Communication with those at the scene of the incident will be helpful in identifying the type of PPE that will be required to prevent secondary contamination of the hospital personnel. Factors to be considered in the selection of PPE include toxicity routes of exposure, degree of contact, and the specific task assigned to the user [2]. The primary routes of exposure are inhalation, ingestion, and direct contact.

Types of PPE range from gloves to chemical protective clothing to a self-contained breathing apparatus (SCBA) when the highest level of respiratory protection is required [2]. The proper use of PPE requires considerable training by a competent person, such as an industrial hygienist, and is required under OSHA's standard on personal protective equipment, 29 CFR 1910.132. Wearing PPE without proper training can be extremely dangerous and potentially fatal. Persons should not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent.

Selecting Respirators

To determine which respirator is needed, hospitals can consult OSHA's respiratory protection standard, 29 CFR 1910.134.

The standard includes requirements covering training in the use of respiratory protective equipment and development of a written respiratory protection program that addresses fit testing of respirators and inspection and maintenance procedures.

Decontaminating Patients

Ideally, when medically appropriate, patients should be decontaminated before reaching the hospital, preferably at the incident site. However, complete on-site decontamination of victims may not be possible due to the medical conditions of the employees, training and skills of emergency responders, weather conditions, and equipment availability. Therefore, the hospital should have designated decontamination areas.

Although areas dedicated solely to decontamination need not be set aside, hospitals need to take appropriate precautions to prevent the spread of contamination to other areas within the hospital. Decontamination should be performed in areas of the facility that will minimize any exposures to uncontaminated employees, other patients, or equipment. Morgues are often used as decontamination rooms because of the preexisting drainage and ventilation system. Morgues often have ventilation isolation to prevent mixing of airflow with other area systems.

An alternative to an indoor decontamination area would be an outside or portable decontamination facility. This might include wading pools or outdoors showers, along with bags for disposal of contaminated clothes.

Preparing to Receive Victims

Once word reaches the hospital of a hazardous substance incident, all hospital personnel engaged in the response should be notified of the nature of the emergency and the type of chemical contamination expected. Then the hospital should outfit all necessary personnel with appropriate PPE.

All persons along the route from the emergency entrance to the decontamination area need to be relocated. This area may need to be protected by plastic or paper sheeting [3], and the area outside the emergency department entrance set up to direct the flow of contaminated patients to the decontamination area.

Avoiding Cross-Contamination

Airborne contaminants may be transported via the hospital's ventilation system. Therefore, ventilation in the decontamination area should be separate from the rest of the hospital. Morgues, with an isolated ventilation system, are often used as decontamination rooms.

If a contaminated victim is emitting airborne contaminants, the ventilation system in the decontamination area should be turned off. However, not all chemicals will be volatile enough to cause off-gassing. Because Emergency Department personnel could be at risk if the ventilation system is shut off during decontamination in an enclosed area, ambient air should be monitored using appropriate direct-reading instruments, and the plan should provide means of supplementary or auxiliary ventilation. Prior to restarting the ventilation system, air monitoring with appropriate direct-reading instruments is advised to assure the atmosphere is safe for circulation. The use of direct reading instruments to evaluate air quality must be made by an individual who has been properly trained in the use of the instruments.