

PRIORITY: DISASTER PREPAREDNESS

According to the disaster preparation publication, *Introduction to the Incident Command System*,

We live in a complex world in which responding to emergencies, from single-car accidents to large-scale disasters, often requires cooperation among several agencies. In an emergency, you and other personnel from your agency may be called upon to help with the response. Given the current movement toward using an ICS structure for emergency response, it is likely, therefore, that you will function in an ICS environment. In an emergency, you may not be working for your day-to-day supervisor, or you may be working in a different location. Thus, emergency response operations are *not* 'business as usual'....

Disaster preparation within a county can include planning for many or all of the following circumstances.

- Hazardous materials (HazMat) incidents.
- Planned events (e.g., celebrations, parades, concerts, official visits, etc.)
- Response to natural hazards
- Single and multi-agency law enforcement incidents
- Lack of comprehensive resource management strategy
- Fires
- Incidents involving multiple casualties
- Multi-jurisdictional and multi-agency incidents
- Air, rail, water, or ground transportation accidents
- Wide-area search and rescue missions
- Pest eradication programs
- Private sector emergency management programs.

Source: *Introduction to the Incident Command System* (nd)
(<http://www.health.state.ny.us/nysdoh/ems/srgics.pdf>)

Issues and Trends

In 2004, the Association of State and Territorial Health Officials developed a public health preparedness policy statement. A summary of the policy highlights from this statement is provided below.

- The policy emphasizes the interdependence of states: "all states are interdependent and infectious diseases do not respect borders; public health threats will have their greatest impact where populations are most vulnerable" and the need for all states to be prepared. The initial site of an outbreak or incident is not predictable; prevention of spread requires all states to be prepared.
- The policy emphasizes an all-hazards approach, and capability of preventing, responding to and recovering from all threats and emergencies.
- Preparedness is more than bioterrorism; the demonstration of preparedness will be done through the prevention, response and recovery from a variety of public health emergencies, not just biological events.
- The policy describes the need for flexible resources to allow states to develop strategic plans particular to their circumstance.
- The policy outlines that there is "one public health workforce"; this workforce covers routine and emergency public health functions. The policy describes it as the governmental responsibility for assuring all populations are protected from harm; no other entity has this assurance function.

The statement also emphasizes that populations such as pregnant women, children, the aged, and those with compromised immune systems are especially vulnerable, and their risks should be considered as part of public health preparedness policies and programs. Further, culturally and linguistically appropriate health

information and programs are necessary to safeguard the health of populations against bioterrorism or acute outbreaks of infectious diseases and other public health threats and emergencies (http://www.astho.org/policy_statements/Public%20Health%20Preparedness%20Policy%20Statement%202004.pdf).

Healthy People 2010 and Disaster Preparedness

The following chart presents the *Healthy People 2010* target for the objectives pertinent to ensuring preparation to confront community disasters. This chapter examines Chautauqua County data for the Priority: *Disaster Preparedness*.

Healthy People 2010 Baselines and Targets for Priority: Disaster Preparedness

Objective	DISASTER PREPAREDNESS
8-21.	(developmental) Ensure that State health departments establish training, plans, and protocols, and conduct annual multi-institutional exercises to prepare for response to natural and technological disasters.

A. Health Data

1. Disaster Preparedness in Chautauqua County

As stated in the county annual health department report,

The Health Department continues to upgrade its existing Counter-Terrorism plans and response. In conjunction with the Sheriff's Office and Emergency Management Office, a protocol was developed to triage and respond to reports of threats and suspicious mail. The rapid response team upgraded their equipment and training, and responded to over 100 calls from October 14 to December 31, 2001. Two subcommittees of the Counter Terrorism Task Force were formed. ...The *Medical Branch* is tasked with updating current protocols and developing partnerships with hospitals and first responders for triage, decontamination, alternative treatment sites, standards for training, and care giver personal protection equipment. The Medical Branch plan will also include physicians, pharmacies, nursing homes, veterinarians, coroners, and law enforcement.... The *County Hazardous Material Response Team* is being trained in specialized response to terrorism events and is upgrading its equipment to respond and assess such events. ... The *Information Branch* is involved with collecting and organizing information available in the county and making it readily available to first responders. ...This information includes reported SARA Title III (Community Right-to-Know) chemicals and a geographic information system (GIS) containing data on parcels of property in the county.... The *Counter Terrorism Task Force* is currently training first responders in awareness (<http://www.co.chautauqua.ny.us/health/Annual%20Report%202001/AnnualRpt01AEnvHlth.pdf>).

a. Medical Branch in Chautauqua County

- 1) **Four Hospitals** providing Nursing Services and Other Personnel, Fire/Safety, Medical Records and Infection Control (see Resources in this chapter).
- 2) **County Health Commissioner and County Physician**, Chautauqua County Health Department
- 3) **Emergency Medical Services:**
 County EMS Coordinator
 Regional EMS Council (Southwestern REMSCO)
 Regional EMS Program Agency (Western Regional EMS, Inc. – WREMS)
- 4) **Other Health and Safety Agencies**
Emergency Services -Chautauqua County, Mayville, NY.

Plans for, responds to, and assists in recovery from natural and man-made disasters. Also does daily administrative work for county traffic safety board, county emergency medical services council, county disaster preparedness commission, local emergency planning committee, and county two-way communications.

Salvation Army Emergency Disaster Response, Jamestown, NY.

Dispatches a trained, volunteer emergency disaster unit to provide support services, food, beverages for emergency disaster response personnel and victims.

2. Hazardous Material Response Team in Chautauqua County

As presented in the *Hazardous Substances Emergency Events Surveillance, Cumulative Report 1993-1997*

From 1993 to 1997, the Hazardous Substances Emergency Events Surveillance project reviewed approximately 85,000 actual and threatened spills reported in New York State. Staff investigated events which involved spills or releases of non-petroleum chemicals and collected spill data on 1,956 releases (2.3%) which met the study criteria (see Table 1 note). Ninety percent of these events involved one chemical and 75% occurred within one-quarter mile of a residence. A total of 718 people were injured in 274 events. The most common injuries were respiratory irritation, dizziness or other central nervous system symptoms, nausea or vomiting, eye irritation and headache. The chemicals most frequently associated with injuries were hydrochloric acid, sodium hypochlorite, chlorine and ammonia [corrosive substances] (<http://www.health.state.ny.us/nysdoh/environ/hsees/hsees.pdf>).

Table 1 provides a summary of reported hazardous substances emergency events for Chautauqua County and New York State which met the study criteria (see Table 1 note). Most of the events in Chautauqua County (75%) occurred in a fixed facility such as an industrial site, business, or private residence, and 71.4% occurred within one-quarter mile of a residence. However, only 1.4% of all reported hazardous substance events in New York State occurred in Chautauqua County.

Table 1. Summary of Reported Non-Petroleum Hazardous Substances Emergency Events* for Chautauqua County and New York State, 1993-1997

	Fixed Facility Event	Transportation Event	Total Events	Number of Events within 1/4 mile of a Residence
Chautauqua County	21 (75%)	7 (25%)	28 (100%)	20 (71.4%)
New York State Total	1620 (82.8%)	336 (17.2%)	1956 (100%)	1464 (74.8%)

* A *reportable event* is defined as an uncontrolled or illegal release or threatened release of hazardous substances (excluding petroleum products) that need to be removed, cleaned up or neutralized according to federal, state or local law. A threatened release which leads to a public health action such as an emergency response, an evacuation or traffic re-routing also qualifies for inclusion in the study. If a spill includes petroleum products with other hazardous substances which meet event criteria, the spill is a reportable event. *Fixed facility events* are those which occur outdoors or inside the building on the premises of a facility or site. Some examples of fixed facilities are industrial sites, manufacturing plants, businesses, farms, schools, hospitals and private residences. *Transportation events* involve ground, rail, water, air or pipeline transport and occur outside the boundaries of a fixed facility.

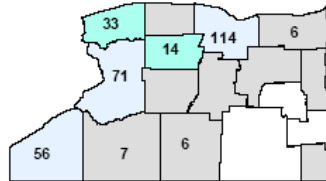
Events were excluded when: the chemicals involved were excluded by case definition, the amounts released were trace quantities, the spill was not a recent accident but rather a discovery of substances such as waste barrels discarded in the past, or the threatened incident did not involve any public health action such as re-routing traffic.

Source: *Hazardous Substances Emergency Events Surveillance, Cumulative Report 1993-1997* (<http://www.health.state.ny.us/nysdoh/environ/hsees/hsees.pdf>).

Comment [RG1]: Need to contact DOH Bureau of Toxic Substance Assessment, 547 River St., Troy, NY, 12180-2216, or call HSEES staff at (518) 402-7810 for a copy of the 1998-2001 report

Of the reported events between 1993-97 examined in the 2001 surveillance project, 56 persons were injured in Chautauqua County events (7.8% of all injuries in New York State), as shown in Figure 1. Chautauqua County had the third highest number of injuries after Monroe (116) and Erie (71) counties.

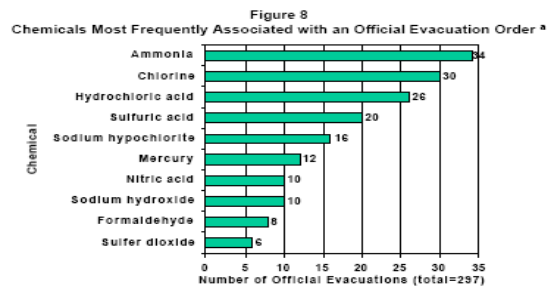
Figure 1. Number of Persons Reported Injured in Non-Petroleum Hazardous Substances Emergency Events* in Chautauqua County and Nearby Counties, 1993-1997.



* See Table 1 for definitions (<http://www.health.state.ny.us/nysdoh/enviro/hsees/hsees.pdf>).

Corrosive chemicals were most frequently associated with an evacuation order, as shown in Figure 2.

Figure 2. Chemicals Most Frequently Associated with an Official Evacuation Order. *



* For this analysis, if two chemicals were involved in the same event with an evacuation, the event is counted separately for each chemical. Mixes of chemicals resulted in 15 events requiring evacuation.

<http://www.health.state.ny.us/nysdoh/enviro/hsees/hsees.pdf>

As Table 2 shows, employees (388) are most likely to be injured in non-petroleum hazardous chemical incidents, followed by the general public (165) and first responders (100), perhaps suggesting the need for additional education and training in several population subgroups.

ble 2. Chemicals Most Frequently Associated with Injuries. *
Chemicals Most Frequently Associated with Injuries

Chemical (Number of events with injuries)	Number of Injured People				Total (%) [*]
	Employees	Responders	General Public	Unknown	
Ammonia (20)	25	9	25	0	59 (6%)
Chlorine (26)	22	10	32	0	64 (9%)
Cresylic acid (1)	20	1	0	0	21 (3%)
Hydrochloric acid (22)	71	7	47	12	137 (19%)
Formaldehyde (4)	24	1	4	0	29 (4%)
Phosphoric acid (1)	25	0	1	0	26 (4%)
Sodium hydroxide (6)	20	0	7	0	27 (4%)
Sodium hypochlorite (19)	77	7	42	1	127 (18%)
Sulfuric acid (19)	22	13	7	0	42 (6%)
Trichloroethene (2)	50	0	0	0	50 (7%)
Total for ten chemicals	356	48	165	13	582 ^{**}
Total for all 93-97 HSEES events	388	100	217	13	718

^{*} Percentage of all injured people (718).
^{**} If a person is injured by more than one chemical, s/he is counted under each chemical. The total of 582 injuries corresponds to 421 injured people.

<http://www.health.state.ny.us/nysdoh/envIRON/hsees/hsees.pdf>

3. Information Branch in Chautauqua County

Access to information on dozens of service organizations in Chautauqua County is available using the [First Call for Help Directory](#). The programs associated with this agency record are programs that have an 800-number.

4. Chautauqua County Counter-Terrorism Task Force

B. Unmet Needs

Summary: Disaster Preparedness in Chautauqua County

Most of the reported hazardous substances emergency events in Chautauqua County occurred in a fixed facility such as an industrial site, business, or private residence, and 71.4% occurred within one-quarter mile of a residence. Although only 1.4% of all reported hazardous substance events in New York State occurred in Chautauqua County, the county had the third highest number of injured 56 persons (7.8% of all injuries in New York State).

Healthy People 2010

According to the Centers for Disease Control and Prevention (CDC),

Natural and technologic disasters often occur without warning; efforts to prevent them from turning into major public health emergencies call for careful planning. Major concerns of the CDC are to enable an adequate level of preparedness, mitigate against future occurrences, respond appropriately, and address the effects of disasters on people and the environment. Surveillance is the systematic collection, analysis, and interpretation of deaths, injuries, and illnesses in order to provide information about any adverse health effects related to a disaster event in a community. Surveillance allows us to:

- Assess the human health impacts of a disaster;
- Evaluate potential problems related to planning and prevention.

Rapid needs assessment refers to a set of tools designed to provide, quickly and at low cost, accurate and reliable population-based information to emergency managers. The objective is to obtain information about the needs of an affected community as these needs change in the aftermath of a disaster event

<http://www.cdc.gov/nceh/hsb/disaster/surveillance.htm>.

C. Resources in Chautauqua County

1. Ambulance Services

Agency Name	Address	Level of Care
Ashville Fire Department, Inc.	5338 Stow Ferry Rd., Ashville	Advanced EMT - Intermediate
Bemus Point Volunteer Fire Department, Village of	13 Alburus Avenue, Bemus Point	Advanced EMT - Critical Care
Brocton Fire Department	80 Lake Avenue, Brocton	Paramedic
Busti Fire Department, Inc.	886 Mill Road, Jamestown	Paramedic
Cassadaga Volunteer Fire Department	Mill Street, Cassadaga	Advanced EMT - Intermediate
Celoron Hose Company #1 Inc.	92 Dunham Ave, Celoron	Advanced EMT-Critical Care
Chautauqua County Ambulance Service .d.b.a. W.C.A. Services Corporation	300 Foote Ave., Jamestown	Paramedic
Chautauqua Fire District #1	32 Massey Ave., Chautauqua	Advanced EMT-Critical Care
Cherry Creek Fire Department, Inc.	Main St., Cherry Creek	Basic Life Support
Clymer Fire Department	8756 West Main Street, Clymer	Advanced EMT-CC
Dunkirk Fire Department	311 Eagle Street, Dunkirk	Basic Life Support

Ellery Center Fire Department, Inc.	4400 Dutch Hollow Road, Bemus Point	Advanced EMT-Critical Care
Ellington Volunteer Fire Department, Inc.	769 West Main Street, Ellington	Advanced EMT-Intermediate
Findley Lake Volunteer Fire Department	10372 Main Street, Findley	Basic Life Support
Fluvanna Fire District	3536 Fluvanna Avenue Extension, Jamestown	Advanced EMT - Critical Care
Forestville Volunteer Fire Department	18 Chestnut Street, Forestville	Advanced EMT - Intermediate
Fredonia Fire Department	80 West Main Street, Fredonia	Paramedic
Frewsburg Fire Company, Inc.	88 Main Street, Frewsburg	Basic Life Support
Gerry Volunteer Fire Department, Inc.	4490 Gerry Levant Rd., Gerry	Paramedic
Hartfield Volunteer Fire Company	Elmwood Road, Mayville	Basic Life Support
Jamestown Fire Department	200 Spring Street, Jamestown	Basic Life Support
Kennedy Fire Department	3590 Dailey Hill Road, Kennedy	Paramedic
Kiantone Independent Fire Department, Inc.	2318 Foote Avenue Extension, Jamestown	Paramedic
Lakewood Fire Department, Village of	20 West Summit Avenue, Lakewood	Paramedic
Lily Dale Volunteer Fire Company, Inc.	East Street, Lily Dale	Basic Life Support

Maple Springs Fire Company Inc.	5385 Maple Springs - Ellery Rd, Maple Springs	Paramedic
Mayville Fire Department, Village of	2 South Erie Street, Mayville	Paramedic
Panama Fire Company, Inc.	27 E. Main Street, Panama	Paramedic
Portland Volunteer Fire Department Inc.	8461 West Main Street, Portland	Advanced EMT-Intermediate
Ripley Hose Company #1	15 South State Street, Ripley	Advanced EMT - Critical Care
Silver Creek Volunteer Emergency Squad, Inc.	162 Central Avenue, Silver Creek	Basic Life Support
Sinclairville Volunteer Fire Company No 1, Inc.	30 Main Street, Sinclairville	Paramedic
Stanley Hose Company, Inc.	111 Park Street, Sherman	Advanced EMT - Critical Care
Stockton Volunteer Fire Company, Inc.	28 South Main Street, Stockton	Basic Life Support
Vol Fireman's Assoc. of Falconer, NY, Inc.	115 Davis Street, Falconer	Advanced EMT - Critical Care
W.C.A. Services Corporation /d.b.a. Star Flight, Inc.	28 Maple Street, Jamestown	Paramedic
Westfield Fire Department	20 Clinton Street, Westfield	Basic Life Support

2. Non-Transporting First Response Services

Agency Name	Address	Level of Care
Cummins Engine Co., Inc. Employee Health Service	4720 Baker Street Extension, Lakewood	Basic Life Support
East Dunkirk, Town of	10949 South Roberts Road, Dunkirk	Basic Life Support
Sheridan Volunteer Fire Department	11261 Center Rd., Sheridan	Basic Life Support
West Dunkirk Fire Company, Inc.	Willow Road, Dunkirk	Basic Life Support

3. Hospitals

Chautauqua County has four hospitals, one of which also is designated as a trauma center.

Brooks Memorial Hospital Dunkirk, NY
Lake Shore Hospital Irving, NY
Women's Christian Association (Area Trauma Center) Jamestown, NY
WCA Hospital - Jones Memorial Health Center Jamestown, NY
Westfield Memorial Hospital Westfield, NY

4. Other County Disaster Preparedness

In addition to the four hospitals, four non-transporting first response service providers, and 37 ambulance services listed above, other Chautauqua County organizations, agencies and programs that offer health services and other forms of assistance related to disaster preparedness and response include the following.

- American Red Cross
- Chautauqua County Counter-Terrorism Task Force
- Chautauqua County Department of Social Services

- Chautauqua County Emergency Services Department
- Chautauqua County Hazmat Team
- 5 Chautauqua County Health Department Immunization Clinics
- Chautauqua County Sheriff's Department
- County school districts (drills for bomb threats, fire)
- Emergency Medical Services Dispatch/911
- Internal Medicine and Family Practice/Family Medicine physicians
- Mental Health Clinics
- Pediatricians
- Project Public Health Ready
- Rural Primary Care Clinics
- Salvation Army (emergency vehicle)
- School clinics to vaccinate children (DPT)
- Travel clinic, Chautauqua County Health Department
- 2 Labs with testing capability for infectious disease/bioterrorism specimens.

1) Brooks Memorial Hospital, Dunkirk: STAT Response Operation – response in 4 hours to testing requests and will maintain operations 24 hours/day for a minimum of three days. STAT testing capability to identify, not confirm, presence of 8 agents.

2) Westfield Memorial Hospital, Westfield: Limited testing capability; depends on agent. Can identify, not confirm, presence of 2 agents.

Source: New York State Department of Health, 2002. Laboratory Response Network Listing of Regional Laboratory Capabilities and Capacity for Testing of Agents of Bioterrorism (<https://commerce.health.state.ny.us/hpn/wclr/WesternBuffaloReport.pdf>).

D. Opportunities for Action

The following list identifies opportunities for action in Chautauqua County pertinent to disaster preparedness, which has been adapted from the *Healthy People 2010* objectives for Educational and Community-Based Plans and Environmental Health, and other listed sources.

- Increase education—at all levels—to provide a cornerstone of broad prevention efforts, whether the disaster will likely deal with outbreaks of waterborne diseases, with air quality, with solid wastes, or with exposure to toxic substances
http://www.acponline.org/bioterro/mksap13Sample/#mk13_a_id_s2_10
http://www.healthypeople.gov/document/HTML/Volume1/08Environmental.htm#_Toc490564704
- Base education, training and program preparation on scientific evidence.

The complex relationship between human health and the acute and long-term effects of environmental exposures must be studied so prevention measures can be developed
http://www.healthypeople.gov/document/HTML/Volume1/08Environmental.htm#_Toc490564704

- Provide disaster prevention services to schools, worksites, health care facilities, and community-based programs
http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550852
- Improve the availability of environmental health data.
The Internet has increased dramatically access to environmental information. Databases such as TOXNET (at <http://toxnet.nlm.nih.gov/>) Internet Grateful Med (at <http://igm.nlm.nih.gov/>), and TRI (the Toxics Release Inventory www.epa.gov/ceisweb1/ceishome/ceisdata/xplor-tri/explorer.htm) may provide useful information about environmental hazards or other environmental problems in communities to health care providers, policymakers, and the public
http://www.healthypeople.gov/document/HTML/Volume1/08Environmental.htm#_Toc490564704
- Encourage rapid reporting of suspected bioterrorism events to local public health officials in order to initiate a prompt investigation and response
http://www.acponline.org/bioterro/mksap13Sample/#mk13_a_id_s2_10
- Help children understand the significance of disaster events, particularly those of human origin. Discussion is critical.
It could be stressed that there are "bad" people out there, and bad people do bad things. But not all people in a particular group are bad
<http://www.aap.org/advocacy/releases/disastercomm.htm>
- Prepare protocols for handling public health crises using the U.S. Centers for Disease Control and Prevention (CDC, 2000) categories.
Category A is the highest priority and includes the agents that are the easiest to disseminate and transmit and cause the greatest public health crisis. Category A agents are anthrax, plague, tularemia, smallpox, viral hemorrhagic fever, and botulinum. Category B agents are second-highest priority, are moderately easy to disseminate, and cause moderate morbidity and mortality. Category C includes emerging pathogens that could potentially be developed into bioweapons.
- Develop surveillance systems to track exposures to toxic substances that might be used as bioweapons. To the extent possible, these systems should use biomonitoring data, which provide measurements of toxic substances in the human body
http://www.healthypeople.gov/document/HTML/Volume1/08Environmental.htm#_Toc490564704
- Involve members of the populations served and their gatekeepers in the community disaster assessment and planning process
Disaster programs need to be sensitive to the diverse cultural norms and beliefs of the people for whom the programs are intended, whether interventions are likely to be for the needs of racial, ethnic, gender, sexual orientation, disability status, and age groups within the community.
http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550852
- Identify the cultural traditions and beliefs of the community and the education, literacy level, and language preferences necessary for the development of appropriate disaster preparedness materials and programs.
In addition, a community assessment can help identify levels of social capital and community capacity. Such assessments help identify the skills, resources, and abilities

needed to manage health improvement programs in communities
http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550852_

- Involve communities as partners in conducting research ensuring that the content of the prevention efforts developed is tailored to meet the needs of the communities and populations being served
http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550852_
- Begin to address gaps in research, including dissemination and diffusion of effective programs, new technologies, policies, relationships between settings, and approaches to disadvantaged and special populations
http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550852_
- Further document the importance of social ecology on behavior disease prevention. Refine and disseminate techniques to evaluate community processes and community health improvement methods and models so that other communities can learn from and duplicate successful strategies. Increase partnering and collaborative efforts to increase the capacity of individuals and communities to share what is learned in an appropriate and timely manner with communities
http://www.healthypeople.gov/document/HTML/Volume1/07Ed.htm#_Toc490550852_
- Further develop coordinated countywide strategies to understand, detect, control, and prevent infectious diseases.
- Increase immunization of at-risk populations including persons with impaired host defenses; pregnant women and newborns; travelers, immigrants, and refugees; older adults; and other persons identified by the Advisory Committee on Immunization Practices (ACIP).
- Improve the quality and quantity of non-emergency vaccination delivery services
- Minimize the financial burdens of immunizations for needy persons.
- Increase community participation, education and partnership in preventing communicable diseases.
- Improve the monitoring of vaccination coverage.
- Continue to support Vaccines for Children and SCHIP Initiatives, and enroll all eligible children.
- Expand assessment of vaccination coverage of persons served at individual clinics and provider offices.
- Identify local health care surge-capacity resources (staffing, beds, ventilators, vacant buildings).
- Identify and prepare protocols for informing the public of what disaster-specific hazards to expect in a disaster, what precautions to take, and whether evacuation or shelter-in-place is required. Ensure that the protocols are translated into Spanish. Ensure that fire, police, EMS, local hospitals, public health officials, members of local disaster planning committees and other relevant parties are updated on a regular basis.
- Prepare for baseline and post-incident medical screening of all disaster personnel.