

Public Health Emergency Preparedness

Background

Threats that can lead to public health emergencies are always present. They include natural disasters as well as biological, chemical and radiological incidents and explosions. These threats can rapidly overwhelm routine public health systems. The impact of these threats can range from local outbreaks to incidents with statewide, national or global ramifications.

The 2009-2010 H1N1 influenza pandemic underscored the importance of communities being prepared to prevent, respond to, and rapidly recover from public health incidents in order to protect the health and safety of the public and emergency responders. In Maine and nationally, public health preparedness is ongoing. Preparing adequately for public health emergencies requires continual and coordinated efforts that involve every level of government, the private sector, nongovernmental organizations, and individuals.¹

Health Equity Highlight: People with Disabilities

For the millions of Americans who have disabilities, emergencies present a real challenge. These challenges range from mobility issues, to the need for disability-related supplies and medications, to special medical needs, to increased difficulty dealing with the stress of an emergency.

Lessons learned from the response to Hurricane Katrina show that people with disabilities were disproportionately affected by the storm. Census figures indicate that more than 20% of the population affected by Hurricane Katrina had some type of disability.

The Public Health Response

Public health emergency preparedness is a very broad focus area encompassing the critical infrastructure and key resources necessary for preparedness, response, and recovery. It includes the establishment and maintenance of security measures ranging from the protection of core public health functions, water/food systems and power grids to regional nuclear power plants. It also includes empowering and engaging citizens in their own coping and recovery strategies and those of their communities.² Preparedness and response is critically reliant on sound communication systems and collaboration.^{2,3}

Nationally and in Maine, hospital emergency departments are currently working at or above capacity on any given day due to staffing shortages, decreased revenues, and increasing numbers of uninsured seeking medical treatment at emergency departments. Because hospital emergency departments are already working at or above capacity, the ability to provide a high standard of care for additional patients during a disaster or public health emergency severely strains an already strained system. Unfortunately, federal funding allocated for public health emergency preparedness, including bioterrorism response, has progressively declined over the course of the last eight years, compromising our national state of readiness for disaster.³

Maine has developed public health emergency preparedness and response capacity at both the local and statewide level. Maintaining this capacity requires ongoing work with a focus on:^{4,5}

- Complete and tested public health emergency response plans.
- Systems to assure a trained, robust public health and healthcare system workforce.
- Ongoing crucial coverage and surge capacity for disease investigation and response, mass delivery of immunizations, linkages with animal health systems and healthcare.

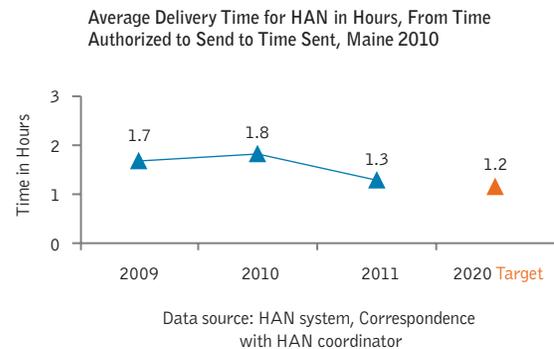
- Support to disease investigation and laboratory capability to identify and respond to disease agents, toxins, and other health threats found in the environment, food, water or other substances.
- Maintenance of capacity to receive, distribute and dispense assets from the federal Strategic National Stockpile. This includes large quantities of medication, vaccine and medical supplies to supplement state and local assets in a public health emergency.
- Maintenance of communications systems to alert partners about public health events, to assess real-time hospital bed capacity and to share information with key responders at all levels.
- Planning for healthcare facilitated “alternate care sites” for medical care during local or statewide public health emergencies.
- Medical Reserve Corps units and other volunteer teams in that will augment medical care during a large-scale emergency.
- Systems to assure healthcare organizations have equipment and training necessary to respond to a wide spectrum of public health emergencies, such as: decontamination facilities and training for hospital staff, personal protective equipment, radiation detectors, annual Incident Command Training, and continuity planning exercises.
- Contributions to community resiliency for all including vulnerable populations.

Healthy Maine 2020 Objectives

1. Reduce the time to necessary to activate designated personnel in response to a public health emergency via the Health Alert Network

The Maine CDC disseminates important messages to the general public as well as to public health and healthcare officials through the Maine Health Alert Network (MaineHAN). There are two

distinct and separate processes that occur prior to disseminating the message. The first step in the process is to develop the message by a Maine CDC Subject Matter Expert. The Subject Matter Expert chosen to develop the message is dependent on the type of event or emergency that is occurring. For example, an Infectious Disease Epidemiologist may develop a message regarding an outbreak while our State Toxicologist may develop a message regarding arsenic in public or private water systems.



The second step in the process is the actual dissemination of the message using the MaineHAN operating system by Maine CDC Public Health Emergency Preparedness Staff (PHEP). This data table focuses on the second step in the process, which is the time it takes PHEP staff to format and send the message using the MaineHAN system once final approval is obtained by the Maine CDC Director or his or her designee.

Reducing the time to disseminate messages is important. These messages are either a call to action for public health and healthcare emergency response professionals, or they provide critical information such as new clinical guidelines to physicians, medication recalls, laboratory testing, where to get help, and appropriate public health officials to contact. Providing timely and accurate information to the public allows for quicker mobilization, more efficient and effective responses and less misinformation.

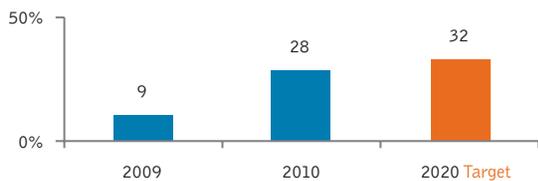
Data is not consistently available for the time of initial recognition of the need for a HAN message, and therefore that measure is not included in this objective. The Healthy Maine 2020 goal is to reduce the number of hours needed to issue a HAN message to 1.2 hours.

2. Increase the frequency and number of outreach activities to the community through training and education about public health emergency preparedness

Engaging local officials in emergency preparedness planning activities helps communities prepare, respond, and recover from a public health emergency in a more efficient and effective manner. Communities with an All-Hazard Emergency Operation Plan will be far less likely to require state or federal assistance during a crisis.

There were nine outreach activities in 2009 and 28 in 2010. The Healthy Maine goal is to increase outreach activities to 32 events by 2020.

Number of Presentations, Lectures, Public Forums, and Other Outreach Activities That Engage the Public in PHEP Planning, Maine, 2009-2010



Data source: RRC Reports

3. Increase the number of trained public health and healthcare emergency responders

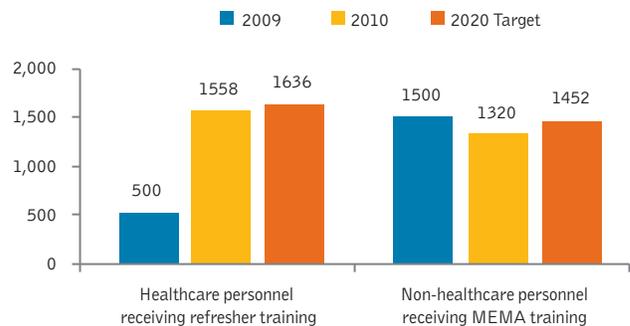
Having a properly trained emergency preparedness workforce ensures that healthcare personnel are familiar with their hospital’s incident command system and can adequately implement their Emergency Operations Plan. Healthcare personnel

receive initial and annual refresher trainings in many facets of emergency preparedness and response including: use of personal protective equipment; use of equipment to detect chemical, biological, or radiological agents; patient decontamination and evacuation; and deploying medical countermeasures quickly and efficiently.

A trained and competent healthcare workforce is just one facet of the overall response efforts. It is also important that non-healthcare personnel such as municipal leaders, local and county emergency management officials, school administrators and private citizens also receive emergency preparedness training. These trainings provide a response framework by which federal, state, and local organizations can work together under one unified system.

The data show an increase in the number of trainings for healthcare personnel from 500 in 2009 to 1,558 in 2010. The Healthy Maine goal is 1,636 by 2020. There was a decrease in non-healthcare personnel trainings from 1,500 in 2009 to 1,320 in 2010. The Healthy Maine goal is 1,452 trainings by 2020.

The Number of Trained Public Health and Healthcare Emergency Responders, by Personnel and Training Type, Maine, 2009-2010



Data source: RRC course rosters / EOY Maine CDC ASPR report

4. (Developmental) Reduce the unnecessary surge in hospital emergency departments during an event with public health significance.

During a public health emergency, the number of people seeking medical care in hospital emergency departments may overwhelm the capacity of emergency departments (EDs). Public messaging and the activation of hospital-based alternate care sites may help reduce surge during a public health emergency by diverting patients with non-life threatening conditions to these sites so those with true health emergencies are able to access the care they need. Measuring the surge in ED demand during events may provide insight into the contributions of the “worried well” on ED resources and contribute to the management of flow within Maine’s EDs during emergencies.

Unfortunately, measuring surge is a complicated process. There is, as yet, no state of national standardized measure and individual hospitals may use different algorithms for this measurement. Non-emergency department fluctuations in ED use, geographical differences in access to EDs and other health care, variation in the demand for ED in different types of public health emergencies, geographical variation in the effects of a public health emergency and other factors also confound potential measures. During the next 12 months, research and discussion with stakeholders will continue in order to define this measure, identify baseline data and set a 2020 target.

Methodology notes

1. Reduce the time to necessary to activate designated personnel in response to a public health emergency via the Health Alert Network

Measure: The length of time between authorization of a Health Alert network (HAN) message and dissemination of the HAN message.

Numerator: Total elapsed time (number of hours between final notification to Maine CDC Public Health Emergency Preparedness staff that a HAN is ready to be sent to the time of delivery of HAN) for all health alerts or advisories issued.

Denominator: Number of health alerts or advisories issued.

Target setting method: 10% reduction.

Other notes: The low number of health alerts issued in some years makes this measure less stable. Missing data in 2009 for some health advisories makes this data less reliable.

2. Increase the frequency and number of outreach activities to the community through training and education about public health emergency preparedness

Measure: Number of presentations, lectures, public forums, and other outreach activities that engage the public in Public Health Emergency Preparedness planning.

Numerator: Total number of outreach activities in a calendar year. (There is no denominator.)

Target setting method: 15% increase.

Other notes: Activities supported by Maine CDC Public Health Emergency Preparedness are reported to Maine CDC Public Health Emergency Preparedness and compiled in Hospital Preparedness Planning and CDC quarterly reports, and also Maine Emergency Management Agency reports.

3. Increase the number of trained public health and healthcare emergency responders

SUB-OBJECTIVES

3a. Increase the number of healthcare personnel trained to respond to public health emergencies.

Measure: Number of existing healthcare and public health staff who receive annual refresher training per National Incidence Management System (NIMS) requirements.

Numerator: Number of existing healthcare and public health staff who receive annual refresher training per NIMS requirements.

Target setting method: 5% increase in the number of trained healthcare responders. Since it is anticipated that the number of healthcare staff that requires training will increase only slightly, this target is lower than others.

3b. Increase the number of non-healthcare personnel trained to respond to public health emergencies.

Measure: Number of non-healthcare personnel who attend NIMS Incident Command System (ICS) refresher training courses in a calendar year. (There is no denominator.)

Numerator: Number of non-healthcare personnel who attend Maine Emergency Management Agency training courses in the year. (There is no denominator.)

Target setting method: 10% increase in the number of non-healthcare staff will be trained. Since more staff attrition occurs in the non-healthcare fields, it is anticipated that the number of those requiring training to increase over time.

Other notes: Does not include on-line training, unless this is reported to Maine CDC Public Health Emergency Preparedness.

4. (Developmental) Reduce the unnecessary surge in hospital emergency departments during an event with public health significance

Measure: As yet, not determined. Research regarding a possible state-wide measure for this objective is still on-going.

Other notes: This is not a Healthy People 2020 objective. Most of the Healthy People 2020 Public Health Emergency Preparedness indicators are developmental. The Healthy Maine 2020 Public Health Emergency Preparedness indicators are aligned with federal emergency preparedness funding requirements.

References

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4. Association of State and Territorial Health Officials, *Public Health Preparedness: Six Years of Achievement*. 2008.
5. Centers for Disease Control and Prevention, *2011 State-By-State Update on Laboratory Capabilities and Response Readiness Planning, in An update on CDC-Funded Preparedness and Response Activities in 50 States and 4 Cities*. 2011.