

State Health Policy for Terrorism Preparedness

State health policy for terrorism preparedness began before the terrorist attacks on September 11, 2001, but was accelerated after that day. In a crisis atmosphere after September 11, the states found their policies changing rapidly, greatly influenced by federal policies and federal dollars. In the 5 years since September 11, these state health policies have been refined. This refinement has included a restatement of the goals and objectives of state programs, the modernization of emergency powers statutes, the education and training of the public health workforce, and a preparation of the health care system to better care for victims of disasters, including acts of terrorism. (*Am J Public Health*. 2007;97:1583–1588. doi:10.2105/AJPH.2006.101436)

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IN THE PAST 5 YEARS, THE

United States has experienced disasters that have challenged our thinking about how we keep our population safe. The events of September 11, 2001, and the anthrax attacks that followed revealed that we could no longer be complacent about terrorism. The devastation caused by Hurricane Katrina was a wake-up call to the nation on the need to be prepared at all levels of government for catastrophes of monumental proportions. The rapid spread and virulence of severe acute respiratory syndrome demonstrated that every country is vulnerable to emerging infectious diseases. Concern for a pandemic of avian influenza is another example of the need for a broad-based policy or “all hazards” approach to protect the public’s health.

Before September 11, federal and state public health officials considered the possibility of a

terrorist attack and recognized deficiencies in their ability to respond. Already underfunded and understaffed, the public health system was unable to develop or implement a comprehensive program of preparedness, prevention, response, and recovery.^{1,2} Using the state of New Jersey as a model, we traced the evolution of selected state health policies that address terrorism preparedness after September 11, noting the influence of federal policies.

New Jersey is a good model for the evaluation of terrorism preparedness in the United States because: (1) it was the epicenter of the anthrax outbreak of 2001³; (2) 25% of the total number of fatalities in the September 11 World Trade Center attack were New Jersey residents⁴; (3) it is located strategically between New York City and Washington, DC; and (4) it is the most densely populated state in the nation.⁵

Regarding emergency preparedness, state governments are important to study because they have the primary authority and responsibility to provide for the health, safety, and welfare of the people. States can delegate the exercise of their police powers to lower governmental levels, such as county or municipal governments.⁶

The federal government exerts influence, but not control, over public health under the commerce and general welfare clauses of the Constitution. For example, the Centers for Disease Control and Prevention (CDC) enter into cooperative agreements with the states and, upon a request from a state, assist with specific expertise.⁷

ORGANIZATIONAL CHANGES

Public policy usually evolves incrementally. The events of the fall

of 2001 precipitated a more rapid and radical change in federal and state policy. Congress passed the Homeland Security Act of 2002, which created the Department of Homeland Security, which required: (1) a comprehensive National Incident Management System; (2) consolidation of existing federal emergency response plans into a single, coordinated National Response Plan; and (3) the establishment of a Nuclear Incident Response Team.⁸

Even before the Homeland Security Act was passed, many states rapidly responded to new threats by convening commissions and task forces to address the new homeland security paradigm. Within a month after September 11, the New Jersey Domestic Security Preparedness Task Force, a cabinet-level policymaking body, was created and charged with coordinating and supervising statewide activities related to domestic preparedness for a terrorist attack.⁹ The state police–operated Office of Emergency Management, which was responsible for planning, directing, and coordinating emergency operations within the state that are beyond local control, was upgraded to meet the new challenges.¹⁰

However, in the years since September 11, it has become apparent that greater coordination of homeland security funding streams and activities is needed.¹¹ In 2005, the New Jersey Office of Homeland Security and Preparedness was established by the governor to develop the preparedness agenda, help draft emergency plans, determine budgeting, and conduct drills and exercises to test the abilities of state agencies to act cohesively when an emergency occurs. The director of this

office is the governor’s principal adviser on homeland security issues.¹²

Under new governor Jon Corzine in 2006, the Commissioner of the New Jersey Department of Health and Senior Services (NJDHSS) continued the visibility and emphasis of his department in disaster preparedness. The programs dedicated to disaster preparedness were grouped together within a section of the health department under the leadership of a senior assistant commissioner. Operations of this program were organized by subdivisions: public health, which incorporated the local health departments and the Local Information Network and Communication System; emergency management, composed of the first responders; and the healthcare delivery system composed of hospitals, primary care centers, and other health and medical care professionals.¹³ This organizational structure maximizes the ability of the NJDHSS to communicate rapidly with local levels of operation as well as with specialized resources.

Immediately after September 11, the NJDHSS called together a group of experts in emergency response for advice should there be another terrorist attack. Among the group’s accomplishments over the next 5 years was the establishment of a medical team that could be called upon 24 hours a day, 7 days a week, to diagnose medical emergencies. The group also recommended where dollars were needed to enhance the state’s critical emergency response capability. With the organizational changes in the NJDHSS and the multiple lines of coordination and communication between the

state agencies and community groups, this group of individuals transformed into an organization of representatives from public and private entities most involved with disaster planning, training, and response. The group fulfills the requirement of a senior advisory committee, established in fiscal year 2005 by the Office on Grants and Training, CDC, and Health Resources and Services Administration.¹⁴

FUNDING FOR THE STATES’ PREPAREDNESS EFFORTS

The Bioterrorism Act of 2002 authorized funding for states, municipalities, and territorial governments through cooperative agreements with the Health Resources and Services Administration and the CDC. This act provided for an emergency funding supplement outside the annual federal budgeting cycle in response to the events of the previous fall. The Health Resources and Services Administration’s National Bioterrorism Hospital Preparedness Program was designed to increase health care capacities in the event of mass casualties (Table 1).¹⁵

To jump-start funding, the CDC’s Public Health Preparedness and Response for Bioterrorism Program built upon a preexisting model and requested proposals from states that addressed 7 focus areas: (1) preparedness planning and readiness assessment, (2) surveillance and epidemiology capacity, (3) laboratory capacity for biological agents, (4) laboratory capacity for chemical agents, (5) health alert network communications and information technology, (6) risk communication and health information dissemination, and (7) education and training.²¹

New Jersey contributed state dollars to fill the gaps in preparedness, including the purchase of 800 MHz radios to communicate with hospitals and command posts should other communications become unavailable, decontamination trailers for toxic and radiation exposure, and hazardous materials equipment.²²

In 2005, the CDC’s Preparedness Program replaced its focus areas with the preparedness goals: “Prevent, Detect/Report, Investigate, Control, Recover, and Improve.” These goals were further linked with the newly developed National Response Plan and the National Incident Management System. These activities represented a steady evolution toward a unified federal response system with clearer lines of authority and specific expectations for the federally funded state activities. Exercises and drills are the means by which progress toward these goals are measured.¹⁴ An example would be an evaluation of a state’s response to a staged derailment of a transport vehicle carrying a hazardous chemical.

THE MODEL STATE EMERGENCY HEALTH POWERS ACT

States had concerns that their ability to respond effectively to public health emergencies might be hampered because their older statutes did not reflect current thinking about individual rights and privacy and were not applicable to modern healthcare delivery systems. After September 11, the CDC requested the Center for Law and the Public’s Health at Georgetown and Johns Hopkins Universities to draft a Model State Emergency Health Powers Act (MSEHPA). Because

TABLE 1—Health Resources and Services Administration (HRSA) and Centers for Disease Control and Prevention (CDC) Bioterrorism and Preparedness Funding to States and Territories, by Fiscal Year: 1999–2006

	FY 1999 ¹¹	FY 2000 ¹¹	FY 2001 ¹¹	FY 2002 ¹⁶	FY 2003 ¹⁷	FY 2004 ¹⁸	FY 2005 ¹⁹	FY 2006 ²⁰
HRSA				\$124 900 000	\$498 000 000	\$498 000 000	\$470 755 000	\$460 216 752
CDC	\$40 700 000	\$41 900 000	\$49 900 000	\$918 000 000	\$870 000 000	\$817 156 000	\$862 777 000	\$766 440 000
Total	\$40 700 000	\$41 900 000	\$49 900 000	\$1 042 900 000	\$1 368 000 000	\$1 315 156 000	\$1 333 532 000	\$1 226 656 752

Notes. FY = fiscal year. Twenty percent was disbursed immediately; 80% is dependent on plan completion. FY 2006 does not include pandemic influenza preparedness supplement.

of the states’ constitutional responsibility to preserve the public’s health, the MSEHPA was specifically designed for state and not federal legislative consideration. Not intended to be adopted in whole by states, the MSEHPA was to serve as a benchmark or guideline for lawmakers as they assessed their public health laws with regard to terrorism preparedness.²³

The MSEHPA outlines the states’ public health powers and duties needed to be in place before, during, and after an emergency. These are preparedness; surveillance; management of property (ensuring vaccines, pharmaceuticals, and facilities to care for and to abate hazards to the public’s health); protection of persons through vaccination, isolation, and quarantine; and communication. The act balances this power with individual rights and freedoms by requiring that avenues for due process remain open. Although the act empowers a governor to declare a “public health emergency,” the governor and his delegate (usually the Commissioner or Director of Health) remain subject to the checks and balances of the legislative and judicial branches of government.²⁴

As of July 31, 2006, 38 states, including New Jersey, had passed statutes that reflect the principles enunciated in the MSEHPA.²⁴

EDUCATION AND TRAINING

State programs for educating and training the US public health workforce, estimated at 500 000 people, for public health emergencies gained importance in 2002 with increased funding by CDC.^{14,25} The workforce was generally unfamiliar with how to respond to disasters and historically had little contact with emergency medical systems at all levels of government.^{15,26}

In 2002, in an effort to get as many key personnel trained as quickly as possible, the NJDHSS funded development of a 40-hour certificate program for local and county health department professional staff that covered topics such as planning, public health law, incident command, epidemiology, and chemical and biological agents. Other training programs for emergency responders, caregivers for the severe and persistently mentally ill, laboratory workers, health care providers, and the public addressed the integration of the public health and emergency response systems, mental health aspects of disasters, laboratory response network, and cultural competency.²⁷

The NJ Center for Public Health Preparedness was established at the University of Medicine and Dentistry of New Jersey School of Public Health as

part of the national network of the Centers for Public Health Preparedness funded by the CDC to conduct training programs for public health professionals.²⁸ In 2003, the Health Resources and Services Administration funded the New Jersey Preparedness Training Consortium at the University of Medicine and Dentistry of New Jersey, New Jersey Medical School, as a partnership of academic and health care organizations to provide training to the state’s health care providers and to develop a bioterrorism curriculum for health professions students at universities.²⁹

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, AND EXPLOSIVE THREATS

The guidance on responses to chemical, biological, radiological, nuclear, and explosive threats provided by CDC, other national organizations, and academia helped states to develop state-wide policies and to include their unique concerns. For example, in 2005, New Jersey became the first state in the nation to require enforceable plant security practices for its 140 chemical facilities. These security standards are intended to provide the public and workers with protection from catastrophic accidents caused by

natural occurrences or a terrorist attack.^{30–32}

Surveillance, the key to detecting an attack with a biological agent, was enhanced through both passive and active reporting systems. The CDC National Electronic Disease Surveillance System and the New Jersey Communicable Disease Reporting System are integrated components of a secure Web-based electronic reporting system that has replaced paper reports. Some states have made a system similar to the New Jersey Communicable Disease Reporting System available to their local health departments with extensions to their laboratories.³³

In addition to state reporting systems, surveillance systems track data nationally and send state-specific reports to states. These include: (1) the Realtime Outbreak and Disease Surveillance,³⁴ (2) Biosense,³⁵ (3) Biowatch,³⁶ and (4) the Biohazard Detection System in US Postal Service facilities.³⁷

The governmental agency that will take the lead in the event of an attack that involves radiological or nuclear material will depend on the scope, type, and quantity of radioactive material used; the location of the emergency; and the impact of the attack on the public and the environment. States must be knowledgeable about the

nuclear plants within their boundaries, although the plants are required to have safety and evacuation plans in place that are monitored by the federal government.^{38,39}

Being prepared for the multitude of types of explosive and blast events is the responsibility of law enforcement agencies and is not addressed in this essay. Table 2 provides references for more detailed information on how to prepare for specific types of attacks and disasters.

PREPARING THE HEALTH CARE SYSTEM FOR DISASTERS

Before September 11, non-military hospitals, emergency rooms, and emergency medical responders had little association with the federal government. Emergency response systems were locally managed with a significant number of volunteers. Some states licensed institutions to operate as hospitals and certified individuals to practice as emergency medical

technicians and paramedics. After September 11, attention was focused on these resources, which are critical in responding to an act of terrorism. The National Incident Management System, part of the National Response Plan, was designed to ensure that all first responders work under the same plan, use the same nomenclature, and receive consistent training.⁴⁰

First responders, including police, firefighters, and emergency medical responders, as well as emergency room personnel,

must know how to care for terrorism attack victims while protecting themselves.⁴⁰ Preventive measures for these first responders and hospital personnel include up-to-date vaccinations and available supplies of prophylactic drugs.

In the event of an act of biological terrorism or pandemic influenza, the health care system needs to have vaccines, prophylactic medications, antibiotics, and antivirals available as therapeutic countermeasures. Infection control with isolation

TABLE 2—Information Sources on Preparing for and Responding to Public Health Emergencies

Source	Description	Web Site or Reference
American Red Cross	General preparedness information	http://www.redcross.org/prepare/makeplan.html
Ready America	Department of Homeland Security preparedness information for public	http://www.ready.gov/america/beinformed
US Department of Health and Human Services: 30 Tips for Emergency Preparedness	Preparedness tips for public	http://www.dhs.gov/xcitizens/citizens/editorial_0711.shtm
Centers for Disease Control and Prevention: Emergency Preparedness and Response	Information on terrorism and public health	http://www.bt.cdc.gov
National Governor's Association Center for Best Practices	State homeland security best practices	NGA Center for Best Practices, 444 North Capitol St, Suite 267, Washington, DC 20001; http://www.nga.org/portal/site
US Department of Health and Human Services: Disasters and Emergencies	Disaster response information	http://www.hhs.gov/disasters/index.shtml
Nuclear Threat Initiative	Policy analysis of nuclear threats	http://www.nti.org/
National Conference of State Legislatures: Homeland Security and Emergency Preparedness	Homeland Security background information for state policymakers	http://www.ncsl.org/terrorism/terrorism.htm
US Environmental Protection Agency: Radiation Emergency Response	Radiological emergency response planning	http://www.epa.gov/radiation/rert/prepare.htm
US Environmental Protection Agency: Emergency Response	Environmental emergency response preparedness information	http://www.epa.gov/ebtpages/emergencyresponse.html
Substance Abuse and Mental Health Services Administration Disaster Technical Assistance Center	Disaster Technical Assistance Center focusing on mental health issues	http://mentalhealth.samhsa.gov/dtac
Mental Health Response to Mass Violence and Terrorism	A training manual for mental health response	US Dept of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services publication SMA3959
Management of Terrorist Events Involving Radioactive Material	Technical manual on the management of radiological events	National Council on Radiation Protection and Measurement report 138, Bethesda, Md; ISBN: 0-929600-71-1
Physicians' Desk Reference Guide to Terrorism Response	A resource for medical personnel and first responders to chemical, biological, radiological, nuclear, and explosive threats	Thomson PDR, Montville, NJ; ISBN: 1-56363-550-X
Essential Elements of Respiratory Protection	Guide for selection of respiratory protection equipment	New Jersey Center for Public Health Preparedness, University of Medicine and Dentistry of New Jersey, New Brunswick

and quarantine are effective nonpharmaceutical interventions. The combination of these countermeasures form the 2 principal strategies for prevention and response to such an event.⁴¹

The Strategic National Stockpile is a national storehouse in multiple locations that includes medical and surgical supplies to be used to supplement and resupply state and local health agencies that serve areas impacted by a disaster. Upon a request by a governor, the Strategic National Stockpile is deployed to a state, which is responsible for unpacking, assembling, and distributing the supplies.⁴² New Jersey participated in a federal exercise, Topoff 3, which utilized highly centralized "Points of Distribution."⁴³ As of this writing, the final evaluation of this approach is pending.

The vulnerability of communication systems was demonstrated on September 11. This led states, including New Jersey, to establish back-up communication systems for hospitals, offices of emergency management, incident command centers, and health departments that would function in the event electrical power and telephone systems became nonfunctional.²²

Issues of specific concern to hospitals and other components of the healthcare system are bed availability, increased staff necessary in emergencies, credentialing and the identification of healthcare providers, and liability issues.⁴¹

EVALUATION AND SUSTAINABILITY

Effective policymaking requires regular and ongoing evaluation. The US General Accounting

Office regularly evaluates federally funded programs, and in the case of preparedness programs, evaluations have also been carried out by independent agencies. The evaluation reports frequently compare and rank the states on criteria such as percentage of the population immunized, availability of medical and nursing personnel, and public health spending. The reports can help the states by highlighting their weaknesses.⁴⁴⁻⁴⁶

As public funding for disaster and terrorism preparedness declines, responsible administrators and managers are thinking of how best to maintain and sustain the systems that have been developed. Evaluations and best practices may provide the data states need to make the case for the funds to sustain the elements of the programs that are essential if a disaster occurs.

CONCLUSION

Leadership in state government preparedness efforts has had a ripple effect. Local health departments are now better prepared to communicate effectively with their local emergency response and medical care systems. The historically weak linkages between public health agencies and the emergency response and medical care systems have been strengthened. Laboratory services, surveillance, and reporting systems have been greatly improved and enhanced. Health and medical care personnel are better trained to help victims of disaster.

The public health community is not in a position to prevent acts of terrorism, but it is in a position to prepare for public health emergencies. Being

unprepared for any public health emergency, including an act of terrorism, is no longer an option for responsible public health leaders. ■

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Contributions

L.Z. Ziskin was the principal author and supervised all aspects of preparing and writing the article. D.A. Harris formatted and compiled the data for the tables and contributed to the narrative.

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