



ASSOCIATION OF STATE AND
TERRITORIAL HEALTH OFFICIALS

PUBLIC HEALTH PREPAREDNESS

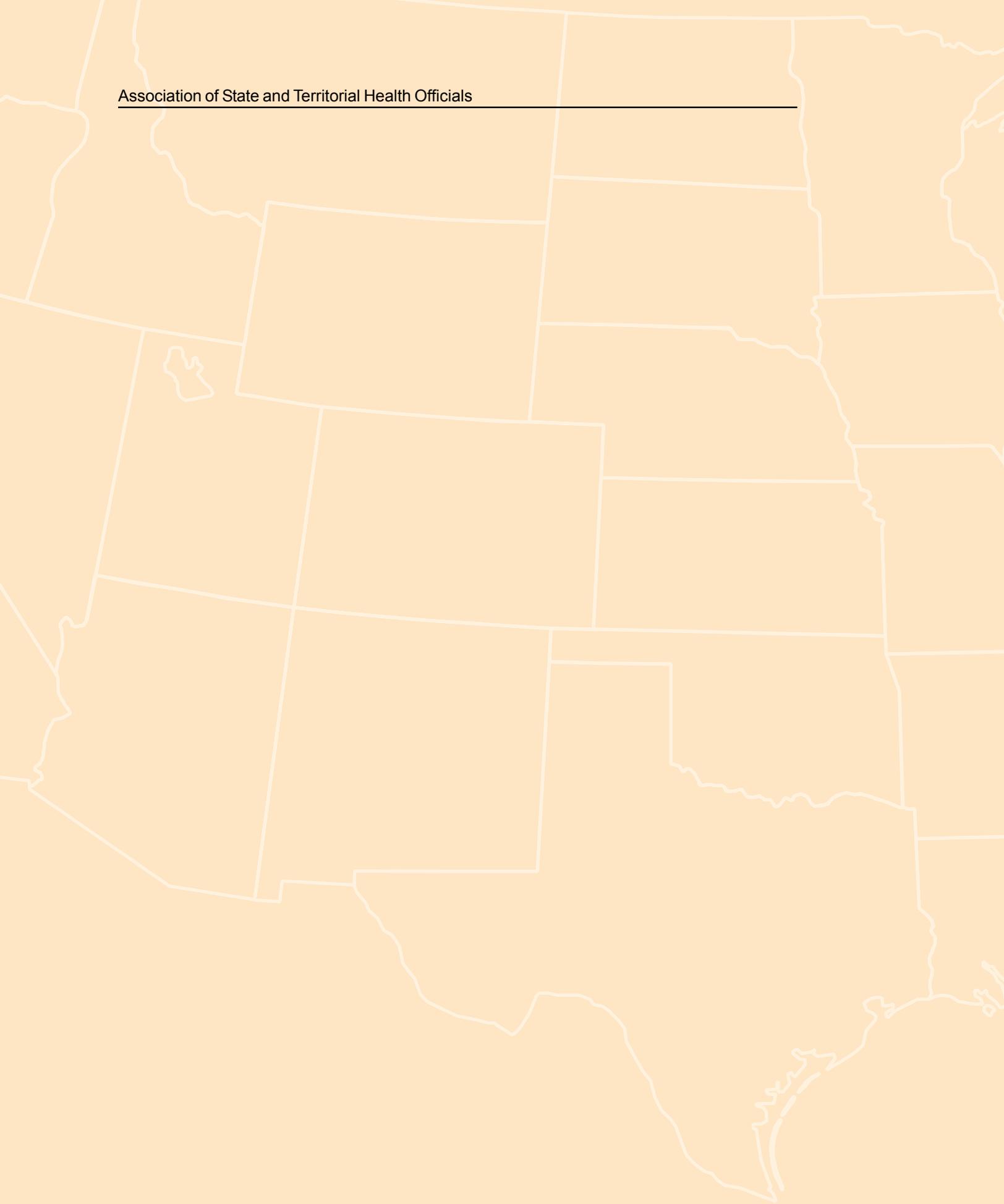
A Progress Report - The First Six Months

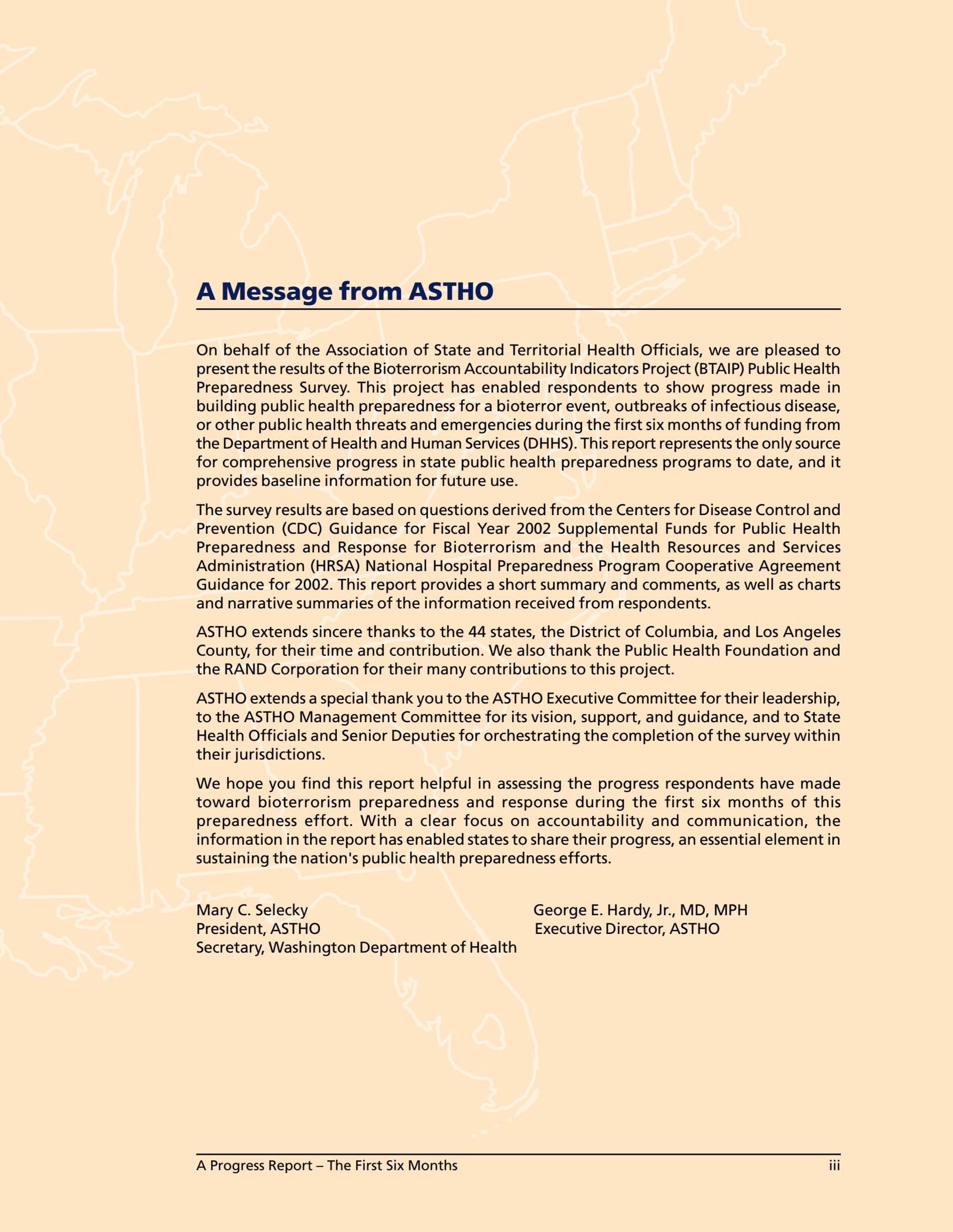




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A Message from ASTHO

On behalf of the Association of State and Territorial Health Officials, we are pleased to present the results of the Bioterrorism Accountability Indicators Project (BTAIP) Public Health Preparedness Survey. This project has enabled respondents to show progress made in building public health preparedness for a bioterror event, outbreaks of infectious disease, or other public health threats and emergencies during the first six months of funding from the Department of Health and Human Services (DHHS). This report represents the only source for comprehensive progress in state public health preparedness programs to date, and it provides baseline information for future use.

The survey results are based on questions derived from the Centers for Disease Control and Prevention (CDC) Guidance for Fiscal Year 2002 Supplemental Funds for Public Health Preparedness and Response for Bioterrorism and the Health Resources and Services Administration (HRSA) National Hospital Preparedness Program Cooperative Agreement Guidance for 2002. This report provides a short summary and comments, as well as charts and narrative summaries of the information received from respondents.

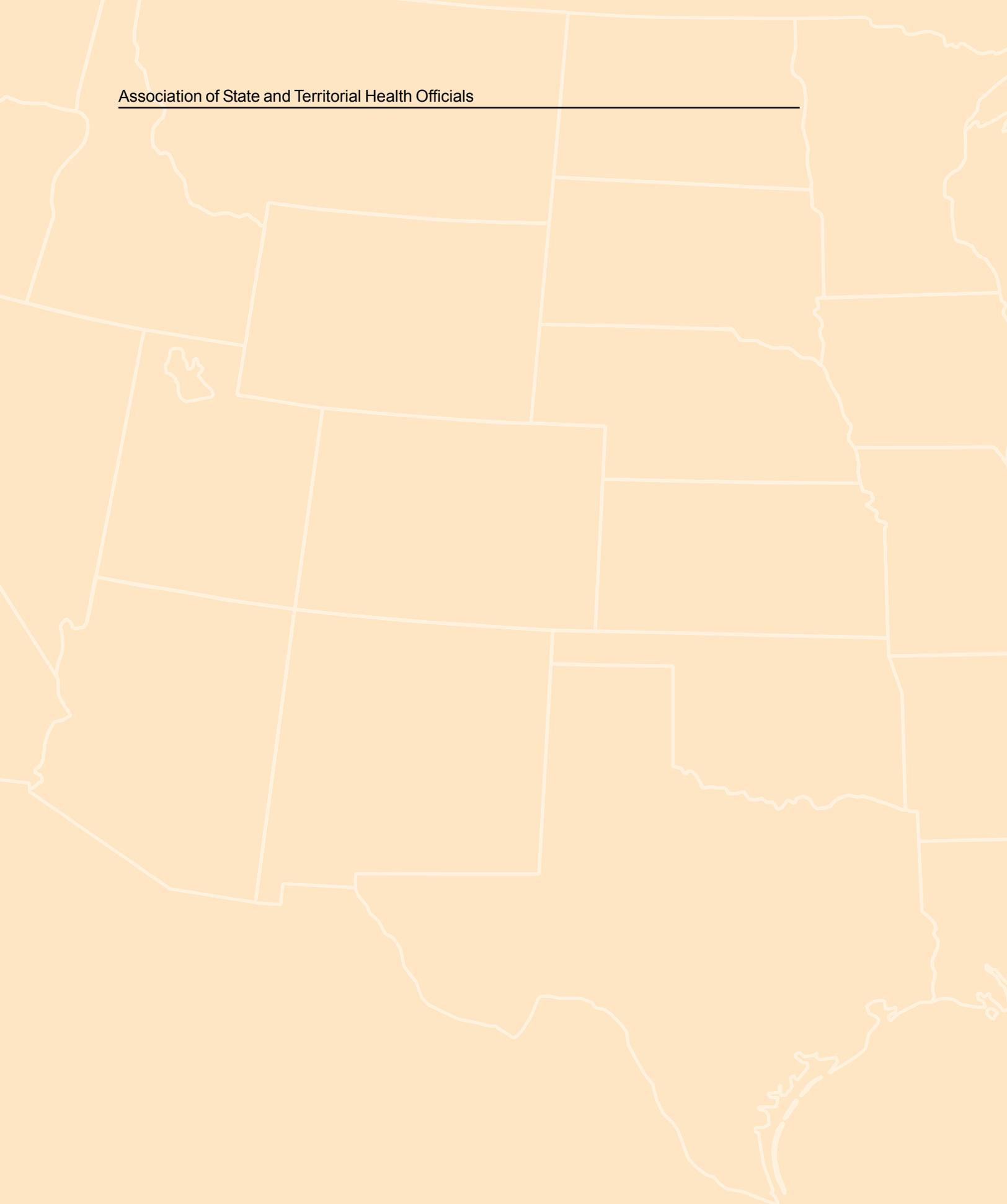
ASTHO extends sincere thanks to the 44 states, the District of Columbia, and Los Angeles County, for their time and contribution. We also thank the Public Health Foundation and the RAND Corporation for their many contributions to this project.

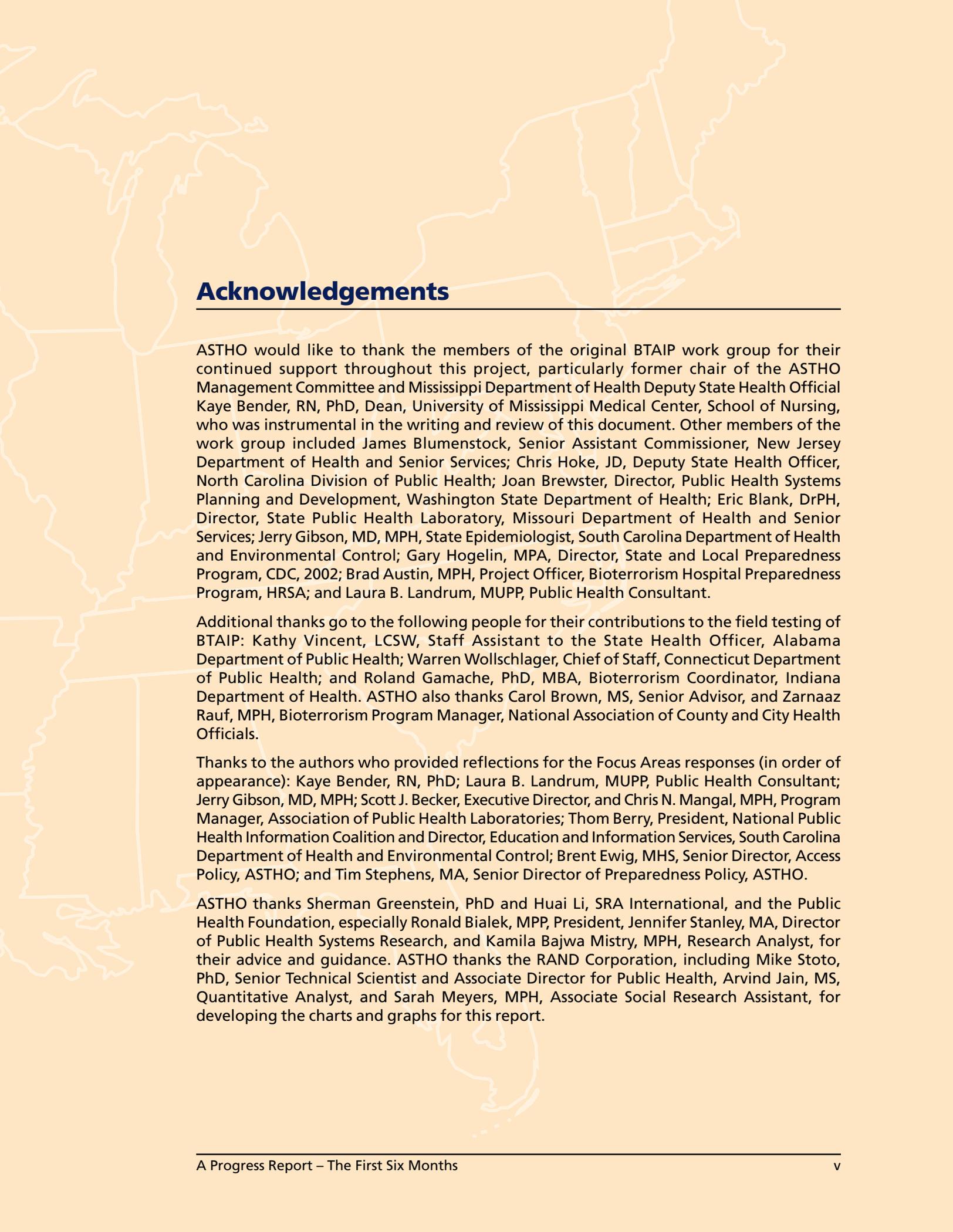
ASTHO extends a special thank you to the ASTHO Executive Committee for their leadership, to the ASTHO Management Committee for its vision, support, and guidance, and to State Health Officials and Senior Deputies for orchestrating the completion of the survey within their jurisdictions.

We hope you find this report helpful in assessing the progress respondents have made toward bioterrorism preparedness and response during the first six months of this preparedness effort. With a clear focus on accountability and communication, the information in the report has enabled states to share their progress, an essential element in sustaining the nation's public health preparedness efforts.

Mary C. Selecky
President, ASTHO
Secretary, Washington Department of Health

George E. Hardy, Jr., MD, MPH
Executive Director, ASTHO





Acknowledgements

ASTHO would like to thank the members of the original BTAIP work group for their continued support throughout this project, particularly former chair of the ASTHO Management Committee and Mississippi Department of Health Deputy State Health Official Kaye Bender, RN, PhD, Dean, University of Mississippi Medical Center, School of Nursing, who was instrumental in the writing and review of this document. Other members of the work group included James Blumenstock, Senior Assistant Commissioner, New Jersey Department of Health and Senior Services; Chris Hoke, JD, Deputy State Health Officer, North Carolina Division of Public Health; Joan Brewster, Director, Public Health Systems Planning and Development, Washington State Department of Health; Eric Blank, DrPH, Director, State Public Health Laboratory, Missouri Department of Health and Senior Services; Jerry Gibson, MD, MPH, State Epidemiologist, South Carolina Department of Health and Environmental Control; Gary Hogelin, MPA, Director, State and Local Preparedness Program, CDC, 2002; Brad Austin, MPH, Project Officer, Bioterrorism Hospital Preparedness Program, HRSA; and Laura B. Landrum, MUPP, Public Health Consultant.

Additional thanks go to the following people for their contributions to the field testing of BTAIP: Kathy Vincent, LCSW, Staff Assistant to the State Health Officer, Alabama Department of Public Health; Warren Wollschlager, Chief of Staff, Connecticut Department of Public Health; and Roland Gamache, PhD, MBA, Bioterrorism Coordinator, Indiana Department of Health. ASTHO also thanks Carol Brown, MS, Senior Advisor, and Zarnaaz Rauf, MPH, Bioterrorism Program Manager, National Association of County and City Health Officials.

Thanks to the authors who provided reflections for the Focus Areas responses (in order of appearance): Kaye Bender, RN, PhD; Laura B. Landrum, MUPP, Public Health Consultant; Jerry Gibson, MD, MPH; Scott J. Becker, Executive Director, and Chris N. Mangal, MPH, Program Manager, Association of Public Health Laboratories; Thom Berry, President, National Public Health Information Coalition and Director, Education and Information Services, South Carolina Department of Health and Environmental Control; Brent Ewig, MHS, Senior Director, Access Policy, ASTHO; and Tim Stephens, MA, Senior Director of Preparedness Policy, ASTHO.

ASTHO thanks Sherman Greenstein, PhD and Huai Li, SRA International, and the Public Health Foundation, especially Ronald Bialek, MPP, President, Jennifer Stanley, MA, Director of Public Health Systems Research, and Kamila Bajwa Mistry, MPH, Research Analyst, for their advice and guidance. ASTHO thanks the RAND Corporation, including Mike Stoto, PhD, Senior Technical Scientist and Associate Director for Public Health, Arvind Jain, MS, Quantitative Analyst, and Sarah Meyers, MPH, Associate Social Research Assistant, for developing the charts and graphs for this report.

Finally, ASTHO thanks our colleagues at the Centers for Disease Control and Prevention (CDC) for providing support, insight, and guidance for this project. This report was made possible with funding from the CDC Cooperative Agreement to Improve the Nation's Public Health Infrastructure with State Public Health Agencies/Systems (#U50/CCU313903-05-01), Special Project on Bioterrorism Preparedness.

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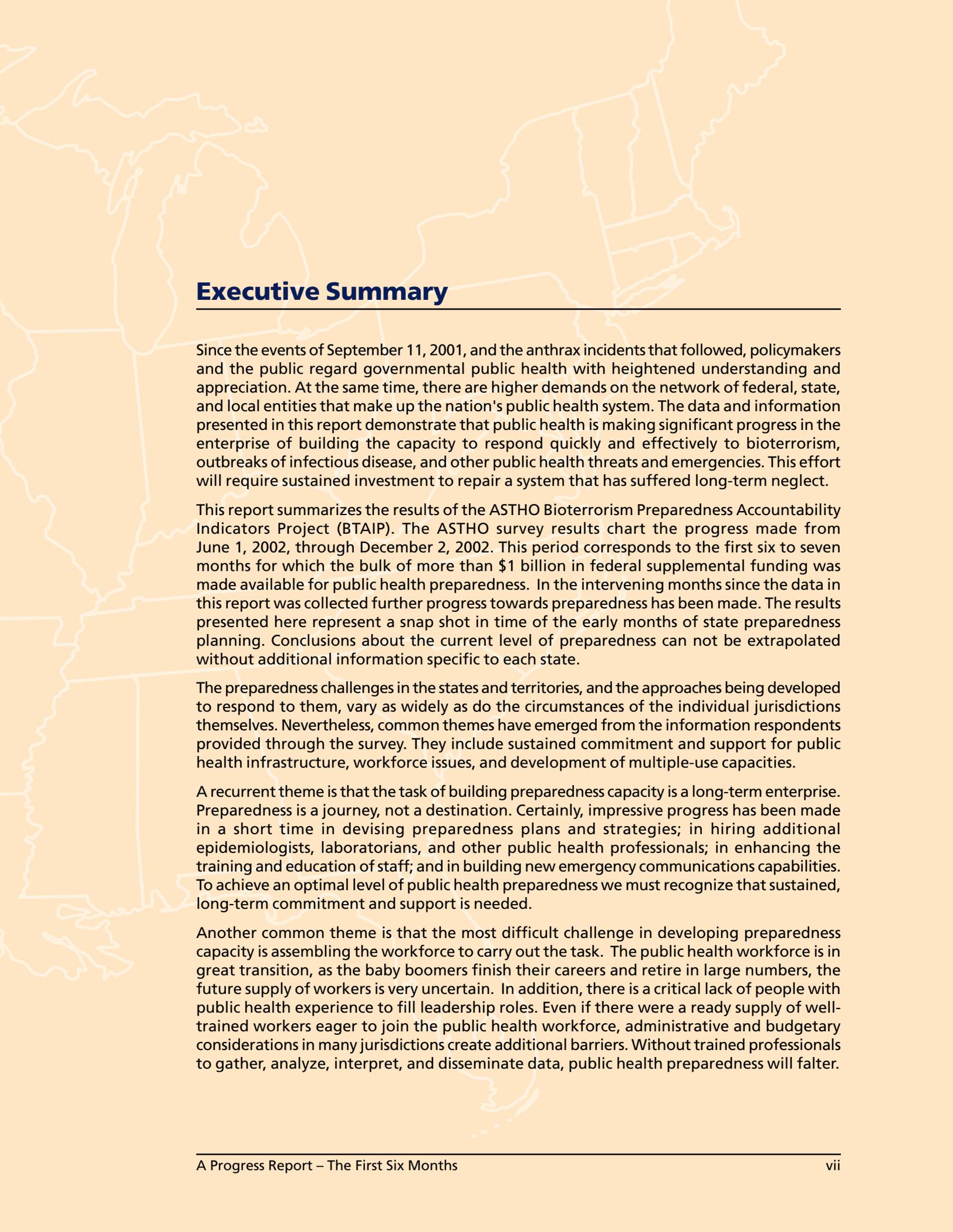
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Executive Summary

Since the events of September 11, 2001, and the anthrax incidents that followed, policymakers and the public regard governmental public health with heightened understanding and appreciation. At the same time, there are higher demands on the network of federal, state, and local entities that make up the nation's public health system. The data and information presented in this report demonstrate that public health is making significant progress in the enterprise of building the capacity to respond quickly and effectively to bioterrorism, outbreaks of infectious disease, and other public health threats and emergencies. This effort will require sustained investment to repair a system that has suffered long-term neglect.

This report summarizes the results of the ASTHO Bioterrorism Preparedness Accountability Indicators Project (BTAIP). The ASTHO survey results chart the progress made from June 1, 2002, through December 2, 2002. This period corresponds to the first six to seven months for which the bulk of more than \$1 billion in federal supplemental funding was made available for public health preparedness. In the intervening months since the data in this report was collected further progress towards preparedness has been made. The results presented here represent a snap shot in time of the early months of state preparedness planning. Conclusions about the current level of preparedness can not be extrapolated without additional information specific to each state.

The preparedness challenges in the states and territories, and the approaches being developed to respond to them, vary as widely as do the circumstances of the individual jurisdictions themselves. Nevertheless, common themes have emerged from the information respondents provided through the survey. They include sustained commitment and support for public health infrastructure, workforce issues, and development of multiple-use capacities.

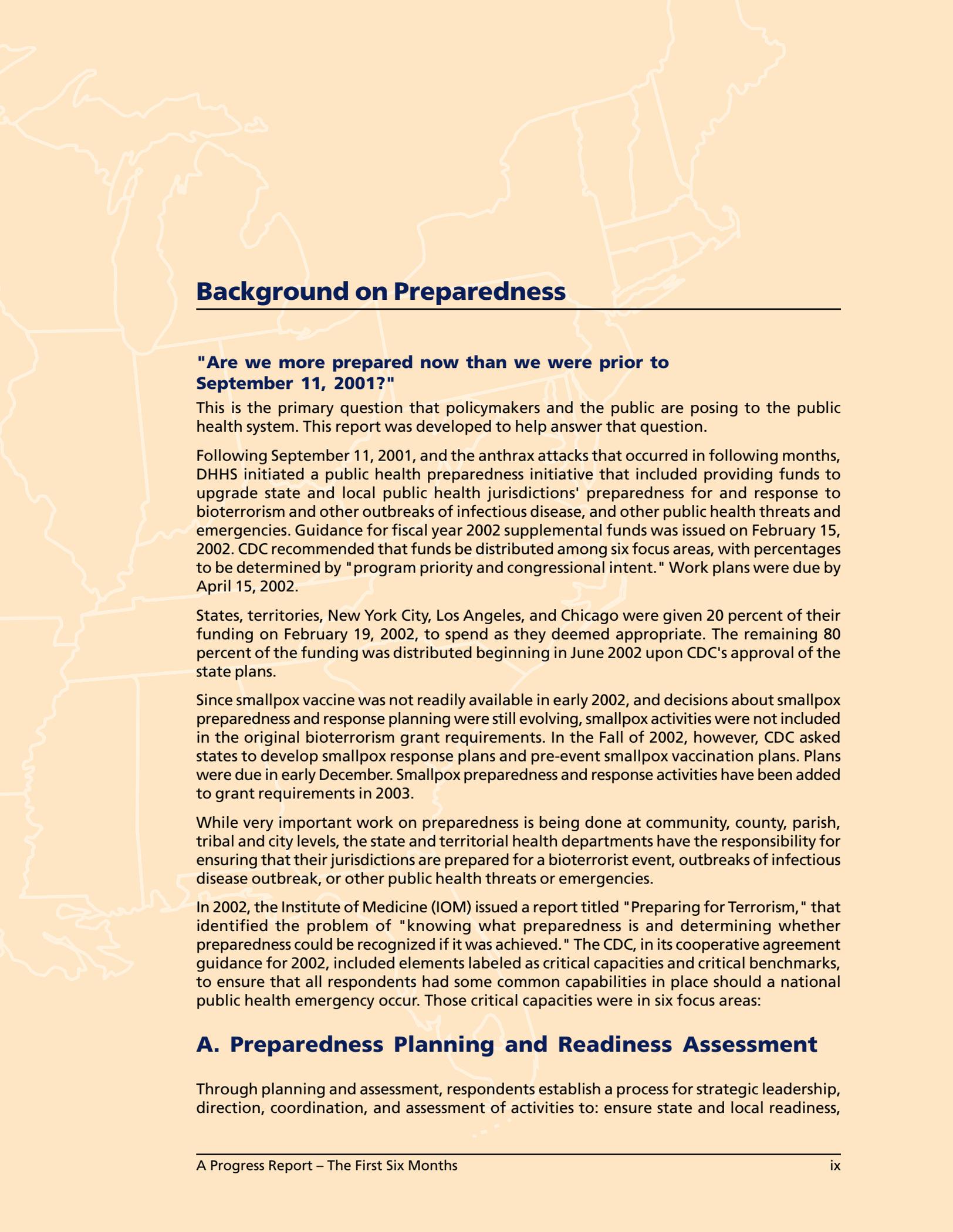
A recurrent theme is that the task of building preparedness capacity is a long-term enterprise. Preparedness is a journey, not a destination. Certainly, impressive progress has been made in a short time in devising preparedness plans and strategies; in hiring additional epidemiologists, laboratorians, and other public health professionals; in enhancing the training and education of staff; and in building new emergency communications capabilities. To achieve an optimal level of public health preparedness we must recognize that sustained, long-term commitment and support is needed.

Another common theme is that the most difficult challenge in developing preparedness capacity is assembling the workforce to carry out the task. The public health workforce is in great transition, as the baby boomers finish their careers and retire in large numbers, the future supply of workers is very uncertain. In addition, there is a critical lack of people with public health experience to fill leadership roles. Even if there were a ready supply of well-trained workers eager to join the public health workforce, administrative and budgetary considerations in many jurisdictions create additional barriers. Without trained professionals to gather, analyze, interpret, and disseminate data, public health preparedness will falter.

One of the central tenets in the recently-adopted ASTHO strategic plan is to "Strengthen Core Public Health Infrastructure by Integrating Preparedness." The underlying premise is that the nation's preparedness capacity should not be built as a separate public health capacity. Instead, new investments in preparedness should enhance public health overall. A public health system that is prepared to respond to multiple different threats is essential.

The same personnel and surveillance systems that would be critical in a terrorist event are involved in responding to each of these threats. This has been readily illustrated by public health's recent response to a series of emerging threats. Jurisdictions have reported that without the new preparedness capacities they would have been hard-pressed to respond quickly to the threats posed during the last year by Severe Acute Respiratory Syndrome (SARS), monkeypox, and West Nile virus.

ASTHO is very grateful to the 44 states, the District of Columbia, and Los Angeles County, whose health agencies devoted the considerable time and effort required to compile the data that made this report possible. Their willingness to participate in the survey is all the more impressive considering their daily need to maintain vigilance in the face of heightened threats.



Background on Preparedness

"Are we more prepared now than we were prior to September 11, 2001?"

This is the primary question that policymakers and the public are posing to the public health system. This report was developed to help answer that question.

Following September 11, 2001, and the anthrax attacks that occurred in following months, DHHS initiated a public health preparedness initiative that included providing funds to upgrade state and local public health jurisdictions' preparedness for and response to bioterrorism and other outbreaks of infectious disease, and other public health threats and emergencies. Guidance for fiscal year 2002 supplemental funds was issued on February 15, 2002. CDC recommended that funds be distributed among six focus areas, with percentages to be determined by "program priority and congressional intent." Work plans were due by April 15, 2002.

States, territories, New York City, Los Angeles, and Chicago were given 20 percent of their funding on February 19, 2002, to spend as they deemed appropriate. The remaining 80 percent of the funding was distributed beginning in June 2002 upon CDC's approval of the state plans.

Since smallpox vaccine was not readily available in early 2002, and decisions about smallpox preparedness and response planning were still evolving, smallpox activities were not included in the original bioterrorism grant requirements. In the Fall of 2002, however, CDC asked states to develop smallpox response plans and pre-event smallpox vaccination plans. Plans were due in early December. Smallpox preparedness and response activities have been added to grant requirements in 2003.

While very important work on preparedness is being done at community, county, parish, tribal and city levels, the state and territorial health departments have the responsibility for ensuring that their jurisdictions are prepared for a bioterrorist event, outbreaks of infectious disease outbreak, or other public health threats or emergencies.

In 2002, the Institute of Medicine (IOM) issued a report titled "Preparing for Terrorism," that identified the problem of "knowing what preparedness is and determining whether preparedness could be recognized if it was achieved." The CDC, in its cooperative agreement guidance for 2002, included elements labeled as critical capacities and critical benchmarks, to ensure that all respondents had some common capabilities in place should a national public health emergency occur. Those critical capacities were in six focus areas:

A. Preparedness Planning and Readiness Assessment

Through planning and assessment, respondents establish a process for strategic leadership, direction, coordination, and assessment of activities to: ensure state and local readiness,

interagency collaboration, preparedness for bioterrorism, other outbreaks of infectious disease, and other public health threats and emergencies.

B. Surveillance and Epidemiological Capacity

To rapidly detect a bioterrorist event, an outbreak of an infectious disease, or other public health threats or emergencies, public health departments must have disease surveillance plans and capabilities and staff members with skills in epidemiology, disease surveillance, and interpretation of clinical and laboratory information.

C. Public Health Laboratory Capacity

Public health laboratories must have adequate capacities to respond, in a timely manner, to a range of public health threats and emergencies, including terrorism. According to the CDC, "clinical lab personnel will most likely be the first ones to perform preliminary testing on clinical specimens from patients who may have been intentionally exposed [to biological or chemical terrorism]".

D. Laboratory Capacity - Chemical Agents.

CDC's Cooperative Agreement on Public Health Preparedness and Response for Bioterrorism did not fund Focus Area D, during the period covered by this progress report. Therefore, this report contains no information on expenditures or progress made by states in Focus Area D.

E. Communications and Information Technology

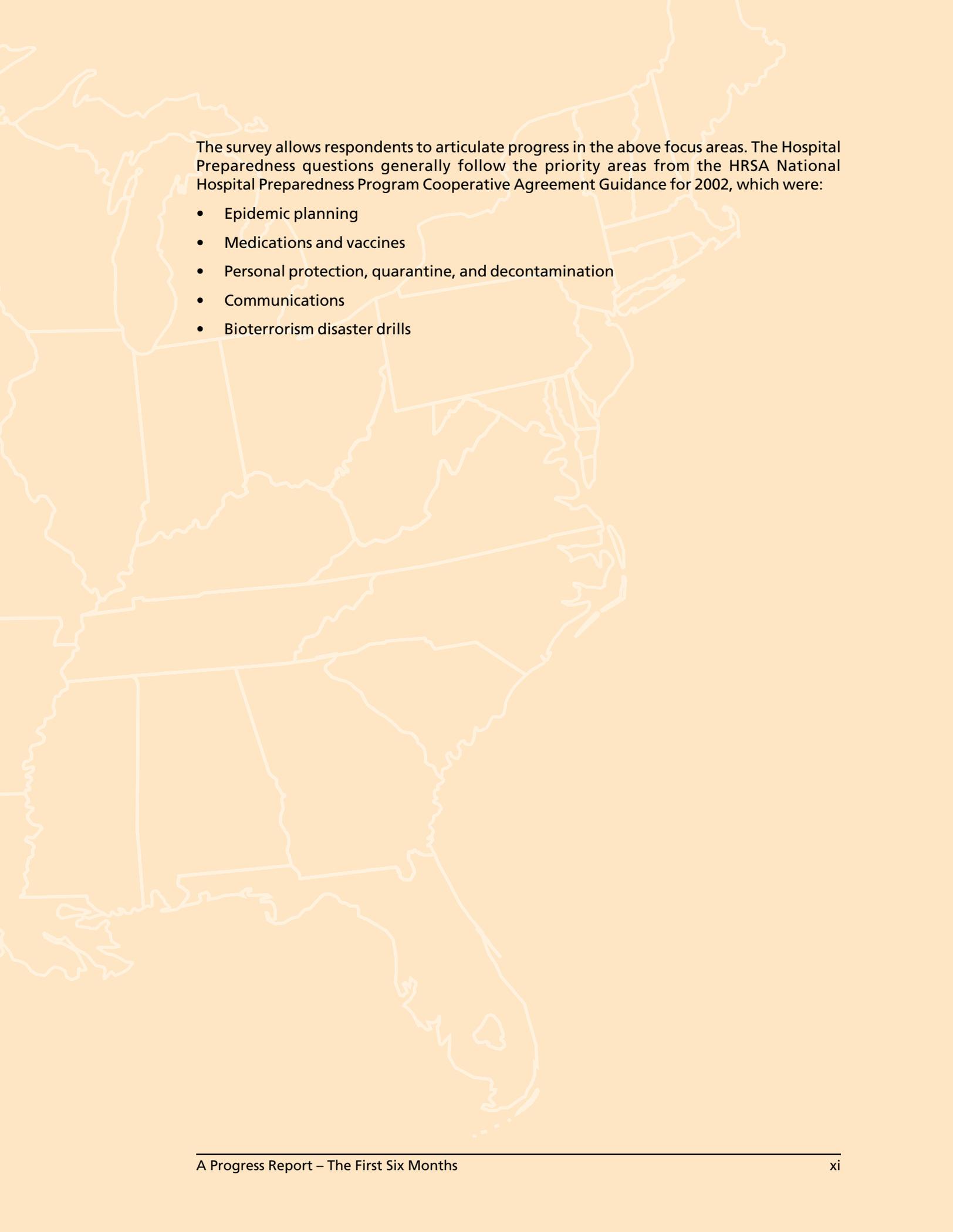
In a public health emergency, rapid response will depend on effective communications among public health departments, healthcare organizations, law enforcement organizations, public officials and others. In today's challenging environment, it is more important than ever that these entities work together to ensure the safety and security of the nation's citizens.

F. Risk Communication and Health Information Dissemination

In a public health emergency, respondents will be responsible for communicating timely, accurate information to citizens directly, through interaction with the media, and through printed materials.

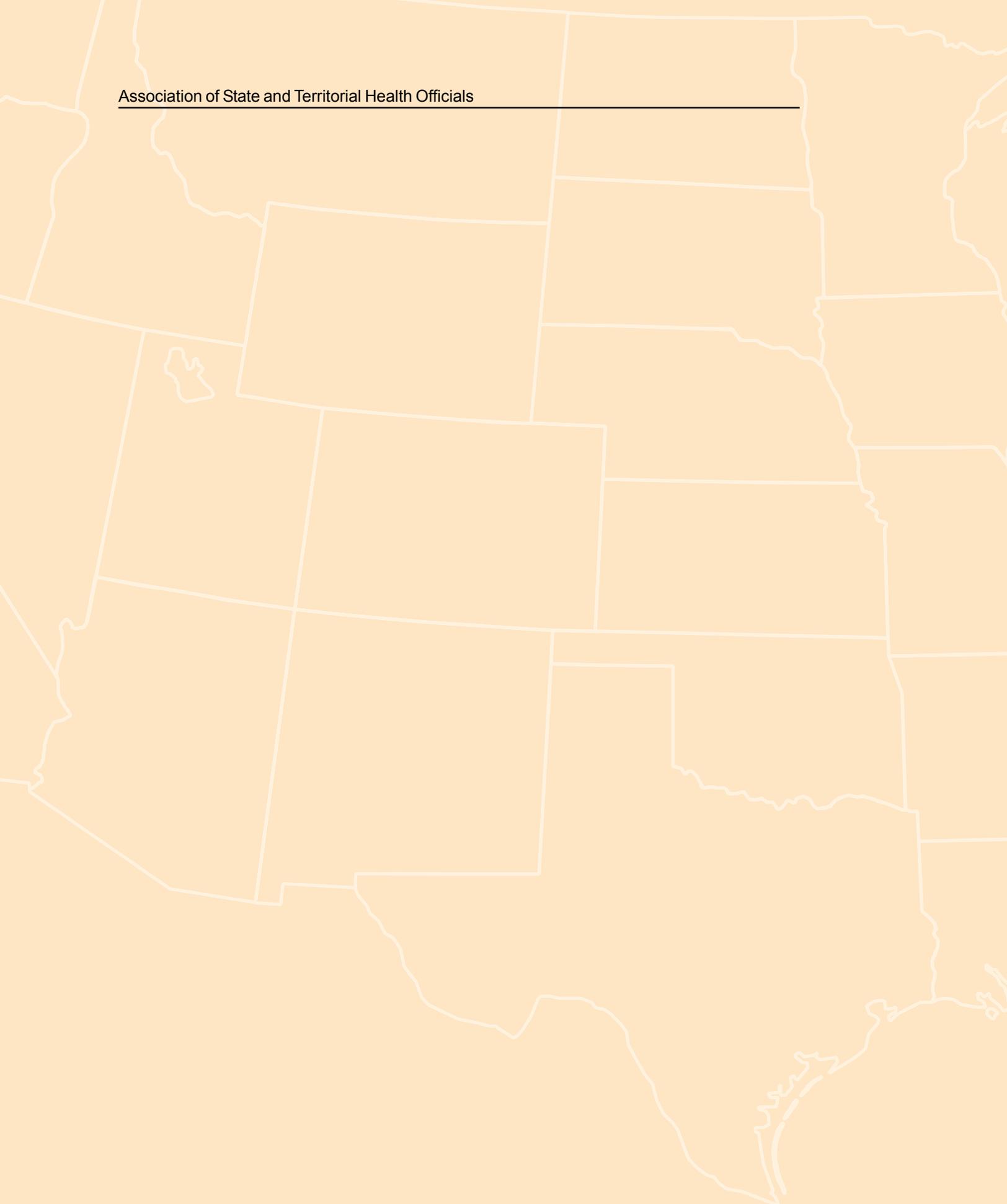
G. Education and Training

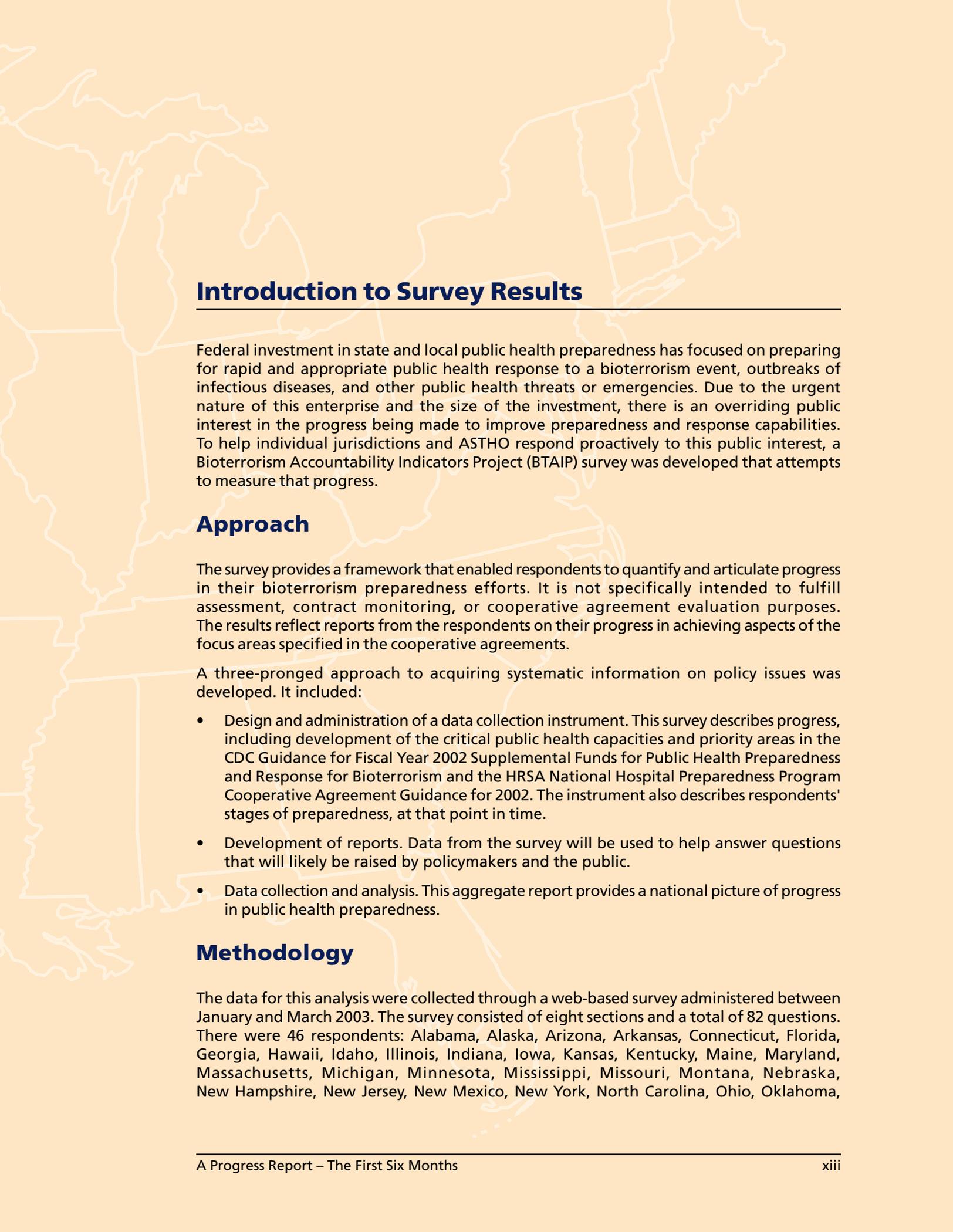
To prepare for a public health emergency, state health agencies must assess the training needs of key public health professionals, infectious disease specialists, emergency department personnel, and other healthcare providers and must assure that education and training is provided for these individuals.



The survey allows respondents to articulate progress in the above focus areas. The Hospital Preparedness questions generally follow the priority areas from the HRSA National Hospital Preparedness Program Cooperative Agreement Guidance for 2002, which were:

- Epidemic planning
- Medications and vaccines
- Personal protection, quarantine, and decontamination
- Communications
- Bioterrorism disaster drills





Introduction to Survey Results

Federal investment in state and local public health preparedness has focused on preparing for rapid and appropriate public health response to a bioterrorism event, outbreaks of infectious diseases, and other public health threats or emergencies. Due to the urgent nature of this enterprise and the size of the investment, there is an overriding public interest in the progress being made to improve preparedness and response capabilities. To help individual jurisdictions and ASTHO respond proactively to this public interest, a Bioterrorism Accountability Indicators Project (BTAIP) survey was developed that attempts to measure that progress.

Approach

The survey provides a framework that enabled respondents to quantify and articulate progress in their bioterrorism preparedness efforts. It is not specifically intended to fulfill assessment, contract monitoring, or cooperative agreement evaluation purposes. The results reflect reports from the respondents on their progress in achieving aspects of the focus areas specified in the cooperative agreements.

A three-pronged approach to acquiring systematic information on policy issues was developed. It included:

- Design and administration of a data collection instrument. This survey describes progress, including development of the critical public health capacities and priority areas in the CDC Guidance for Fiscal Year 2002 Supplemental Funds for Public Health Preparedness and Response for Bioterrorism and the HRSA National Hospital Preparedness Program Cooperative Agreement Guidance for 2002. The instrument also describes respondents' stages of preparedness, at that point in time.
- Development of reports. Data from the survey will be used to help answer questions that will likely be raised by policymakers and the public.
- Data collection and analysis. This aggregate report provides a national picture of progress in public health preparedness.

Methodology

The data for this analysis were collected through a web-based survey administered between January and March 2003. The survey consisted of eight sections and a total of 82 questions. There were 46 respondents: Alabama, Alaska, Arizona, Arkansas, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma,

Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, the District of Columbia, and Los Angeles County.

The survey was successfully field tested in three states. These three states reported that completing this survey enabled them to respond to questions they were receiving about bioterrorism and public health emergency preparedness.

No attempt has been made to validate the information provided by the respondents. When the percentage of respondents is reported for the selected categories of questions, the percentage refers in all cases to the percentage of survey respondents. Selected survey questions are highlighted in this publication. A complete version of the survey is included on a CD-ROM with the hard copy of this publication. It can also be accessed from www.astho.org.

Since the time the survey was administered, the National Pharmaceutical Stockpile has been renamed the Strategic National Stockpile. In this report, the National Pharmaceutical Stockpile will be referred to as the Strategic National Stockpile.

Navigating the Charts, Graphs, and Statistical Information

Included in the report are a number of charts, graphs, and statistical information based on the Focus Area responses. Many of the responses involve an assessment of progress between June 1, 2002, and December 2, 2002.

Analyses comparing the stage of development between June 1, 2002, and December 2, 2002, are designed to indicate the respondents' progress on a continuum from "not begun" to "completed" or "early development" to "advanced development." Statements such as "x % of respondents have made progress in..." reflect a calculation of the proportion of respondents that have advanced one or more stages in this continuum. When the term "made progress" appears in the report, it generally refers to advancement of at least one category mentioned above between June 2002 and December 2002.

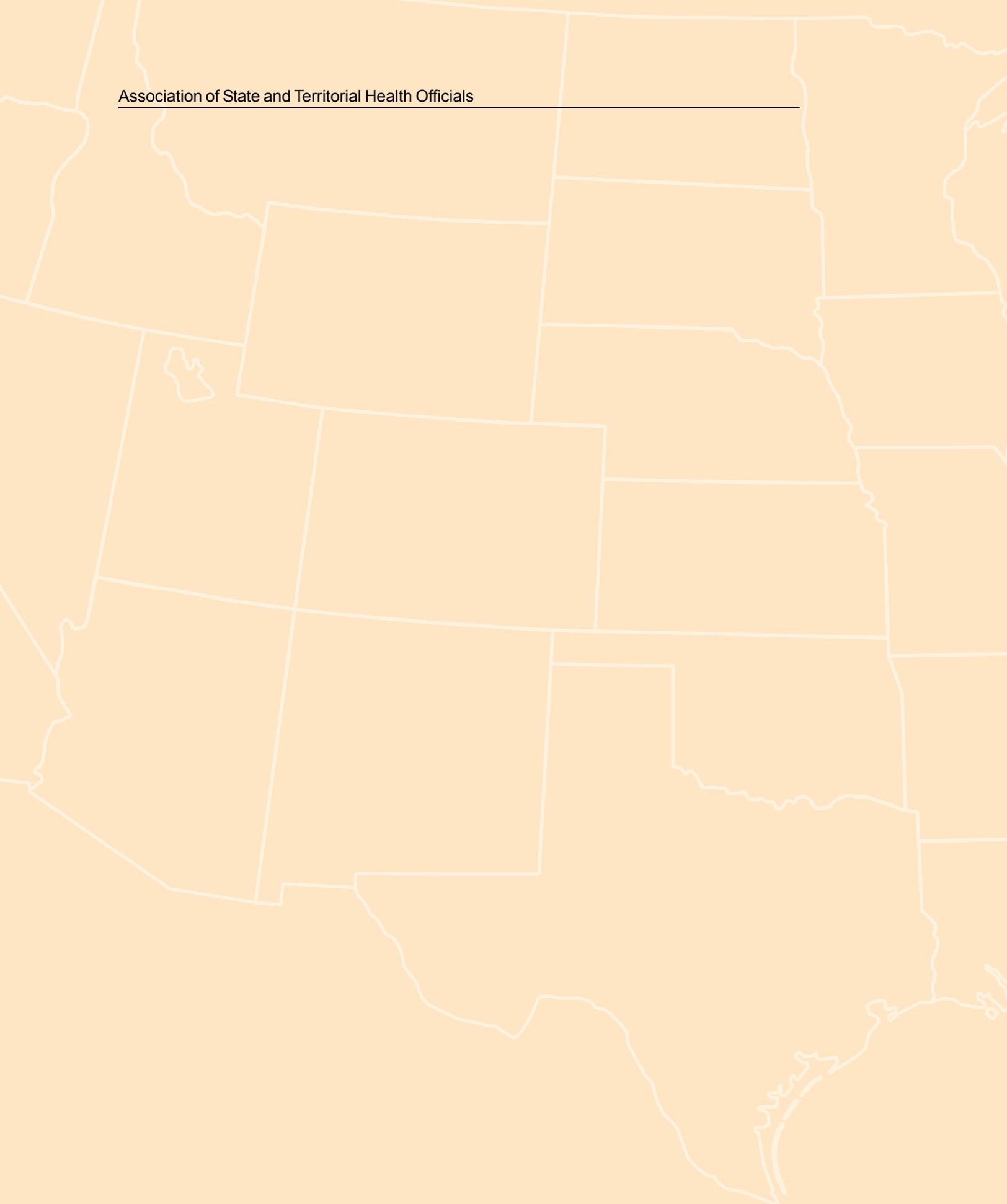
In a number of analyses in this document, we use the following terms:

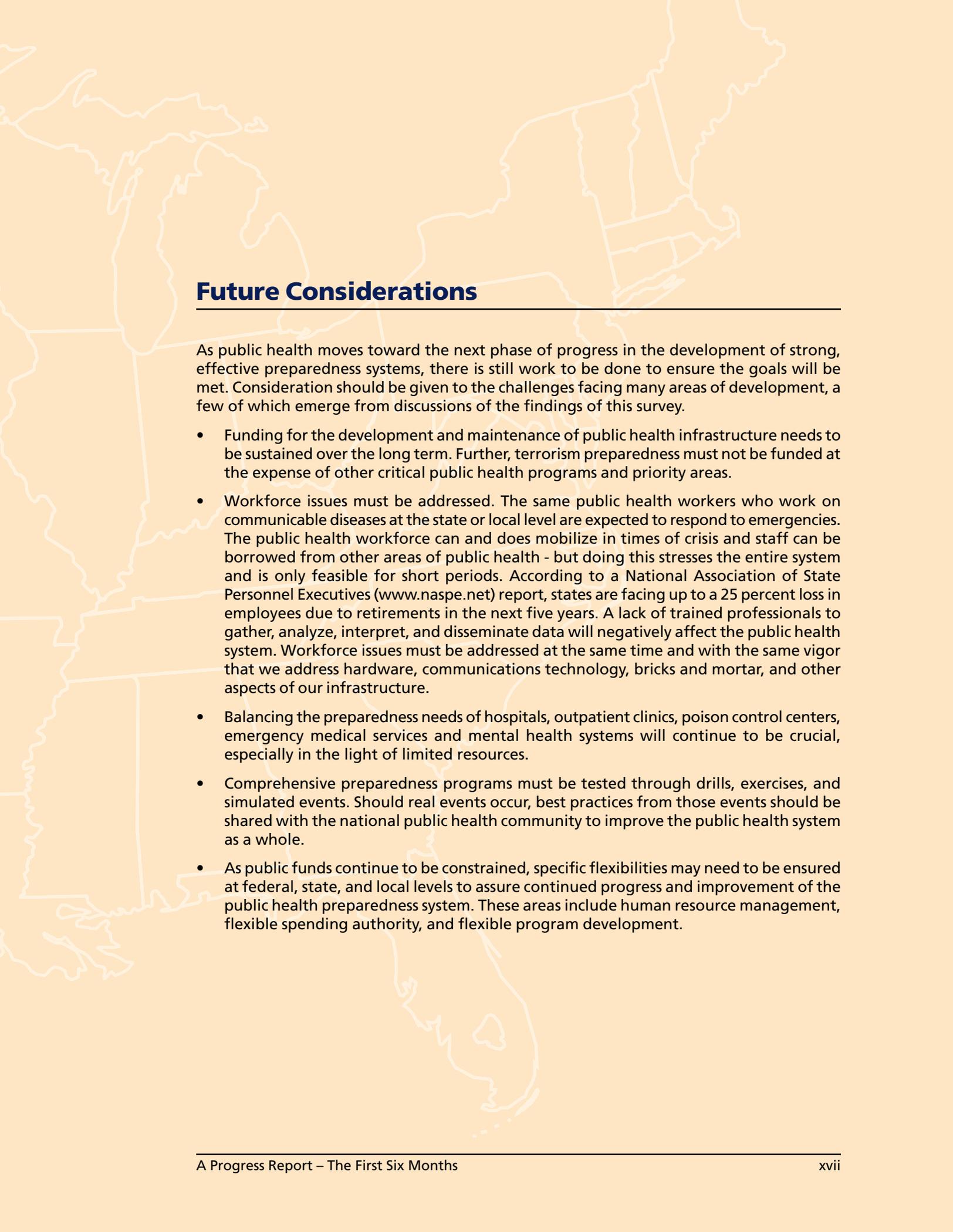
- Early development: activities to meet capacity have begun
- Mid-development: activities have resulted in substantive progress in meeting the capacity
- Mature development: nearing completion of activities to fully meet capacity
- Completed development: capacity met in its entirety
- Advanced development: capacity met and work has begun on advanced capacities in this area.

Some respondents did not answer every question, so the number of respondents for any particular question is indicated as "N="." The first statement in most analyses in the data section includes the phrase "of respondents." While the phrase may not be repeated for each subsequent statement, it should be interpreted to apply. This is not repeated for every subsequent statement, but is true. The respondents should not be regarded as a random sample, therefore, these results cannot be generalized to the United States as a whole.

For some questions, respondents could choose more than one answer; hence the sum of the responses may exceed 100%. This is indicated after those questions with "Respondents could choose more than one."

For the most part, each figure in the document corresponds to one question in the questionnaire, which is designated as Q and a number, for instance (Q 5). In some instances, however, information from two or more questions is combined into one figure, or results from a "yes/no" type question and other similar simple questions are presented as text bullets next to a related figure.

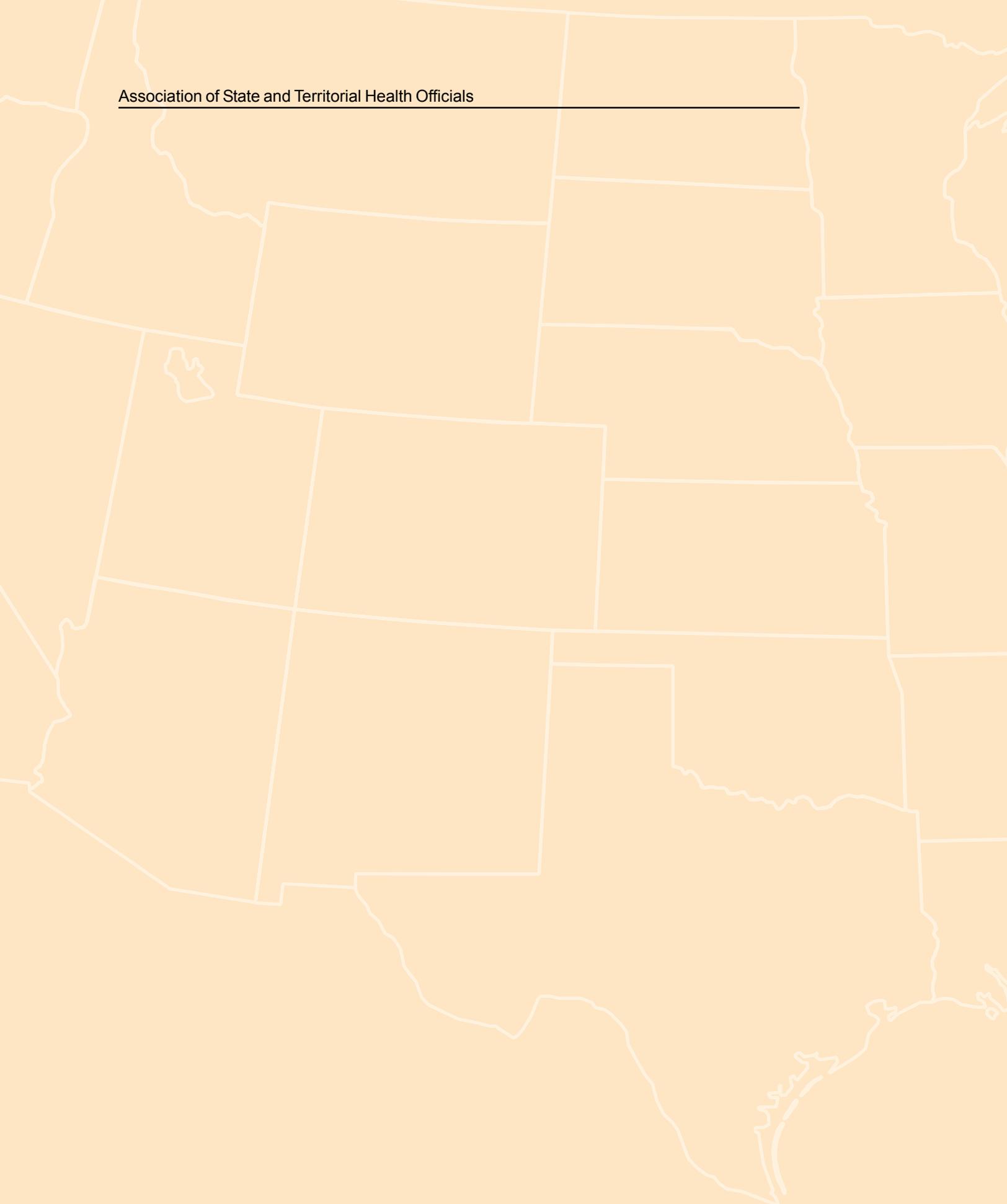


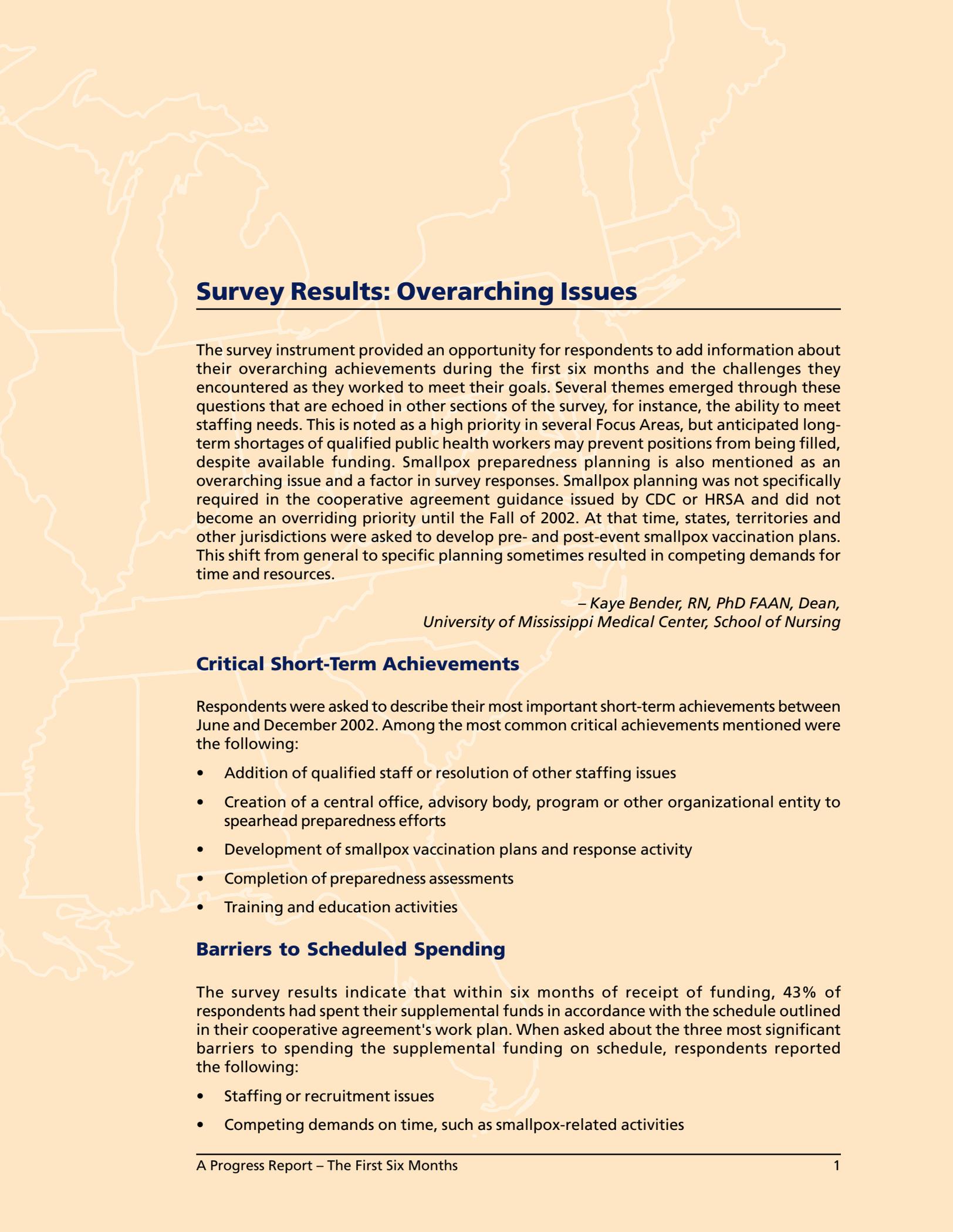


Future Considerations

As public health moves toward the next phase of progress in the development of strong, effective preparedness systems, there is still work to be done to ensure the goals will be met. Consideration should be given to the challenges facing many areas of development, a few of which emerge from discussions of the findings of this survey.

- Funding for the development and maintenance of public health infrastructure needs to be sustained over the long term. Further, terrorism preparedness must not be funded at the expense of other critical public health programs and priority areas.
- Workforce issues must be addressed. The same public health workers who work on communicable diseases at the state or local level are expected to respond to emergencies. The public health workforce can and does mobilize in times of crisis and staff can be borrowed from other areas of public health - but doing this stresses the entire system and is only feasible for short periods. According to a National Association of State Personnel Executives (www.naspe.net) report, states are facing up to a 25 percent loss in employees due to retirements in the next five years. A lack of trained professionals to gather, analyze, interpret, and disseminate data will negatively affect the public health system. Workforce issues must be addressed at the same time and with the same vigor that we address hardware, communications technology, bricks and mortar, and other aspects of our infrastructure.
- Balancing the preparedness needs of hospitals, outpatient clinics, poison control centers, emergency medical services and mental health systems will continue to be crucial, especially in the light of limited resources.
- Comprehensive preparedness programs must be tested through drills, exercises, and simulated events. Should real events occur, best practices from those events should be shared with the national public health community to improve the public health system as a whole.
- As public funds continue to be constrained, specific flexibilities may need to be ensured at federal, state, and local levels to assure continued progress and improvement of the public health preparedness system. These areas include human resource management, flexible spending authority, and flexible program development.





Survey Results: Overarching Issues

The survey instrument provided an opportunity for respondents to add information about their overarching achievements during the first six months and the challenges they encountered as they worked to meet their goals. Several themes emerged through these questions that are echoed in other sections of the survey, for instance, the ability to meet staffing needs. This is noted as a high priority in several Focus Areas, but anticipated long-term shortages of qualified public health workers may prevent positions from being filled, despite available funding. Smallpox preparedness planning is also mentioned as an overarching issue and a factor in survey responses. Smallpox planning was not specifically required in the cooperative agreement guidance issued by CDC or HRSA and did not become an overriding priority until the Fall of 2002. At that time, states, territories and other jurisdictions were asked to develop pre- and post-event smallpox vaccination plans. This shift from general to specific planning sometimes resulted in competing demands for time and resources.

*– Kaye Bender, RN, PhD FAAN, Dean,
University of Mississippi Medical Center, School of Nursing*

Critical Short-Term Achievements

Respondents were asked to describe their most important short-term achievements between June and December 2002. Among the most common critical achievements mentioned were the following:

- Addition of qualified staff or resolution of other staffing issues
- Creation of a central office, advisory body, program or other organizational entity to spearhead preparedness efforts
- Development of smallpox vaccination plans and response activity
- Completion of preparedness assessments
- Training and education activities

Barriers to Scheduled Spending

The survey results indicate that within six months of receipt of funding, 43% of respondents had spent their supplemental funds in accordance with the schedule outlined in their cooperative agreement's work plan. When asked about the three most significant barriers to spending the supplemental funding on schedule, respondents reported the following:

- Staffing or recruitment issues
- Competing demands on time, such as smallpox-related activities

- Appropriations or systems barriers
- General lack of time, delays, or other competing priorities

States are developing their public health preparedness during a time when state budgets are in their worst shape since World War II. Managing the infusion of new preparedness funding in a time of heightened expectations and lower core support has been a significant challenge. This survey does not address these issues, but ASTHO has carefully monitored the spending challenges and has further information available through its web site at www.astho.org.

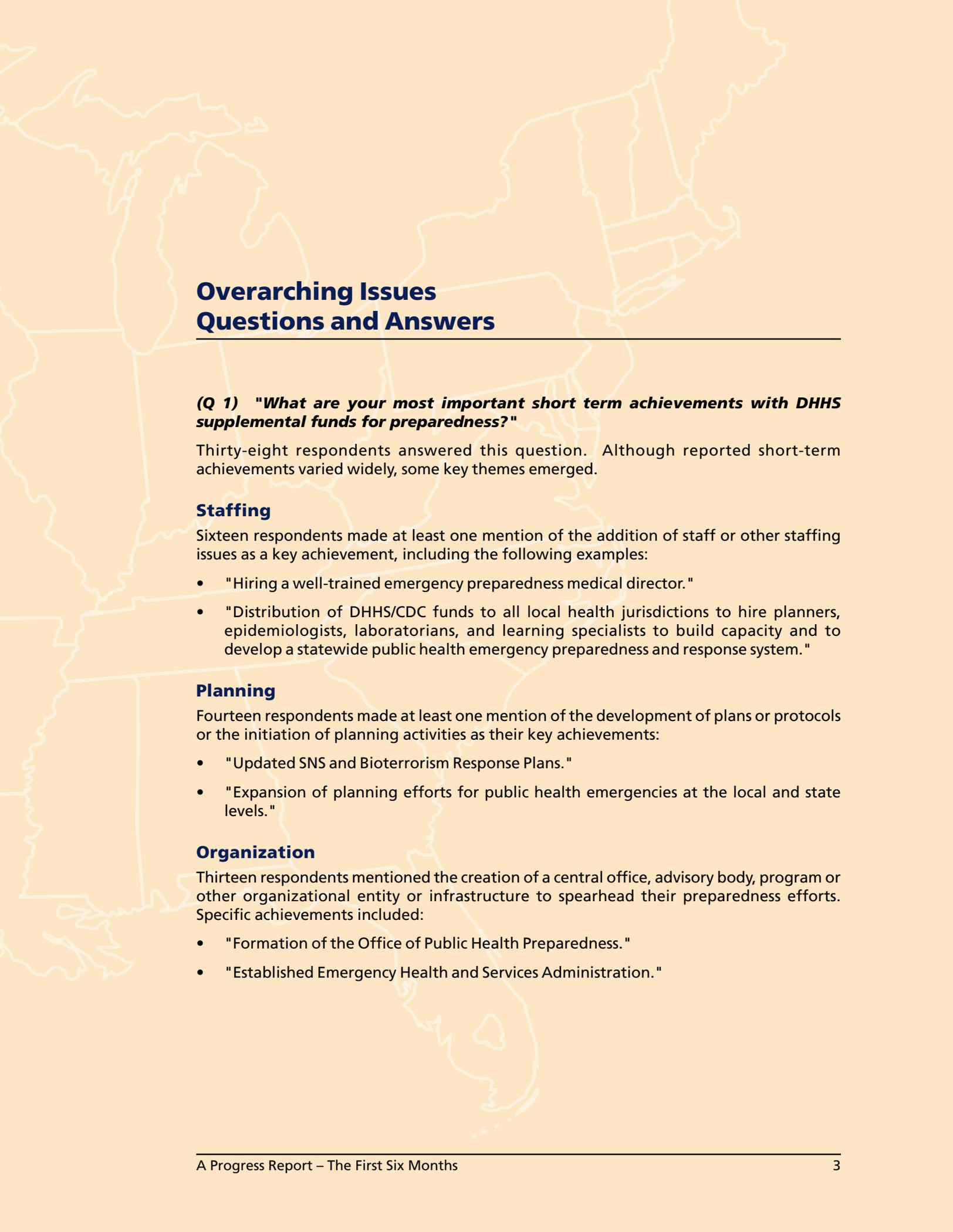
Unaddressed Needs

When asked about identified public health preparedness needs that were not addressed by cooperative agreement guidance or supplemental funding, respondents cited the following key areas:

- Smallpox preparedness and response planning - not a part of the initial cooperative agreement guidance
- Chemical and non-biological terrorism response planning - funding was specifically directed toward bioterrorism preparedness and capacities
- Additional or enhanced facilities or equipment

Implications for the Future

While there is still a lot of work left to be done, the collective progress of the respondents should place the country well on its way toward being prepared for public health threats and emergencies that may arise. The challenge will be to keep the momentum going as the public health infrastructure moves into a more mature system of preparedness, documented by drills, observations, and other forms of quality assurance. It will also be important for respondents to assure that the progress that has been made is not lost as budget crises continue or worsen.



Overarching Issues Questions and Answers

(Q 1) "What are your most important short term achievements with DHHS supplemental funds for preparedness?"

Thirty-eight respondents answered this question. Although reported short-term achievements varied widely, some key themes emerged.

Staffing

Sixteen respondents made at least one mention of the addition of staff or other staffing issues as a key achievement, including the following examples:

- "Hiring a well-trained emergency preparedness medical director."
- "Distribution of DHHS/CDC funds to all local health jurisdictions to hire planners, epidemiologists, laboratorians, and learning specialists to build capacity and to develop a statewide public health emergency preparedness and response system."

Planning

Fourteen respondents made at least one mention of the development of plans or protocols or the initiation of planning activities as their key achievements:

- "Updated SNS and Bioterrorism Response Plans."
- "Expansion of planning efforts for public health emergencies at the local and state levels."

Organization

Thirteen respondents mentioned the creation of a central office, advisory body, program or other organizational entity or infrastructure to spearhead their preparedness efforts. Specific achievements included:

- "Formation of the Office of Public Health Preparedness."
- "Established Emergency Health and Services Administration."

Smallpox Preparedness

Eleven respondents reported specific achievements related to smallpox preparedness, including developing vaccination and response plans:

- "Development of smallpox plans, which provide prototype for other types of bioterrorism events."
- "Developed smallpox stage 1 and mass vaccination plans."

Assessments

Seven respondents mentioned the completion of assessments around preparedness as key achievements:

- "Completed an assessment of existing epidemiology capacity and surveillance, investigation, and responses practices, protocols, and resources in all local health jurisdictions."

Training

Seven respondents listed training and education activities around bioterrorism preparedness as key achievements:

- "Training of hospital staff in ruling out bioterrorism agents and referring specimens to state public health labs."

Other

Other achievements included development or enhancement of partnerships with other entities; allocation of funding to the regional and local level to enhance regional/local preparedness; development of enhanced communication and information technology infrastructures; and enhancement of surveillance, epidemiology, and laboratory capacity.

(Q 2) "Has your state spent (expended or encumbered) DHHS supplemental funds in accordance with the schedule outlined in your CDC work plan?"

Less than half - 43% - of respondents (N=37) were able to spend DHHS supplemental funds between June and December 2002 in accordance with the schedule outlined in their CDC work plan.

(Q 2a) "What are the most important reasons for not spending DHHS supplemental funds in accordance with the schedule outlined in your CDC work plan?"

Twenty-six respondents answered this question. The reasons most frequently mentioned centered around several key themes.

Staffing

Seventeen respondents made at least one mention of staffing or recruitment issues as among their most important reasons for not spending funds in accordance with their original schedules. Specific responses included:

- "Difficulties in filling necessary positions, which delayed planning, training, contractual and resource development."

- "Hiring process lengthy and high volume has delayed efforts."
- "Hiring process has taken longer than expected for leadership planning positions."

Smallpox Activities

Thirteen respondents made at least one mention of the competing demands of smallpox-related activities as among their most important reasons:

- "The refocusing of effort towards smallpox pre- and post-event activities based on redirection by HHS."
- "Additional demands and diversions due to smallpox vaccination."
- "Smallpox vaccine cost administration not in original plan."

Appropriations and Bureaucratic Issues

Thirteen respondents noted reasons related to appropriations, bureaucratic, and systems barriers to spending funds as planned:

- "Timeframe for respondent appropriation approval."
- "Working under continuing resolution has slowed down the expenditure of funds because grant funds weren't loaded immediately."
- "Respondent budget crisis inhibits activities."

Time and Competing Priorities

Eight respondents mentioned a general lack of time, delays, or competing priorities (other than smallpox) as among the most important reasons:

- "Delays in completing the CDC and hospital assessments."
- "The reality of how much time ramping up a major program actually takes-the devil is in the details."
- "State and local capacity to take on activities in addition to normal responsibilities."

Other

Other reasons mentioned for an inability to spend funds in accordance with plans included unforeseen needs ("some of the equipment and other needs changed from the initial submission of the grant application, causing replanning and delays") and issues regarding federal guidance ("unclear guidance from the CDC with regards to approved methods.")

(Q 3) "What needs have you identified that are not currently addressed by DHHS supplemental funding (as of December 2002)?"

Thirty-five respondents identified needs that are not currently addressed by DHHS supplemental funding. These needs fell into several broad categories.

Smallpox Activities

Twenty-four respondents noted unaddressed needs in the area of smallpox preparedness and response, with specific examples including:

- "Smallpox planning (Pre-event, 1st and 2nd Phases, and Post-event.)"

Association of State and Territorial Health Officials

- "Answers to smallpox liability and health insurance questions."
- "Development and implementation of a comprehensive smallpox vaccination program."

Nonbiological Terrorism

Twelve respondents noted unmet needs in the area of preparedness for chemical and other nonbiological terrorism. Specific responses included:

- "Preparedness for chemical events."
- "Funding for development of chemical agent testing capacity."
- "Chemical/environmental hazard and terrorism preparedness."

Facilities or Equipment

Seven respondents made at least one mention of the need for additional or enhanced facilities or equipment, with specific responses including:

- "Capital resources to create appropriate Type C isolation facility."
- "Equipment for hospitals."
- "Hospital and EMS equipment needs for BT/Chemical."

Staffing

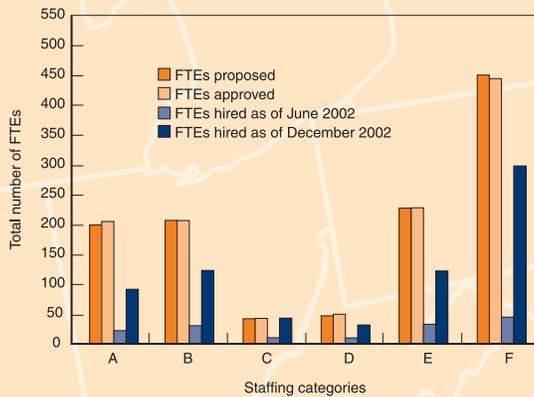
Three respondents mentioned an unmet need for additional staff. These responses included:

- "Lack of trained workforce available/difficulty in recruiting."
- "Additional staff (information technology, local epidemiologists, training.)"

Other

Other issues mentioned by multiple respondents included the need for additional funding for a variety of general and specific reasons ("the uncertainty of funding levels and continuity in future years as well as the lack of flow of DOJ/FEMA funds impacting activities of other partners"; "funding for vaccine . . . administration and storage and handling") and communication and information technology issues ("insufficient funds for local public health department high-speed Internet process.")

(Q 4) "Please complete the table below by providing the number of FTEs (at both the state and local level) that were proposed in your DHHS funding application, approved by DHHS, and hired as of June 1, 2002 and December 2, 2002 for each of the designated categories."

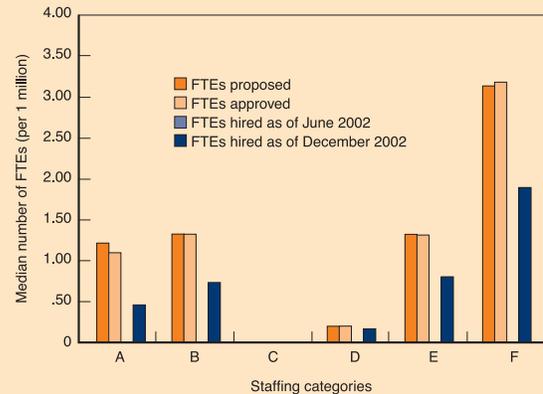


- A. Epidemiologists
- B. Laboratorians
- C. Nurses
- D. Physicians
- E. Information Technology Specialists
- F. Other Professionals

- At the state level, respondents have approved the hiring of 229 information technology specialists (N=37), 204 epidemiologists (N=37), 207 laboratorians (N=36), and 534 other professionals (N=36).
- This is a U.S. total of 343 information technology specialists, 302 epidemiologists, 320 laboratorians, and 881 other professionals.
- As of December 2002, respondents had hired 122 information technology specialists (N=36), 95 epidemiologists (N=36), 123 laboratorians (N=36), and 373 other professionals (N=35).

(Q 4) "Please complete the table below by providing the number of FTEs (at both the state and local level) that were proposed in your DHHS funding application, approved by DHHS, and hired as of June 1, 2002 and December 2, 2002 for each of the designated categories."

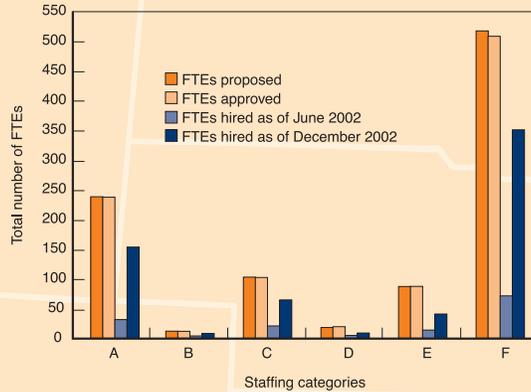
- At the state level, respondents have approved the hiring of a median of 1.31 information technology specialists, 1.10 epidemiologists, 1.33 laboratorians, and 3.38 other professionals per million residents.
- As of December 2002, respondents have hired a median of 0.80 information technology specialists, 0.45 epidemiologists, 0.73 laboratorians, and 2.08 other professionals per million residents.



- A. Epidemiologists
- B. Laboratorians
- C. Nurses
- D. Physicians
- E. Information Technology Specialists
- F. Other Professionals

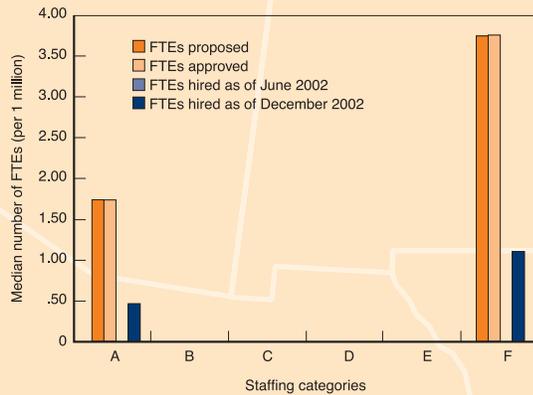
(Q 4) "Please complete the table below by providing the number of FTEs (at both the state and local level) that were proposed in your DHHS funding application, approved by DHHS, and hired as of June 1, 2002 and December 2, 2002, for each of the designated categories."

- At the local level, respondents have approved the hiring of 240 epidemiologists (N=27), 105 nurses (N=27), 88 information technology specialists (N=24), and 544 other professionals (N=24).
- This is a U.S. total of 190 information technology specialists, 511 epidemiologists, 217 nurses, and 1,261 other professionals.
- As of December 2002, respondents have hired a total of 154 epidemiologists (N=36), 65 nurses (N=26), 41 information technology specialists (N=23), and 370 other professionals (N=24).



- A. Epidemiologists
- B. Laboratorians
- C. Nurses
- D. Physicians
- E. Information Technology Specialists
- F. Other Professionals

(Q 4) "Please complete the table below by providing the number of FTEs (at both the state and local level) that were proposed in your DHHS funding application, approved by DHHS, and hired as of June 1, 2002 and December 2, 2002 for each of the designated categories."



- A. Epidemiologists
- B. Laboratorians
- C. Nurses
- D. Physicians
- E. Information Technology Specialists
- F. Other Professionals

- At the local level, respondents have approved the hiring of a median of 1.73 epidemiologists and 3.76 other professionals per million residents.
- As of December 2002, respondents have hired a median of 0.47 epidemiologists and 1.11 other professionals per million residents.

(Q 4a) "If you have not hired all approved staff, what are the three most important barriers to hiring?"

Thirty-two respondents provided information about their most important barriers to hiring all approved staff. Barriers noted fell into several key areas.

Bureaucratic Issues

Twenty-seven respondents made at least one mention of barriers related to bureaucratic, administrative, or other system-level issues that have hindered their hiring, including:

- "Delays presented by state appropriations approval."
- "Once potential candidates are identified, the personnel process can be so slow that we lose the candidate of our choice-forcing us to begin the entire process again."
- "State budget crisis resulting in hiring freeze creating delays while exemptions [are] obtained."

Staffing

Likewise, 24 respondents made at least one mention of barriers that were related to a lack of qualified-or willing-individuals to fill positions. Specific examples included:

- "Identifying strong candidates for all positions."
- "Lack of MPH-level epidemiologists readily available."
- "Applicants willingness to relocate to rural areas."

Time or Competing Priorities

Eight respondents mentioned issues related to competing demands or time pressures that have prevented hiring of all staff. Examples included:

- "Multiplicity of demands related to establishment of this new program."
- "The demands of day-to-day work prolonging the timeframe for hiring related activities."
- "Volume of work overwhelming existing staff."

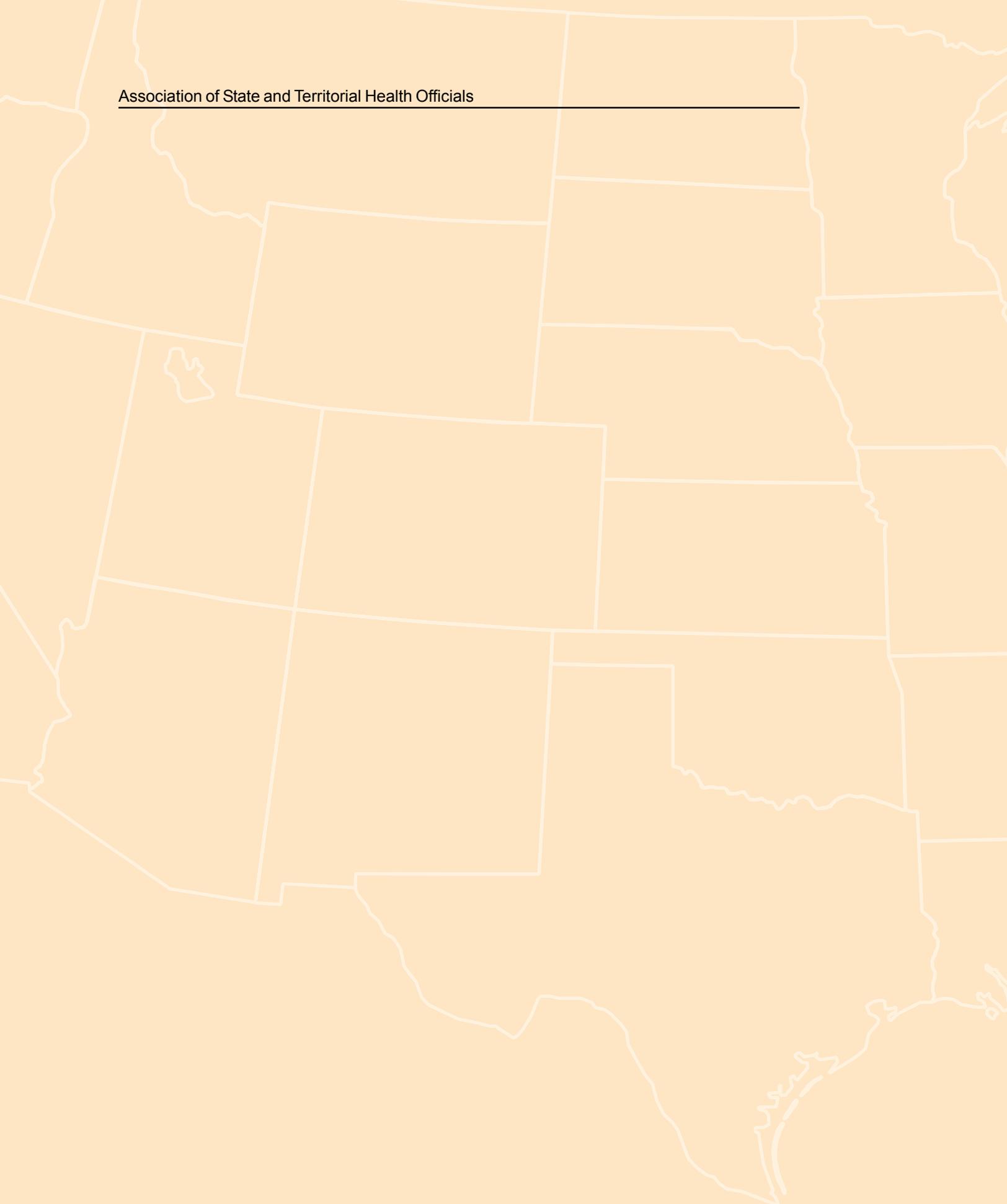
Salary or Job Classification

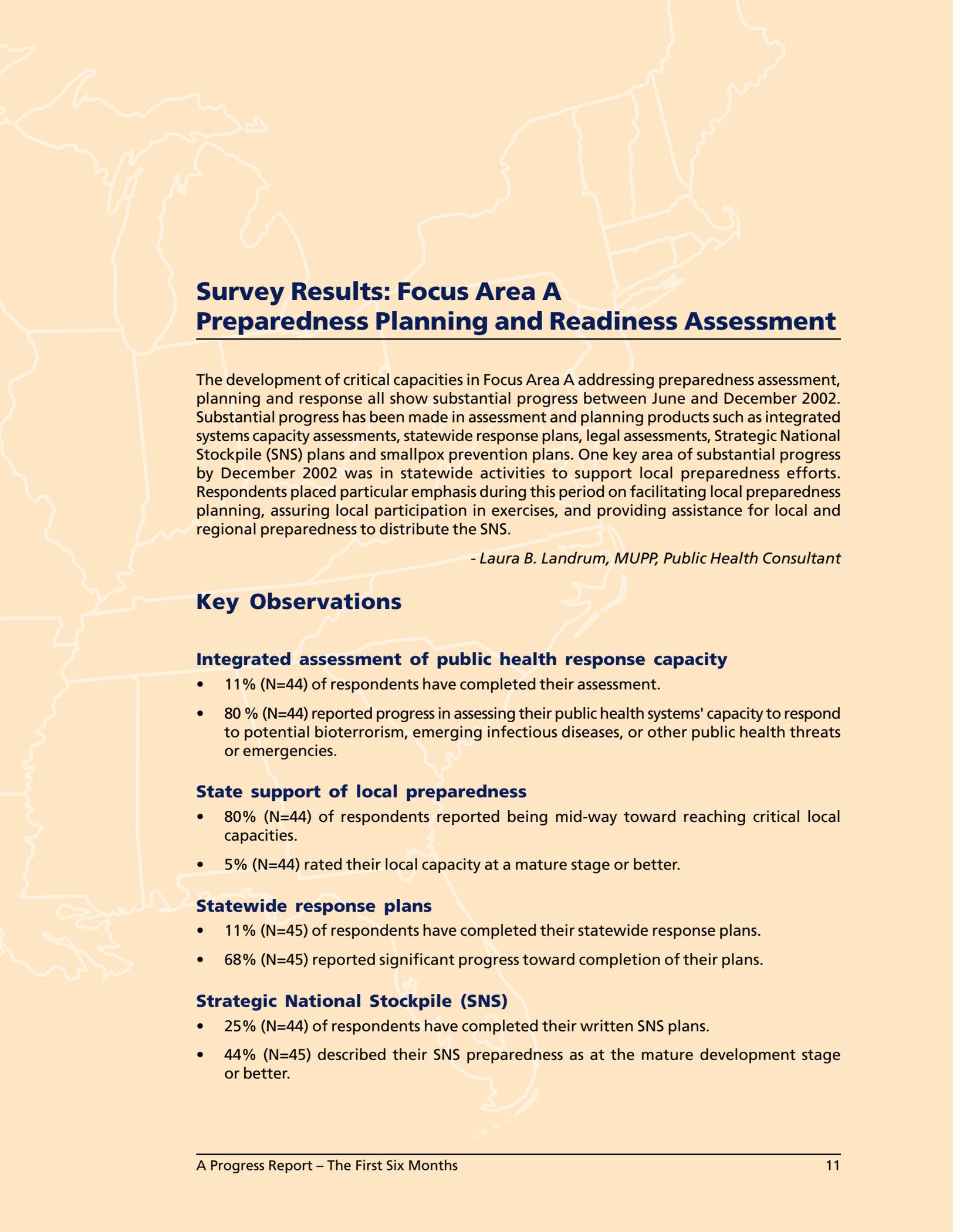
Five respondents mentioned salary and job classification issues:

- "Lack of merit system classification for MPH-level epidemiologists."
- "Positions cannot pay market price."
- "Unable to attract info tech employees at respondent pay."

Other

Other barriers to hiring mentioned included "space" and "educational programs in developmental stage."



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Survey Results: Focus Area A Preparedness Planning and Readiness Assessment

The development of critical capacities in Focus Area A addressing preparedness assessment, planning and response all show substantial progress between June and December 2002. Substantial progress has been made in assessment and planning products such as integrated systems capacity assessments, statewide response plans, legal assessments, Strategic National Stockpile (SNS) plans and smallpox prevention plans. One key area of substantial progress by December 2002 was in statewide activities to support local preparedness efforts. Respondents placed particular emphasis during this period on facilitating local preparedness planning, assuring local participation in exercises, and providing assistance for local and regional preparedness to distribute the SNS.

- Laura B. Landrum, MUPP, Public Health Consultant

Key Observations

Integrated assessment of public health response capacity

- 11% (N=44) of respondents have completed their assessment.
- 80% (N=44) reported progress in assessing their public health systems' capacity to respond to potential bioterrorism, emerging infectious diseases, or other public health threats or emergencies.

State support of local preparedness

- 80% (N=44) of respondents reported being mid-way toward reaching critical local capacities.
- 5% (N=44) rated their local capacity at a mature stage or better.

Statewide response plans

- 11% (N=45) of respondents have completed their statewide response plans.
- 68% (N=45) reported significant progress toward completion of their plans.

Strategic National Stockpile (SNS)

- 25% (N=44) of respondents have completed their written SNS plans.
- 44% (N=45) described their SNS preparedness as at the mature development stage or better.

Legal assessments

- 100% (N=42) of respondents have assessed their state statutes.
- 42% (N=43) have revised their state statutes based on their assessed needs.
- 30% (N=43) reported plans to revise their statutes to strengthen public health authority to respond to a bioterrorism, emerging infectious diseases, or other public health threats or emergencies.

Implications for the Future

These results revealed two areas that need attention in the future. One clear area of need is testing of plans through drills or exercises. The best progress in testing through exercises was made with respect to statewide response plans. As of December 2002, 60 percent (N=43) of respondents had tested their statewide response plans through exercises. However, 63 percent (N=45) of respondents had not tested their SNS plans and 87 percent (N=45) had not tested their post-event smallpox plans. More testing of response plans is anticipated once more respondents have completed their plans.

Another area that requires increased attention is the development of regional response plans. About half (N=44) of the respondents were just getting started on their regional response plans at the end of 2002. Just 28 percent (N=43) of respondents had tested their regional plans in exercises. Despite lower completion rates on this critical capacity, there is widespread ongoing work to shape regional responses. Nearly 80 percent (N=39) of respondents are coordinating regional efforts with neighboring areas and 41 percent (N=39) are coordinating response planning with multi-state metropolitan areas.

The most important needs identified in response plans are for better communication tools, improved coordination and integration of planning efforts across agencies and regions, and increased clarity of roles in operational situations.

Summary of Focus Area A

In just six months, bioterrorism supplemental funding and its corresponding authority provided the impetus, resources, and opportunity for a majority of respondents to increase their level of public health preparedness. Beginning with an assessment of current capabilities, including legal assessments, respondents moved rapidly toward completion of bioterror and emergency response plans at the local, state, and regional levels.

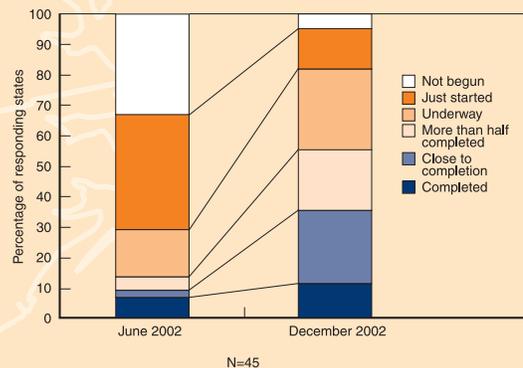
The majority of respondents now report that they are ready to move into a quality improvement phase in which plans will be tested and exercised. Information from these field tests and exercises and increased dialogue about roles and responsibilities can then be used to improve the public health system's planning efforts.

At this point, respondents have laid the groundwork and can begin to move into more comprehensive, mature public health preparedness efforts.

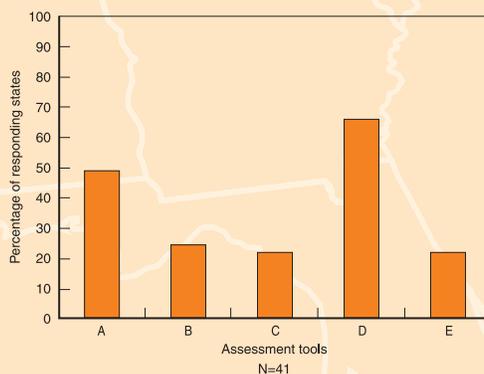
Focus Area A Questions and Answers

(Q 3) "What is the status of your state's integrated assessment (an assessment of current capabilities across all focus areas at the state, local and regional level) of public health systems capacity to respond to potential bioterrorist/emergency events?"

- 80% of respondents have made progress in assessing their public health systems' response capacity.
- 11% of respondents have completed an assessment of their public health systems' response capacity.
- Assessments by 56% of respondents are at least half complete.



(Q 3b) "Which of the following tools did you use to conduct the integrated assessment at the state-level?"



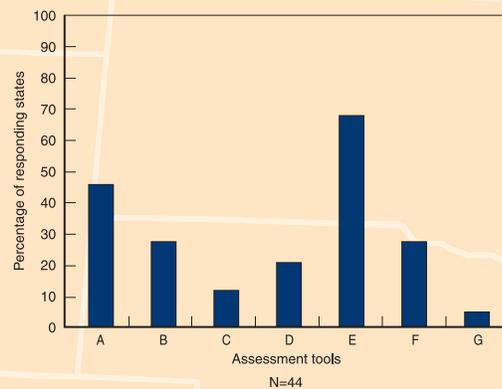
- At least 49% of the respondents used the CDC Public Health Preparedness and Response Capacity Inventory and the DOJ Survey tools.

(Respondents could choose more than one.)

- Public Health Preparedness and Response Capacity Inventory (CDC)
- State-Based Assessment Instrument
- National Public Health Performance Standards
- DOJ Survey
- Other

(Q3c) "Which of the following tools did you use to conduct the integrated assessment at the local-level?"

- 68% of respondents have used the DOJ Survey tool to assess local-level capacity.
- 45% of the respondents have used the Public Health Preparedness and Response Capacity Inventory (CDC) tools to conduct their integrated assessment at the local level.



(Respondents could choose more than one.)

- A. Public Health Preparedness and Response Capacity Inventory (CDC)
- B. State-Based Assessment Instrument
- C. Local-Based Assessment Instrument
- D. National Public Health Performance Standards
- E. DOJ Survey
- F. Other
- G. No Local-Level Assessment was Conducted

(Q3a) "Based on your assessment [of public health systems capacity to respond to potential bioterrorist/emergency events], what are your three most important needs thus far?"

Thirty-eight respondents answered.

Training

Nineteen respondents listed training among their most important needs. Specific examples of such indications included:

- "Education of both public health providers and healthcare providers regarding incident command system, risk communications, etc."
- "Assuring a competent public and personal health care workforce, which includes a method of ongoing assessment of training needs; educating health care providers and laboratory workers; delivering training and decontamination."
- "Training health care workers and first responders to be aware of bioterrorism threats and how to respond."

Communication, Information Technology, and Equipment

Nineteen respondents expressed needs related to enhanced communication or information technology mechanisms, processes, or equipment. These needs included:

- "Better communication and sharing among respondents. Possibly a conference."
- "Creating a robust communications network via HAN [Health Alert Network]."
- "Enhancement of two-way redundant communication systems."

Planning and Assessment

Fourteen respondents mentioned the need for additional planning and/or assessment work, including:

- "Conduct comprehensive assessment of previous assessments."
- "Development of integrated planning to manage all assets regardless of the situation."
- "More detailed community and regional plans."

Staffing

Ten respondents pointed to enhanced staffing as one of their most important needs. Examples cited included:

- "Qualified applicants to fill positions."
- "Need for additional staff at both the state and local levels to assist with assessment activity."
- "More staff is needed in the areas of [SNS (Strategic National Stockpile)]/Hospital planning and for clerical support. Workload was underestimated in these areas specifically."

Roles

Nine respondents cited a need for improved coordination or clarification of roles among those involved in preparedness. For example:

- "Coordination of state and local resources."
- "Coordination of plans across county borders and with state plan."

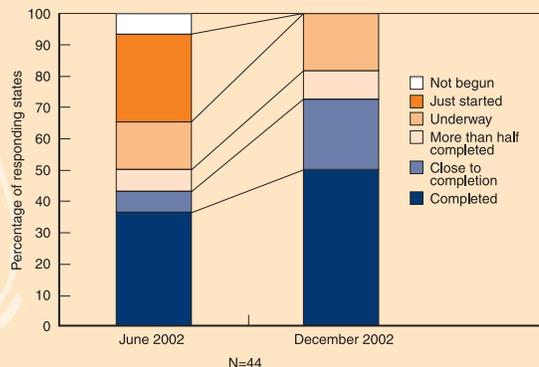
Other

Other needs mentioned included:

- "Continued funding from the federal government"
- "Verifying and establishing legal authorities"
- "Establishment of isolation rooms in all emergency rooms"
- "Analysis of data."

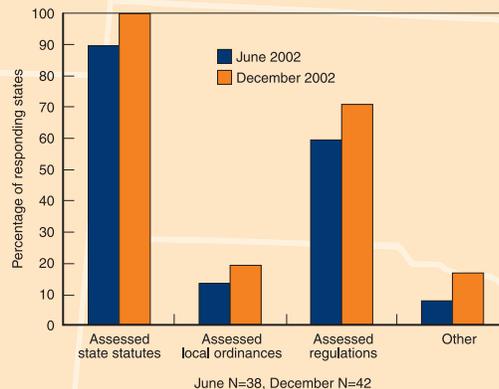
(Q 4) "What is the status of your state's legal assessment to determine adequacy of public health authority in responding to a bioterrorist/emergency event?"

- 57% of respondents have made progress in determining the adequacy of public health authorities to respond.
- 50% of respondents have completed their legal assessments.
- The assessments by 82% of respondents are at least half complete.
- 91% of respondents used the Model Emergency Public Health Powers Act as a guide for assessments.



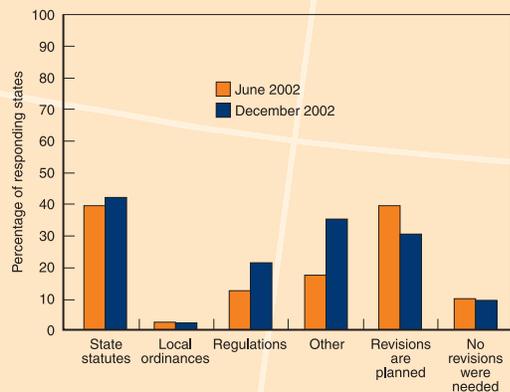
(Q 4b) "Which of the following activities has your state completed?"

- 100% of respondents have assessed state statutes.
- 71% of respondents have assessed regulations.



(Respondents could choose more than one.)

(Q 4c) "Which of the following were revised as a result of your legal assessment?"

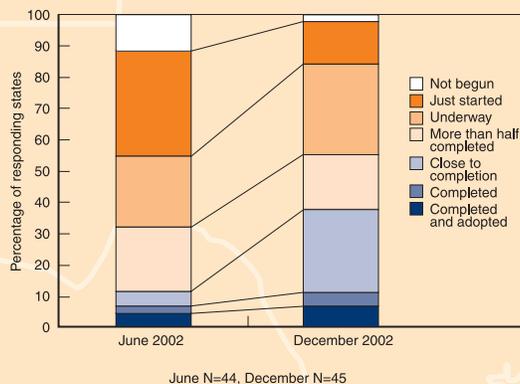


- 42% of respondents revised their statutes as a result of their legal assessments.
- 30% of respondents plan to revise their statutes as a result of their legal assessments.

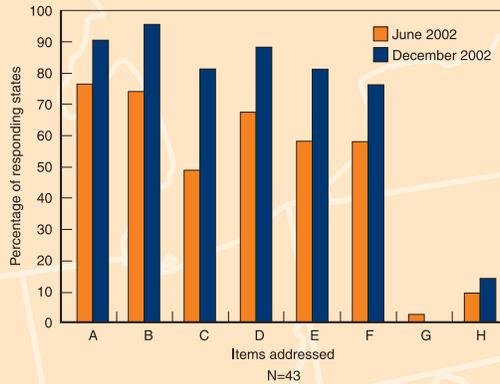
(Respondents could choose more than one.)

(Q 5) "What is the status of your statewide response plan?"

- 68% of respondents have made progress in developing state-wide response plans for bioterrorism.
- 11% of respondents have completed their statewide response plans.
- 56% of respondents are at least half complete with their response plans.
- 93% of respondents have established an advisory committee consisting of partner organizations to aid in their response efforts. (Q 2)



(Q 5a) "Which of the following are addressed in your statewide response plan?"



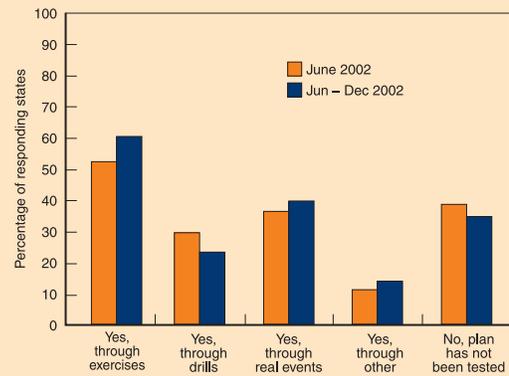
(Respondents could choose more than one.)

- A. Rapid Establishment of an Incident Command Center
- B. Mobilization of Public Health Response to a Bioterrorist Event
- C. Deploying an integrated response, including epidemiology, labs, communications, HAN, and the hospital system
- D. Coordination with local planning and response
- E. Coordination with federal response programs (such as MMRS)
- F. Written roles and responsibilities of key response organizations
- G. None of the above
- H. Other

- Over 90% of respondents' plans address:
 - Rapid establishment of an incident command center
 - Mobilization of a public health response to a bioterrorist event.
- Over 77% of plans address:
 - Deploying an integrated response including epidemiology, laboratories, communications systems, the Health Alert Network, and the hospital system
 - Coordination with local planning efforts and with federal response programs such as MMRS
 - Written roles and responsibilities of key response organizations.

(Q 5b) "Has any part of your statewide response plan been tested?"

- 60% of respondents have tested their jurisdiction-wide response plans through exercises.
- 23% of respondents have tested their jurisdiction-wide response plans through drills.



June N=44, December N=43

(Respondents could choose more than one.)

(Q 5c) "Based on your testing, what are the three most important areas for improvement [of your statewide response plan]?"

Thirty-one respondents answered.

Communication and Information Technology

Twenty-three respondents made at least one mention of communication and information technology-related issues and equipment-including risk communication-as most in need of improvement. For example, respondents said:

- "Communications equipment and system for rapid notification."
- "Communication interoperability."
- "Communication issues including maintaining a single unified message and [disseminating] information with[out] creating fear."

Coordination

Fourteen respondents noted a need for improved coordination, clarity of roles, or partnerships, including:

- "Coordination with law enforcement-accessing threat assessment information."
- "Meeting with partners on a regular basis to ensure agreements are still valid and have not changed (i.e., make sure all players know their role before [an] event occurs)."
- "Improve 24/7 point-of-contact with local health departments."

Training

Twelve respondents made at least one mention of the need for additional training. Specific examples noted included:

- "Broader training concerning developed protocols."
- "Education and Training for other agencies re: bioterrorism."
- "Incident command training enhancement."

Planning

Eight respondents mentioned the need for enhanced plans or planning as areas for improvement. For example, respondents said:

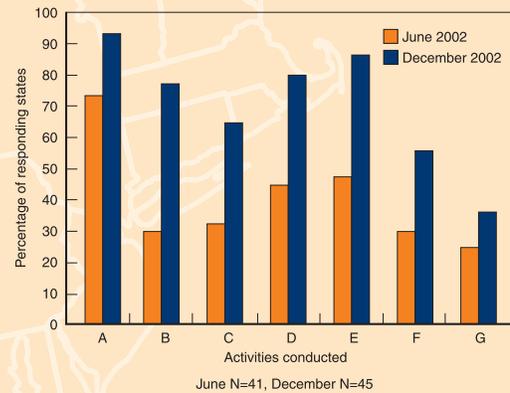
- "State response mechanisms and planning systems for health emergencies."
- "Greater level of operational detail."
- "Plan to implement quarantine."

Other

Other areas in need of improvement identified through testing of statewide response plans included "surge capacity," "verifying and establishing legal authority," "access to technology (web-based documents and references)," "public information and education," "local capability to respond to health issues," and "develop an active disease surveillance system. . . ."

(Q 7) "Which of the following activities has your state conducted in order to support local public health preparedness efforts?"

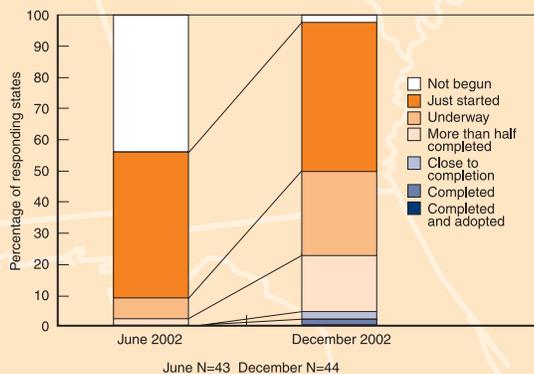
- Over 80% of respondents have:
 - facilitated local participation in developing local preparedness plans.
 - ensured local health departments' participation in exercises.
 - provided assistance for local and regional distribution of the SNS.



(Respondents could choose more than one.)

- A. Facilitating participation in developing local preparedness plans.
- B. Ensuring the development of written local health department preparedness plans that are consistent with the state bioterrorism response plan and are integrated with appropriate local agencies
- C. Reviewing local health department preparedness plans
- D. Ensuring local health departments' participation in exercises
- E. Providing assistance for local and regional distribution of the Strategic National Stockpile
- F. Establishing of mutual aid agreements
- G. Other

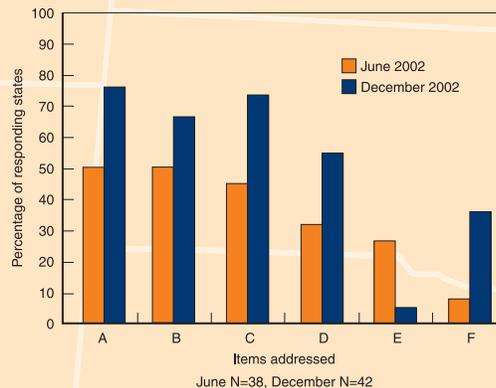
(Q 9) "What is the status of your state's regional response plan?"



- 74% of respondents have made progress in developing regional response plans for bioterrorism, but as of December 2002, most of these efforts were in the initial phases.
- 2% of respondents have completed their regional response plans.
- 23% of respondents have plans that are at least half complete.

(Q 9a) "Which of the following are addressed in your regional response plan?"

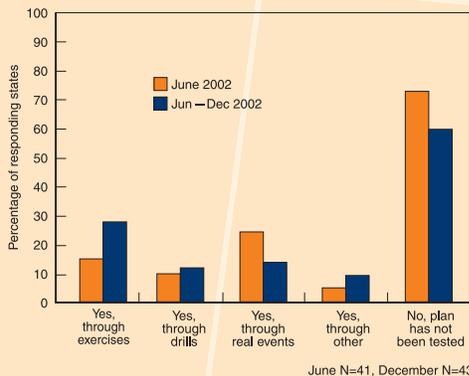
- Over 67% of respondents have addressed the following in their regional response plans:
 - bioterrorism surveillance efforts.
 - collaborative disease reporting.
 - collaborative response to a bioterrorist event.



(Respondents could choose more than one.)

- A. Bioterrorism surveillance efforts
- B. Collaborative disease reporting
- C. Collaborative response to a bioterrorist event
- D. Mutual aid agreements
- E. None of the above
- F. Other

(Q 9b) "Has any part of your regional response plan been tested?"

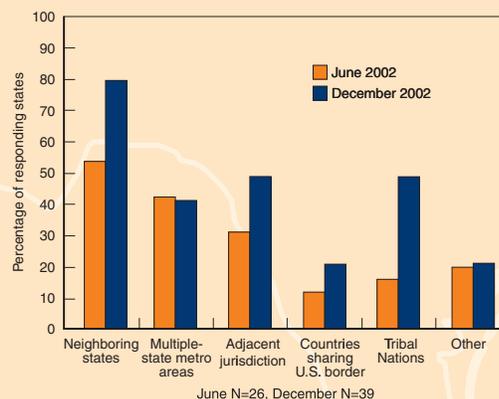


- 28% of respondents have tested their regional response plans through exercises.
- 12% of respondents have tested their regional response plans through drills.

(Respondents could choose more than one.)

(Q 10) "Has your state coordinated its regional response efforts with any of the following?"

- 79% of respondents have coordinated their regional response efforts with neighboring states and 41% have done so with multiple-state metro areas.
- 49% of respondents have coordinated their plans with adjacent jurisdictions, and 49% with tribal nations.



(Respondents could choose more than one.)

(Q 9c) "Based on your testing, what are the three most important areas for improvement [of your regional response plan]?"

Nineteen respondents provided information about the most important areas for improvement based on testing of their regional response plans. Several key themes emerged.

Communication and Information Technology

Fourteen respondents made at least one mention of communication and information technology-related issues and equipment-including risk communication-as most in need of improvement, including:

- "Redundant communication systems among regional partners."
- "After-hours communication."
- "Communications interoperability."

Coordination

Nine respondents noted the need for improved coordination, clarity of roles, or partnerships, including:

- "Incentives for players at all levels (e.g. state agencies and other respondents) to participate."
- "Better collaboration between participant groups."
- "Reinforcement of Incident Command System roles of all."

Training, Education, Exercising

Eight respondents noted a need for improvement in the area of training, education, or exercising their regional response plans. Specific examples included:

- "Education and training."
- "Need for additional and ongoing testing."
- "Availability of information resources and reference materials."

Planning

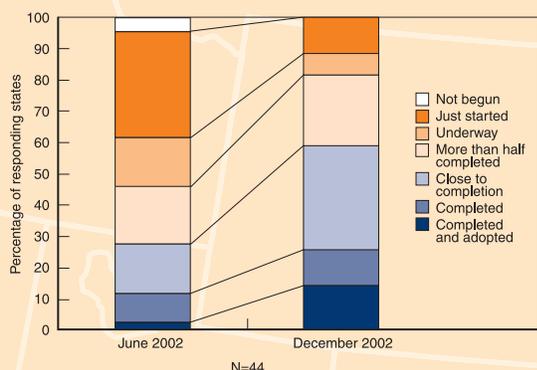
Seven respondents mentioned the need for enhanced plans or protocols as areas for improvement. For example, respondents mentioned:

- "Collaborative planning-private and public."
- "Health Department response mechanisms for emergency operations."
- "Integration of regional plan."

Other

Other areas in need of improvement noted included "legal issues related to sovereignty and quarantine," "local capability to responds to health issues," and "tracking resources in the health care system."

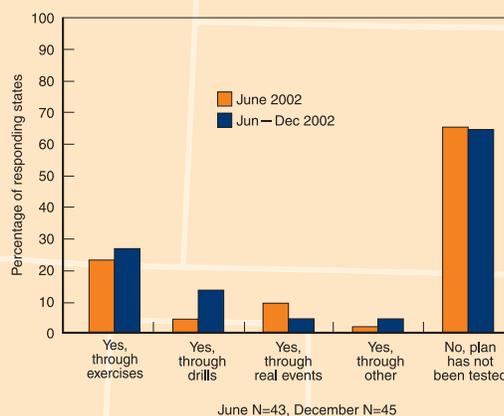
(Q 11) "What is the status of your written plan to receive and manage items from the [Strategic National Stockpile (SNS)]?"



- 77% of respondents have made progress in developing plans for managing items from the Strategic National Stockpile (SNS).
- 25% of respondents have completed their written plans to receive and manage items from the SNS.

(Q 11a) "Has any part of your [SNS] plan been tested?"

- 27% of respondents have tested their SNS plans through exercises.
- 13% of respondents have tested their SNS plans through drills.



(Respondents could choose more than one.)

(Q 11b) "Based on your testing, what are the three most important areas for improvement [of your SNS plan]?"

Seventeen respondents answered. Many of their responses fit into several key categories.

Communication and Information Technology

Seven respondents made at least one mention of a need for enhanced communication or information technology-related issues, including risk communication. Specific examples noted included:

- "Communications systems."
- "Interagency communication."

Roles

Seven respondents listed issues related to coordination or clarification of roles of different participating entities, including:

- "Continuous updating and information sharing between local assets and regional assets."

- "Reinforcement of roles of participating agencies and individuals related to activating the stockpile."

Training and Exercises

Six respondents noted a need for additional training or exercises based on their testing of their SNS plans. Specific responses included:

- "Conduct more training exercises."
- "Exercise with simulated materials."

Equipment and Facilities

Four respondents noted a need for additional or enhanced equipment or facilities, with specific examples including:

- "Identify additional local/regional sites for vaccinations/medications."
- "Purchasing a bar coding system for repackaging and distribution."

Other

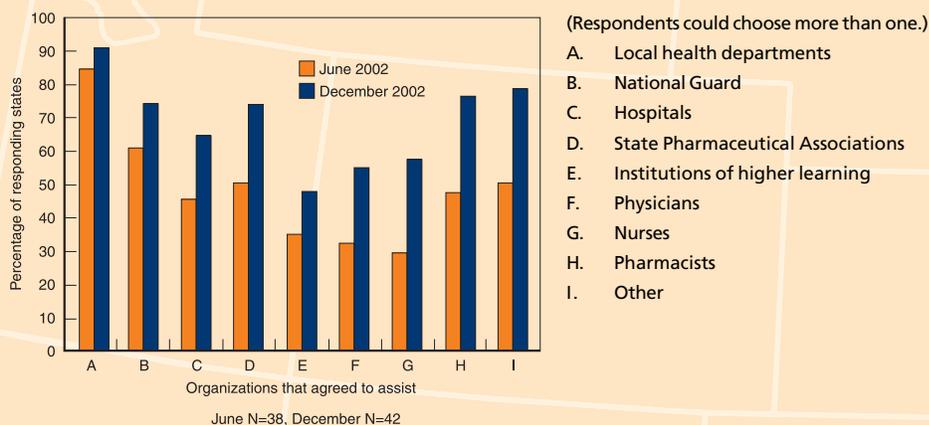
Other needs identified by respondents as a result of testing of their SNS plans included staffing issues, plan and protocol development ("Having local plans for reception and use of SNS supplies"), and general needs related to activating the stockpile ("Quantifying the need to request SNS from information sent by the incident command post/emergency operations center"; "Security for the SNS, hospitals, and distribution sites").

(Q12) "After your state has received the [SNS], how many hours do you estimate it will take to distribute its contents to designated points for patient care?" (Q 12a) "Which of the following is your estimate based on?"

- Based primarily on professional judgment and to a lesser extent on actual testing, respondents estimated (as of December 2002) that it would take on average 16 hours to distribute the SNS contents to designated points for patient care once it has been received.
- The average dropped from 26 hours in June 2002.

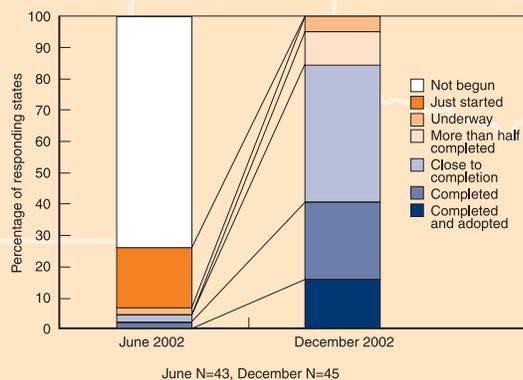
(Q 13) "Which of the following have agreed to assist with [SNS] management?"

- 90% of respondents reported that their local health departments have agreed to assist with SNS management.
- Over 74% of respondents reported that the National Guard, their state pharmaceutical association, and pharmacists have also agreed to assist in SNS management.
- Law enforcement, institutions of higher learning, and private corporations have also agreed to assist.
- 83% of respondents have provided fiscal support to local health departments to help with SNS management. (Q 14)



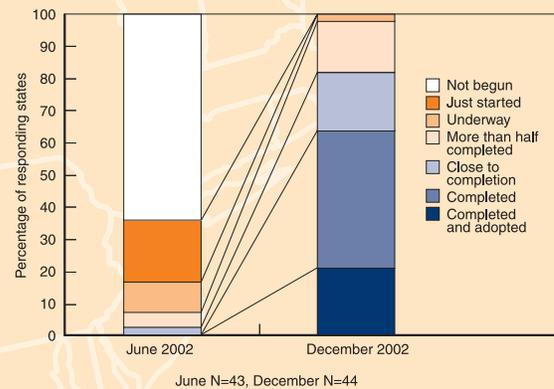
(Q 16) "What is the status of your statelocal smallpox pre-event vaccination plan?"

- Nearly all respondents—98%—have made progress in planning for pre-event vaccination for smallpox.
- 40% of respondents have completed their state/local smallpox pre-event vaccination plans.
- Plans in 96% of responding jurisdictions are at least half complete.

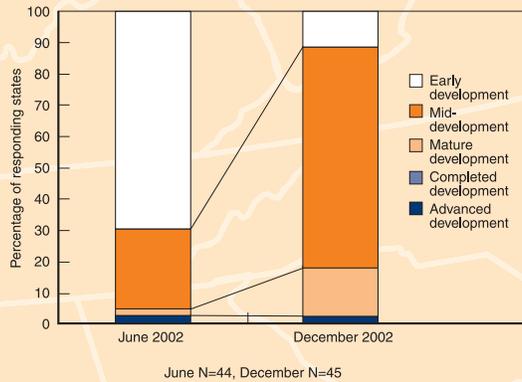


(Q 17) "What is the status of your state/local smallpox post-event vaccination plan?"

- Nearly all respondents—98%—have made progress in planning for post-event vaccination for smallpox.
- 64% of respondents have completed their state/local post-event vaccination plans.
- The plans in 98% of respondents' jurisdictions are at least half complete.



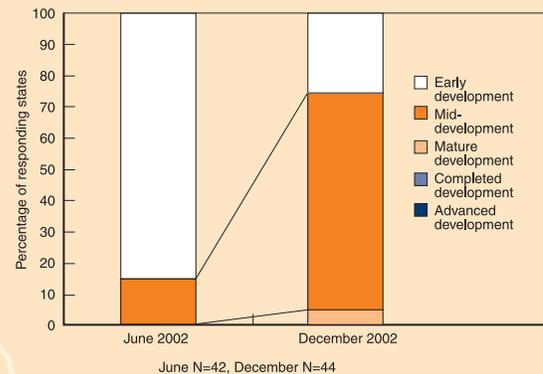
(Q 6) "With respect to ensuring statewide readiness for a bioterrorist/emergency event, assess your state's level of preparedness."



- 68% of respondents have improved their capacity for statewide readiness.
- 18% of respondents classify their systems' development as mature or beyond.
- 71% of respondents are in the mid-development phase.

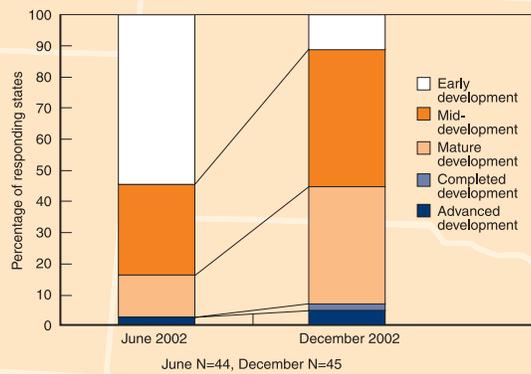
(Q 8) "With respect to ensuring local readiness for a bioterrorist/emergency event, assess your state's level of preparedness."

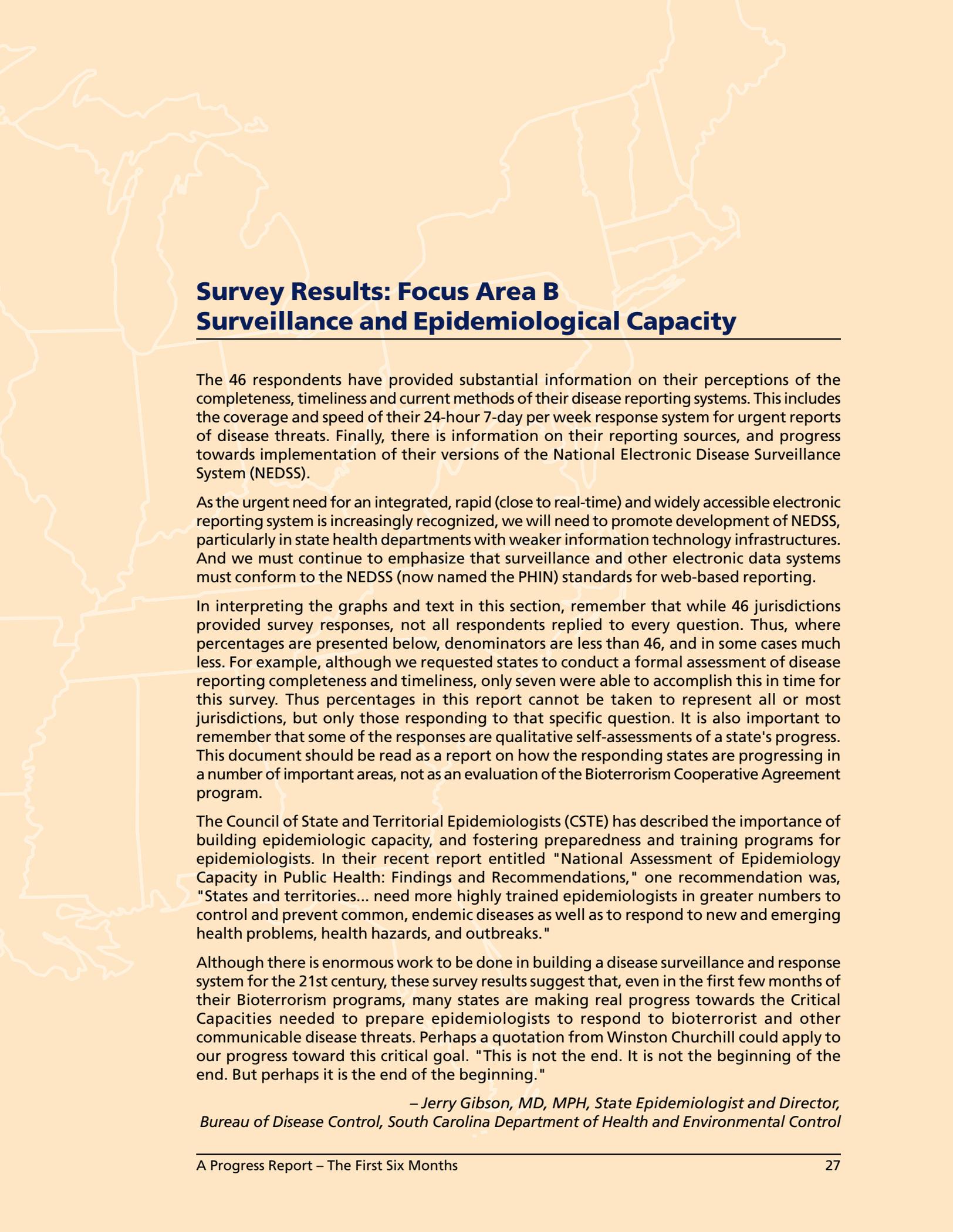
- 69% of respondents have improved their capacity for local readiness.
- 5% of respondents classify their systems' development as mature or beyond.
- 70% of respondents are in the mid-development phase.



(Q 15) "With respect to building capacity to effectively manage the [SNS] process, assess your state's level of preparedness."

- 66% of respondents have improved their capacity to manage the SNS process.
- 44% of respondents classify their systems' development as mature or beyond.
- 44% of respondents are in the mid-development phase.





Survey Results: Focus Area B

Surveillance and Epidemiological Capacity

The 46 respondents have provided substantial information on their perceptions of the completeness, timeliness and current methods of their disease reporting systems. This includes the coverage and speed of their 24-hour 7-day per week response system for urgent reports of disease threats. Finally, there is information on their reporting sources, and progress towards implementation of their versions of the National Electronic Disease Surveillance System (NEDSS).

As the urgent need for an integrated, rapid (close to real-time) and widely accessible electronic reporting system is increasingly recognized, we will need to promote development of NEDSS, particularly in state health departments with weaker information technology infrastructures. And we must continue to emphasize that surveillance and other electronic data systems must conform to the NEDSS (now named the PHIN) standards for web-based reporting.

In interpreting the graphs and text in this section, remember that while 46 jurisdictions provided survey responses, not all respondents replied to every question. Thus, where percentages are presented below, denominators are less than 46, and in some cases much less. For example, although we requested states to conduct a formal assessment of disease reporting completeness and timeliness, only seven were able to accomplish this in time for this survey. Thus percentages in this report cannot be taken to represent all or most jurisdictions, but only those responding to that specific question. It is also important to remember that some of the responses are qualitative self-assessments of a state's progress. This document should be read as a report on how the responding states are progressing in a number of important areas, not as an evaluation of the Bioterrorism Cooperative Agreement program.

The Council of State and Territorial Epidemiologists (CSTE) has described the importance of building epidemiologic capacity, and fostering preparedness and training programs for epidemiologists. In their recent report entitled "National Assessment of Epidemiology Capacity in Public Health: Findings and Recommendations," one recommendation was, "States and territories... need more highly trained epidemiologists in greater numbers to control and prevent common, endemic diseases as well as to respond to new and emerging health problems, health hazards, and outbreaks."

Although there is enormous work to be done in building a disease surveillance and response system for the 21st century, these survey results suggest that, even in the first few months of their Bioterrorism programs, many states are making real progress towards the Critical Capacities needed to prepare epidemiologists to respond to bioterrorist and other communicable disease threats. Perhaps a quotation from Winston Churchill could apply to our progress toward this critical goal. "This is not the end. It is not the beginning of the end. But perhaps it is the end of the beginning."

*– Jerry Gibson, MD, MPH, State Epidemiologist and Director,
Bureau of Disease Control, South Carolina Department of Health and Environmental Control*

Key Observations

Assessment of mandatory reportable disease systems

- 7% (N=42) of respondents completed the assessment of their surveillance system.
- 50% (N=42) stated they had made progress in assessing their mandatory reportable disease surveillance systems.

National Electronic Disease Surveillance System (NEDSS) assessment

- 43% (N=44) of respondents reported completing a NEDSS assessment.
- 46% (N=44) made progress in their NEDSS assessment.

State epidemiologic response plans

- 9% (N=43) of respondents reported completing their epidemiologic response plan.
- 71% (N=43) made progress in developing their epidemiologic response plan.

Items addressed in epidemiologic response plan

- 86% (N=43) of respondents addressed surge capacity in their epidemiologic response plan.
- 76% (N=43) addressed delivery of mass immunizations and local coordination in their response plan.

Epidemiologic response plan testing

- 38% (N=42) of respondents tested their epidemiologic response plan through exercises.
- 31% (N=42) tested their epidemiologic response plan through analysis of real disease outbreak events.
- 91% (N=23) of respondents included local health departments in their epidemiologic response plan testing.
- 70% (N=23) included hospitals in their response plan testing.

Epidemiologists dedicated to bioterrorist and emergency response

- Metropolitan Statistical Areas greater than 500,000 persons, with at least one epidemiologist dedicated to bioterror or other public health emergency increased from 66% (N=33) to 85% (N=34) in six months.

Surge capacity for epidemiologic investigation

- 18% (N=44) of respondents reported that the development of their epidemiologic investigation systems was "mature" or better.
- 55% (N=44) report being in mid-development phase of improving epidemiologic surge capacity.
- 61% (N=44) improved their surge capacity for epidemiologic investigation.

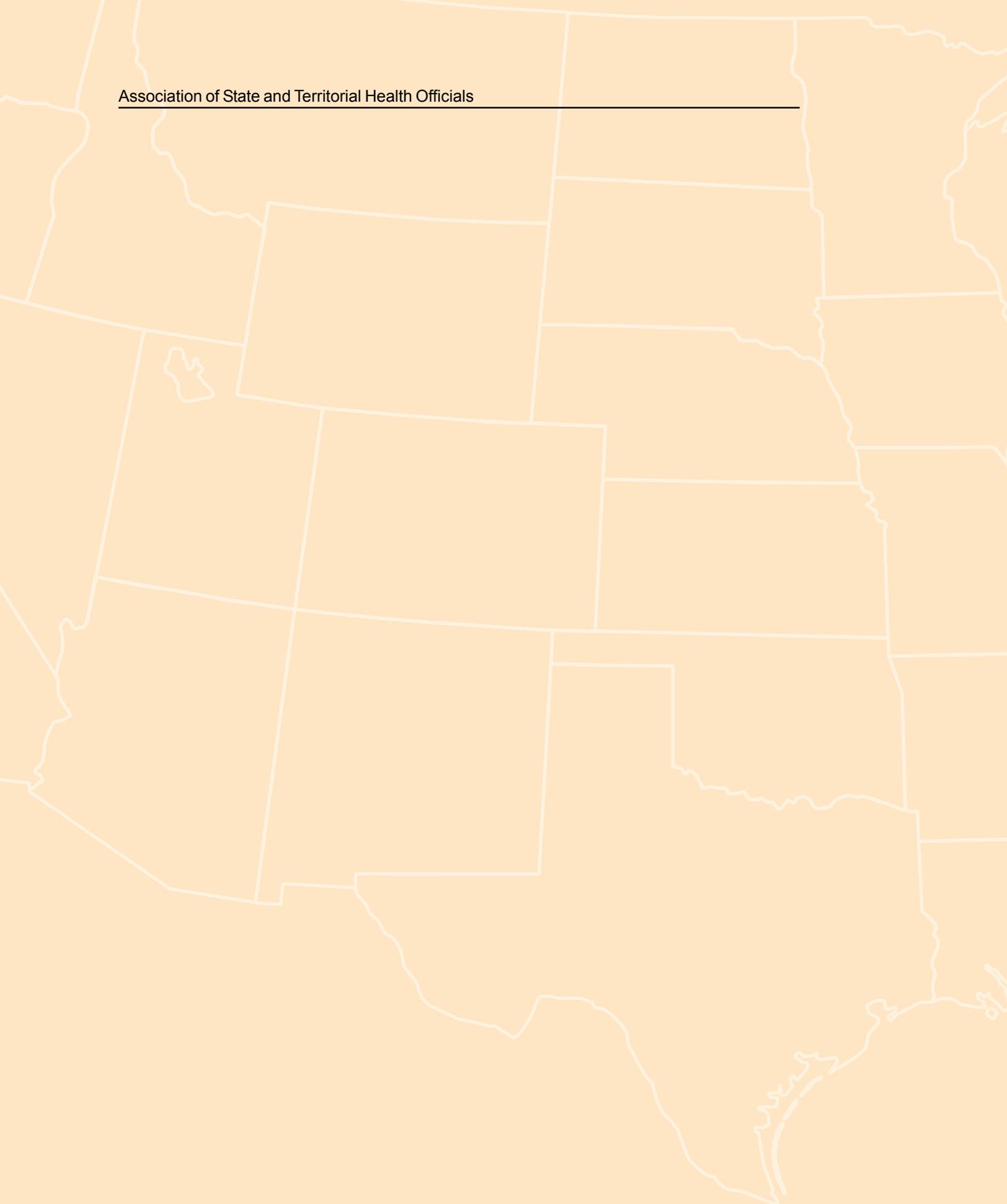
Implications for the Future

A number of respondents reported improvements in epidemiologic surveillance systems including progress on clinical coding, case definition, legal authorities, provider-related issues, information technology capability, and dealing with competing priorities and time constraints. With regard to epidemiologic response plans, respondents identified communication, communication systems or equipment, and information technology as the primary areas for improvement.

Summary of Focus Area B

During the first six months of funding, respondents reported significant progress in developing and testing epidemiologic surveillance capacity and response planning. While much work still has to be done if the nation is to operate a universal, comprehensive real-time electronic reportable disease surveillance system, considerable progress has been made as a result of the allocation of federal dollars through the supplemental bioterrorism/emergency preparedness funding.

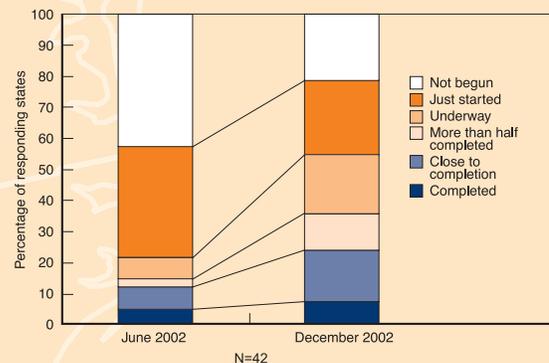
A comprehensive, real-time electronic reportable disease surveillance system is vital to the country's ability to detect and respond to clusters of disease or syndromes in various areas of the nation simultaneously. The capability to rapidly detect, identify, and respond to these events can make the difference in the ultimate morbidity and mortality of disease outbreaks, whether natural or terrorist initiated.



Focus Area B Questions and Answers

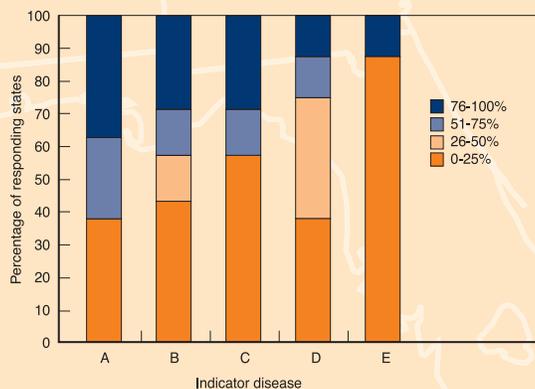
(Q 1) "What is the status of your state's assessment of the mandatory reportable disease surveillance system?"

- 50% of respondents have made progress in assessing their reportable disease surveillance system.
- 7% of respondents have completed an assessment of their surveillance system.
- Assessments by 36% of respondents are at least half complete.



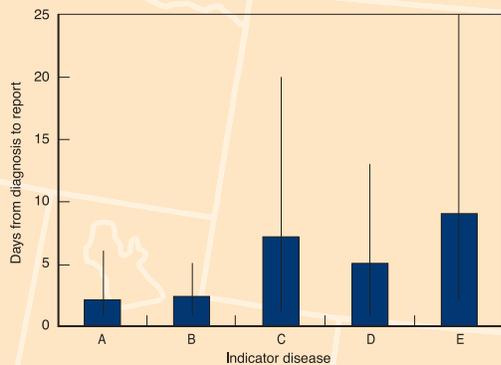
(Q 2) "For each indicator disease, calculate the percentage of reportable disease cases reported for each of the providers listed, using the best available "gold standard" data for true incidence."

- 5 of 8 respondents (which had completed assessments of their surveillance systems) reported greater than 50% completeness rates for meningococcal disease.
- 7 of 8 respondents reported less than 25% completeness rates for salmonella infections.



- Meningococcal diseases (N=8)
- Febrile rash illness (N=7)
- E. Coli* 0157:H7 (N=7)
- Pertussis (N=8)
- Salmonella (N=8)

(Q 2) "Based on a representative sample of cases for each indicator disease, calculate the median number of days from diagnosis to report for each of the providers listed."



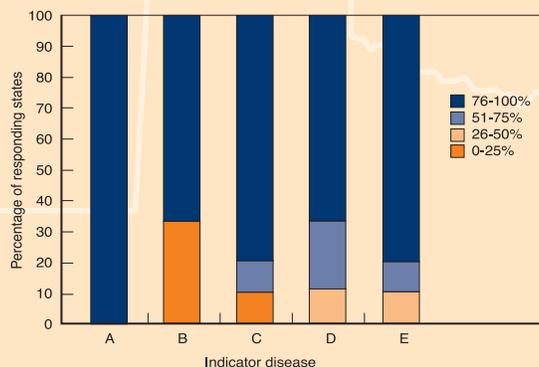
- The mean reporting delay for meningococcal disease in responding respondents (which had completed assessments of their surveillance systems) was 2.1 days, and ranged from less than 1 day to 6 days.
- The mean reporting delay for salmonella infections in responding respondents was 9 days and ranged from 2 to 25 days.

- A. Meningococcal disease (N=4)
- B. Febrile rash illness (N=6)
- C. *E. Coli* 0157:H7 (N=5)
- D. Pertussis (N=6)
- E. Salmonella infections (N=5)

(Q 2) "For each indicator disease, calculate the percentage of reportable disease cases reported for each of the providers listed, using the best available "gold standard" data for true incidence."

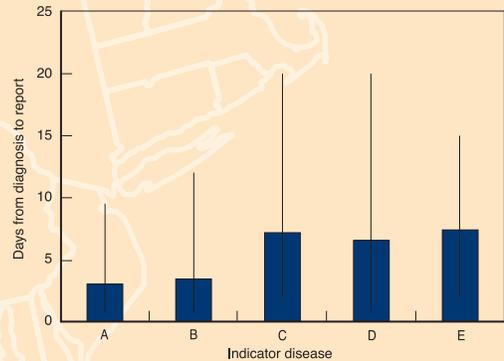
- 10 of 10 respondents (which had completed assessments of their surveillance systems) reported greater than 75% completeness rates for meningococcal disease.
- 3 of 9 respondents reported less than 25% completeness rates for febrile rash illness.

- A. Meningococcal disease (N=10)
- B. Febrile rash illness (N=9)
- C. *E. Coli* 0157:H7 (N=10)
- D. Pertussis (N=9)
- E. Salmonella infections (N=10)



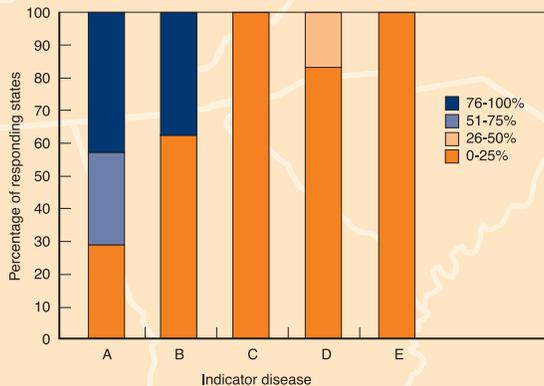
(Q 2) "Based on a representative sample of cases for each indicator disease, calculate the median number of days from diagnosis to report for each of the providers listed."

- The mean reporting delay for meningococcal disease according to respondents (which had completed assessments of their surveillance systems) was 3 days and ranged from less than 1 day to 9.5 days.
- The mean reporting delay for salmonella infections was 7.4 days and ranged from 2 to 15 days.



- A. Meningococcal disease (N=9)
- B. Febrile rash illness (N=7)
- C. *E. Coli* 0157:H7 (N=8)
- D. Pertussis (N=8)
- E. Salmonella infections (N=8)

(Q 2) "For each indicator disease, calculate the percentage of reportable disease cases reported for each of the providers listed, using the best available "gold standard" data for true incidence."

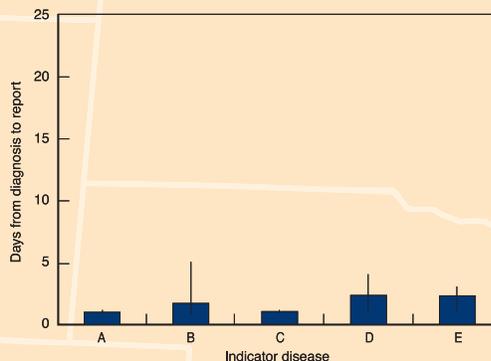


- A. Meningococcal disease (N=7)
- B. Febrile rash illness (N=8)
- C. *E. Coli* 0157:H7 (N=5)
- D. Pertussis (N=6)
- E. Salmonella infections (N=5)

- 5 of 7 respondents (which had completed assessments of their surveillance systems) reported greater than 50% completeness rates for meningococcal disease.
- 5 of 5 respondents reported less than 25% completeness rates for both salmonella and *E. Coli* O157:H7 infections.

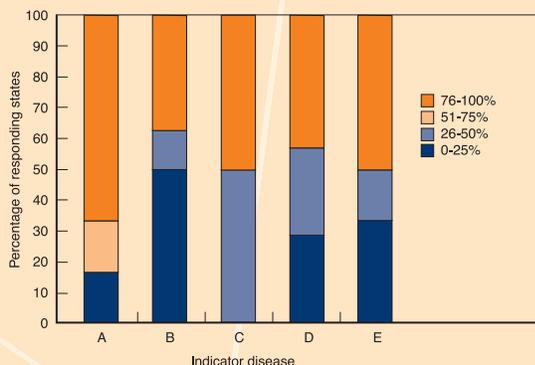
(Q 2) "Based on a representative sample of cases for each indicator disease, calculate the median number of days from diagnosis to report for each of the providers listed."

- The mean reporting delay for meningococcal disease by respondents (which had completed assessments of their surveillance systems) was less than 1 day and ranged from less than 1 day to 1 day.
- The mean reporting delay for salmonella infections was 2.3 days and ranged from 1 to 3 days.



- A. Meningococcal disease (N=5)
- B. Febrile rash illness (N=5)
- C. *E. Coli* 0157:H7 (N=2)
- D. Pertussis (N=3)
- E. Salmonella infections (N=3)

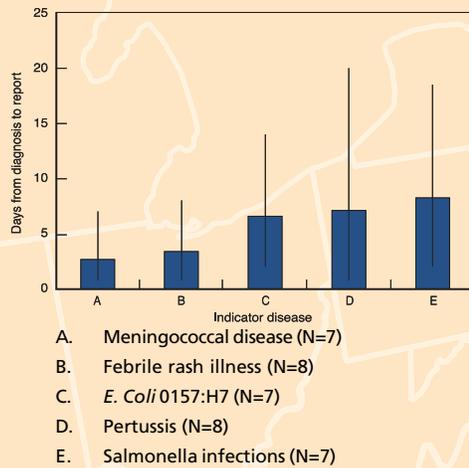
(Q 2) "For each indicator disease, calculate the percentage of reportable disease cases reported for each of the providers listed, using the best available "gold standard" data for true incidence."



- A. Meningococcal disease (N=6)
- B. Febrile rash illness (N=8)
- C. *E. Coli* 0157:H7 (N=6)
- D. Pertussis (N=7)
- E. Salmonella infections (N=6)

- 5 of 6 respondents (which had completed assessments of their surveillance systems) reported greater than 50% completeness rates for meningococcal disease.
- 4 of 8 respondents reported less than 25% completeness rates for febrile rash illness.

(Q 2) "Based on a representative sample of cases for each indicator disease, calculate the median number of days from diagnosis to report for each of the providers listed."



- The mean reporting delay for meningococcal disease by respondents (that had completed assessments of their surveillance systems) was 2.6 days and ranged from less than 1 day to 7 days.
- The mean reporting delay for salmonella infections was 8.2 days and ranged from 2 to 18.5 days.

(Q 2a) "What are the three most important barriers to timely reporting?"

Sixteen respondents provided information about barriers to timely disease reporting identified through testing of their reportable disease surveillance systems. Three key themes emerged.

Provider and Laboratory-Related Barriers

Fourteen respondents made at least one mention of provider or laboratory-related barriers to timely reporting. Specific examples included:

- "Lack of provider awareness re: importance of timeliness (i.e., what state does with info)."
- "Physicians don't have a lot of time."
- "Physicians refuse to report."

Information Technology

Eleven respondents made at least one mention of information technology-related challenges-including the lack of adequate technology-that they perceive to be barriers to timely reporting, including:

- "No direct communications link between [department of public health] and labs and providers."
- "Delay due to the use of the Postal Service to submit report."
- "Lack of secure Internet reporting loops, especially from providers."

Systems and Process Issues

Seven respondents pointed to public health systems or process issues as barriers to timely reporting. Examples included:

- "An inconsistency exists in terms of how reporting is handled among the 19 health districts."

Association of State and Territorial Health Officials

- "Insufficient feedback."
- "Lack of dedicated data management personnel in house to process incoming reports."

Other

Other barriers mentioned less frequently were clinical/disease process-related issues ("complexity of diagnostic process for some conditions," "time to recognize disease," "specimen processing at labs").

(Q 2b) "What are the three most important barriers to complete reporting?"

Fourteen respondents noted barriers to complete reporting based on their assessments of the completeness and timeliness of their mandatory reportable disease surveillance systems. Most of these barriers fell into two key categories.

Provider and Laboratory-Related Barriers

All fourteen respondents made at least one mention of provider and laboratory-related barriers to complete reporting. Specific examples included:

- "Getting providers to be aware of what to report and the importance of reporting."
- "Lack of provider knowledge about statutory requirements."
- "Providers unaware of reporting responsibilities."

Systems and Process Issues

Five respondents mentioned public health systems or process issues as barriers to timely reporting. Examples noted included:

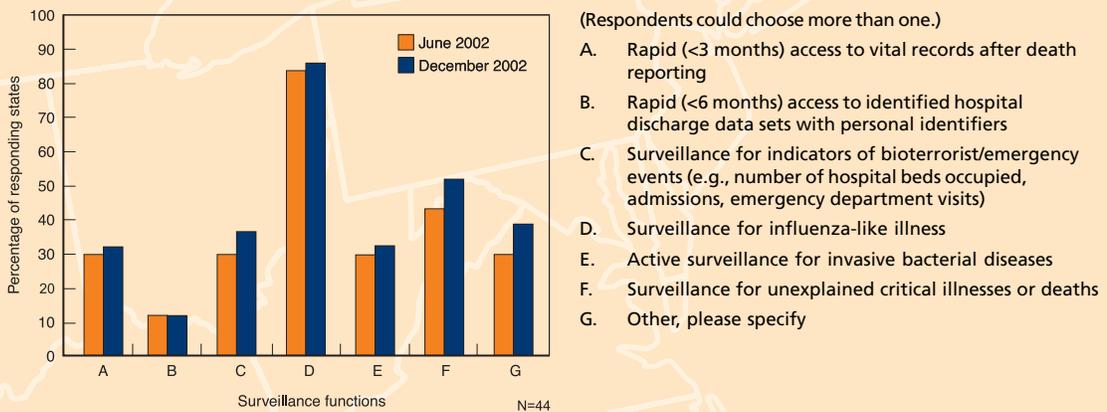
- "Lack of intervention regarding incomplete reporting."
- "A lack of relationships exists with important potential reporters."
- "Loss of cases to follow-up."

Other

Other barriers mentioned included information technology-related issues ("ease of data entry," "lack of a trigger to prompt reporting").

(Q 3) "Which of the following functions does your state's surveillance system perform?"

- Over 86% of respondents perform surveillance for influenza-like illness.
- 52% of respondents perform surveillance for unexplained critical illnesses or deaths.
- Between June and December 2002, the percentage of respondents capable of detecting severe febrile rash illness increased from 59% to 68%. (Q 4)



(Q 4a) "What are the three most important barriers to developing a surveillance system for severe febrile rash illness?"

Twenty respondents provided information about the most important barriers to developing surveillance systems for severe febrile rash illness in their jurisdictions. Responses fell into several key categories.

Clinical Coding, Case Definitions, Legal Requirements

Eleven respondents made at least one mention of barriers related to clinical coding, case definition, or legal requirement issues. Specific examples included:

- "Currently not listed as a reportable disease or condition."
- "Difficulty defining clinical syndrome to be reported."
- "Severe febrile rash illness not reportable by law."

Provider-Related Barriers

Eight respondents noted provider-related barriers, including:

- "Minimal knowledge of defined reporting routes at community level."
- "Education of physicians regarding [symptoms] which constitute measles or other important rash illnesses . . ."
- "Lack of provider education."

Information Technology

Six respondents made at least one mention of information technology-related issues as barriers to development of surveillance systems for severe febrile rash illness. Specific examples included:

- "Access to appropriate data sources."
- "Electronic reporting system."
- "Lack of automated mechanism to capture febrile rash illness."

Time and Other Priorities

Six respondents noted other priorities and time constraints as barriers in this area, with specific responses including:

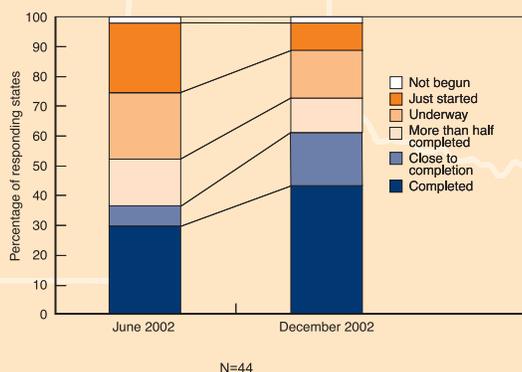
- "Time used for smallpox."
- "Lack of local and state health department resources to review and investigate."
- "Too labor intensive and costly for number identified."

Other

Other barriers listed included "guidance from CDC," "personnel to educate," "no experience in syndromic surveillance development," and "lack of 'top-down' direction in developing automated data collection and reporting systems."

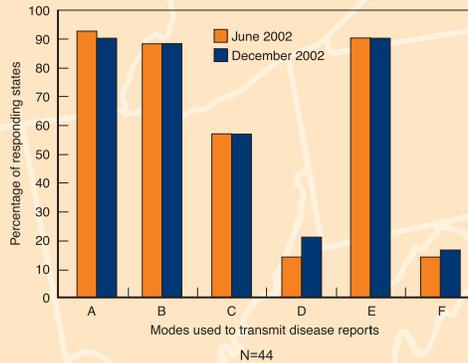
(Q 5) "What is the status of your state's assessment of NEDSS [National Electronic Disease Surveillance System]?"

- 46% of respondents have made progress in assessing NEDSS.
- 43% of respondents have completed an assessment of NEDSS.
- Assessments in 73% of respondents are at least half complete.
- 76% of respondents have had meetings to bring NEDSS stakeholders together to get buy-in and determine business rules regarding the mandatory reportable disease surveillance system. (Q 5c)



(Q 6) "Which modes of communication does your state use to transmit disease reports?"

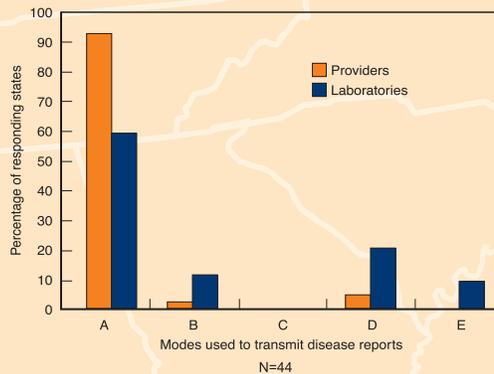
- Over 88% of respondents use mail, telephone, and fax to transmit disease reports.
- 57% of respondents use batch electronic transmissions (electronic laboratory reporting).



(Respondents could choose more than one.)

- A. Mail
- B. Telephone
- C. Batch electronic transmissions (electronic laboratory reporting)
- D. Web-based system conforming to NEDSS standards
- E. Fax
- F. Other, please specify

(Q 6a) "What percentage of the following entities transmit disease reports through a web-based system conforming to NEDSS standards?" (Q 6b) "Which mode do providers in your state most commonly use to transmit reports of urgently reportable disease?" (Q 6c) "Which mode do laboratories in your state most use to transmit reports of urgently reportable disease?"

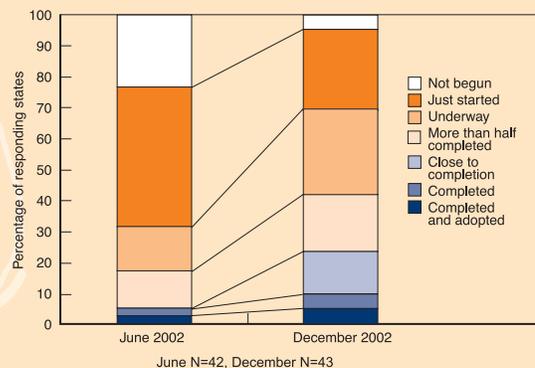


- 93% of responding respondents indicated that the telephone is the most common mode used by providers to transmit reports of urgently reportable disease.
- 59% of responding respondents indicated that the telephone is the most common mode used by laboratories to transmit reports of urgently reportable disease.
- 20% indicated the fax machine is the common mode used by laboratories.

- A. Telephone
- B. Batch electronic transmissions (electronic laboratory reporting)
- C. Web-based system conforming to NEDSS standards
- D. Fax
- E. Other, please specify

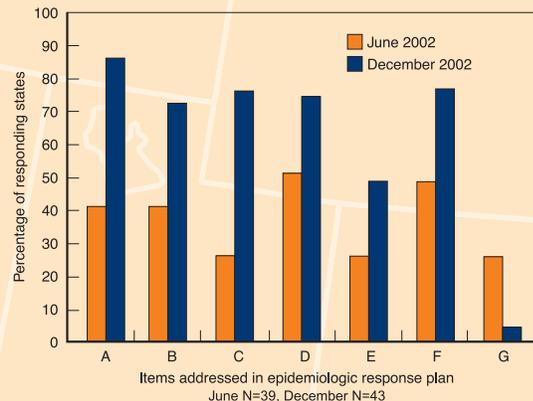
(Q 7) "What is the status of your state's epidemiologic response plan?"

- 71% of respondents have made progress with their plan.
- 9% of respondents have completed their plan.
- Plans by 42% of respondents are at least half complete.



(Q 7a) "Which of the following are addressed in your epidemiologic response plan?"

- Over 86% of respondents address surge capacity in their epidemiologic response plan.
- Over 76% of respondents address delivery of mass immunizations and local coordination in their response plan.

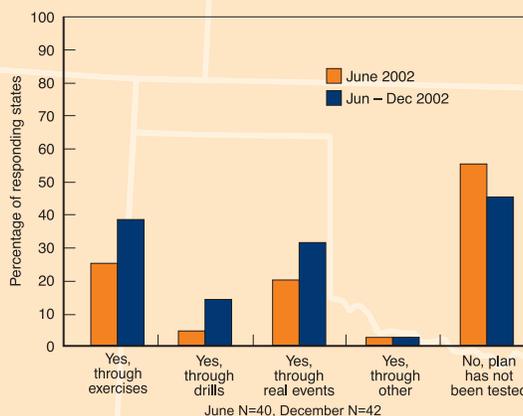


(Respondents could choose more than one.)

- A. Surge capacity (epidemiologic investigation)
- B. Delivery of mass prophylaxis
- C. Delivery of mass immunizations
- D. Pre-event development of epidemiologic investigation and response needs
- E. Linkage with animal surveillance systems and animal health community
- F. Local coordination
- G. Not applicable

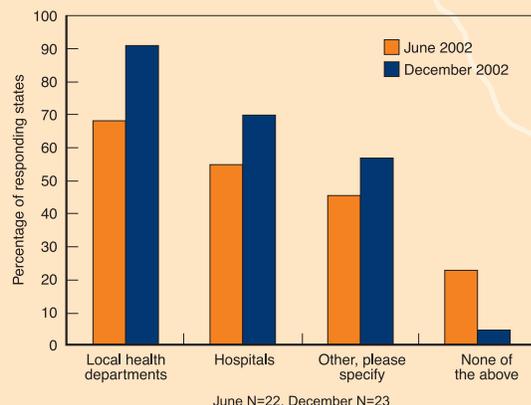
(Q 7b) "Has any part of your [epidemiologic response] plan been tested?"

- 38% of respondents have tested their plan through exercises.
- 31% of respondents have tested their plan through real events.



(Respondents could choose more than one.)

(Q 7d) "Did these [epidemiologic response plan] tests include any of the following entities?"



(Respondents could choose more than one.)

- 91% of respondents included local health departments in their epidemiologic plan testing.
- 70% of respondents included hospitals in their testing.

(Q 7c) "Based on your testing, what are the three most important areas for improvement [of your epidemiologic response plan]?"

Twenty-three respondents provided information about their most important areas for improvement based on testing of their epidemiologic response plans. Four key themes emerged.

Communication and Information Technology

Seventeen respondents made at least one mention of issues related to communication, communications systems or equipment, or information technology as most in need of improvement with respect to their epidemiological response plan. Specific responses included:

- "Establishing 24/7 coverage and coverage redundancy."
- "Receipt of the NEDSS base system for web-based disease reporting."
- "Risk communication."

Planning

Eight respondents noted issues related to enhanced plans, planning, and protocols as areas most in need of improvement. Specific examples included:

- "Codifying epidemiologic surge capacity."
- "Agreed upon syndromic surveillance indicators for use in rapid reporting."
- "More details about response teams needed."

Coordination

Eight respondents noted a need for improved coordination with the multiple parties involved in their plans or clarification of the roles of these parties, including:

- "Integration of multiple state/county emergency plans."
- "Specific role of laboratory."
- "Clear designation of leadership in ICS structure at all levels."

Training and Exercising

Six respondents made at least one mention of training issues and exercising of plans as areas most in need of improvement:

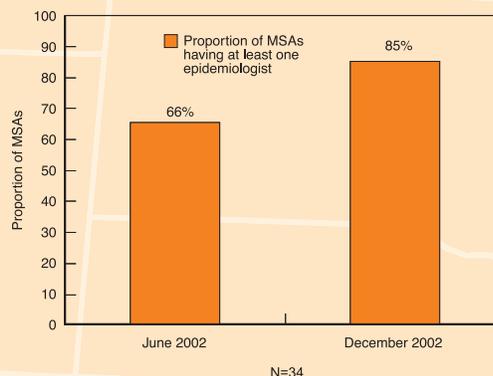
- "Ongoing training of epi[demiologic] response teams."
- "Public health training in incident command system."
- "Training for LDH [local health department] staff."

Other

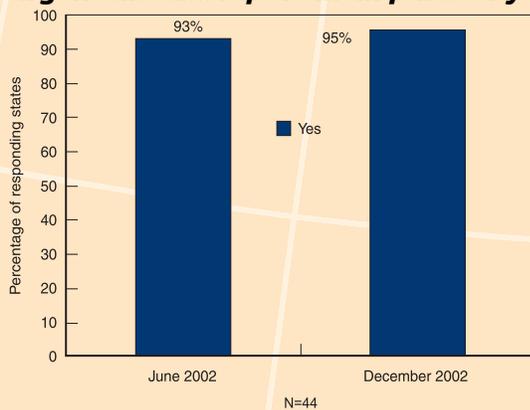
Other areas for improvement mentioned less frequently included staffing issues ("manpower/lack of epidemiologists"; "trained epidemiology/investigation staff...") and equipment and facility issues ("response kits").

(Q 8) "How many Metropolitan Statistical Areas (MSAs) with a population greater than 500,000 exist in your state?"

- 34 respondents reported they have at least one Metropolitan Statistical Areas (MSAs) with a population greater than 500,000.
- The average proportion of MSAs with at least one epidemiologist dedicated to bioterrorist and emergency response increased from 66% to 85%. (Q 8)



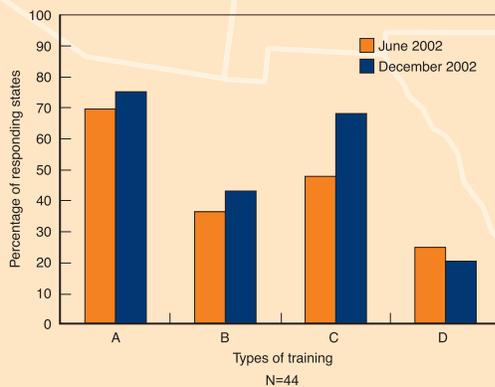
(Q 9) "Can your state initiate a field investigation within 6 hours of receiving an urgent disease report in all parts of your state 24 hours a day, 7 days a week?"



- As of June 1, 2002, 93% of respondents reported the ability to initiate a field investigation within 6 hours of receiving an urgent disease report in all parts of their state 24 hours a day, 7 days a week.
- As of December 2002, this percentage increased to 95%.

(Q 10) "Has your state trained epidemiological response teams in the following?"

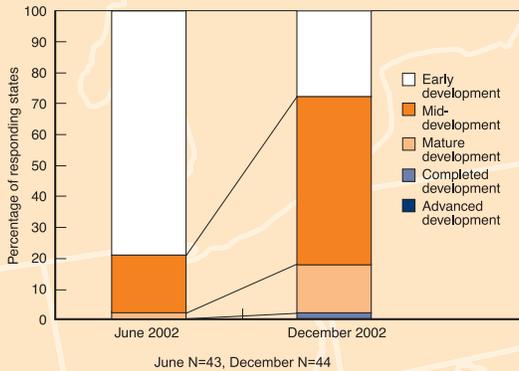
- 75% of respondents have trained epidemiological response teams in epidemiological field investigations.
- 68% of respondents have trained their teams in response activities.



(Respondents could choose more than one.)

- A. Epidemiological field investigations
- B. Exposure assessments
- C. Response activities
- D. None of the above

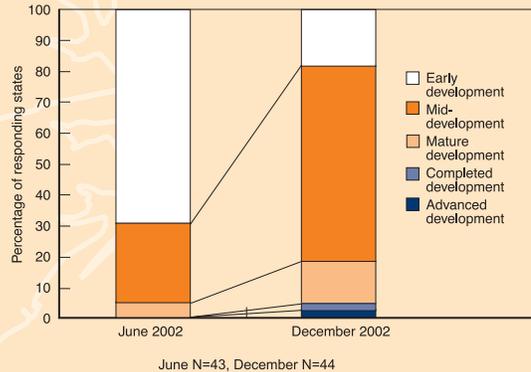
(Q 11) "With respect to surge capacity (epidemiologic investigation), assess your state's level of preparedness."

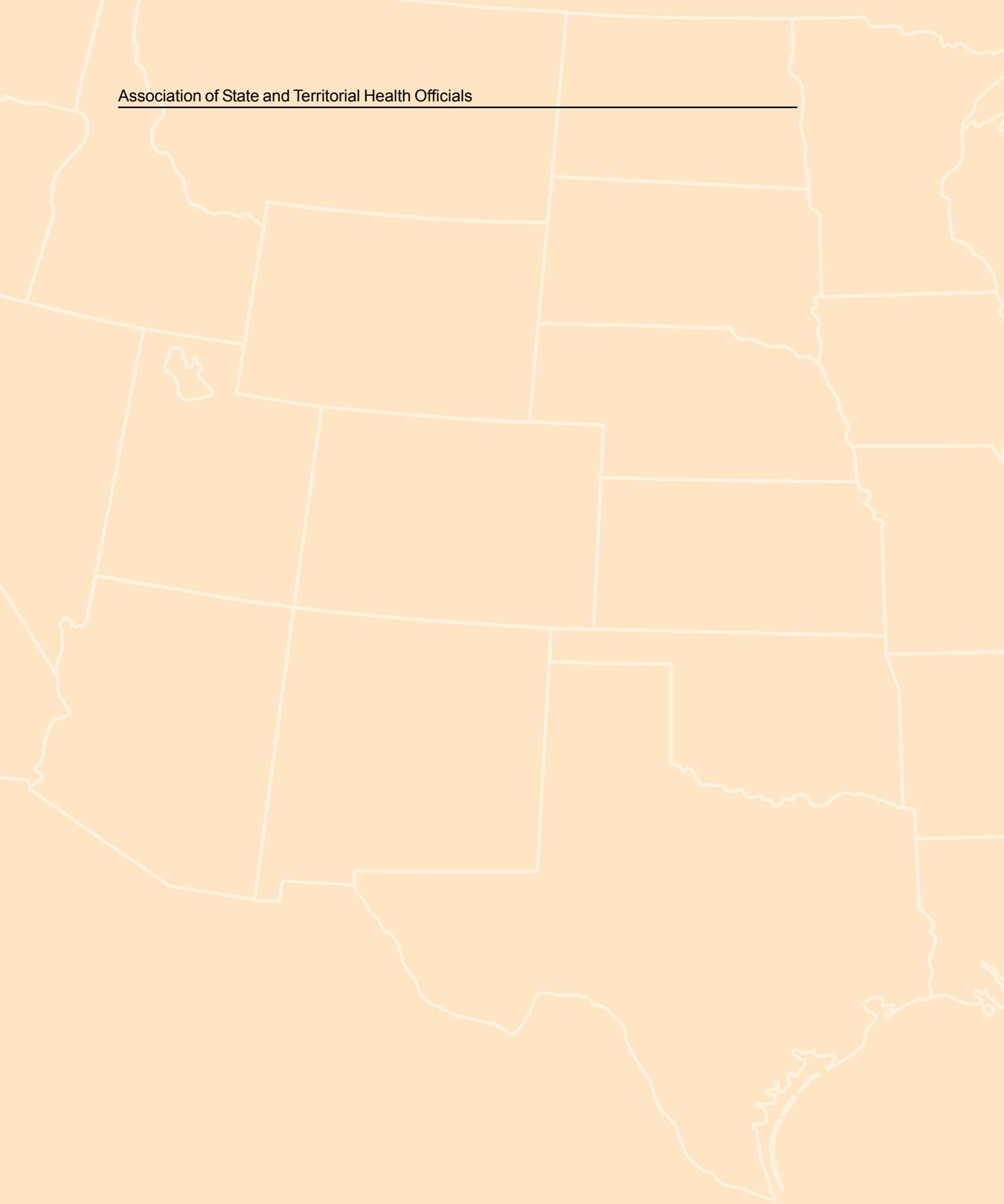


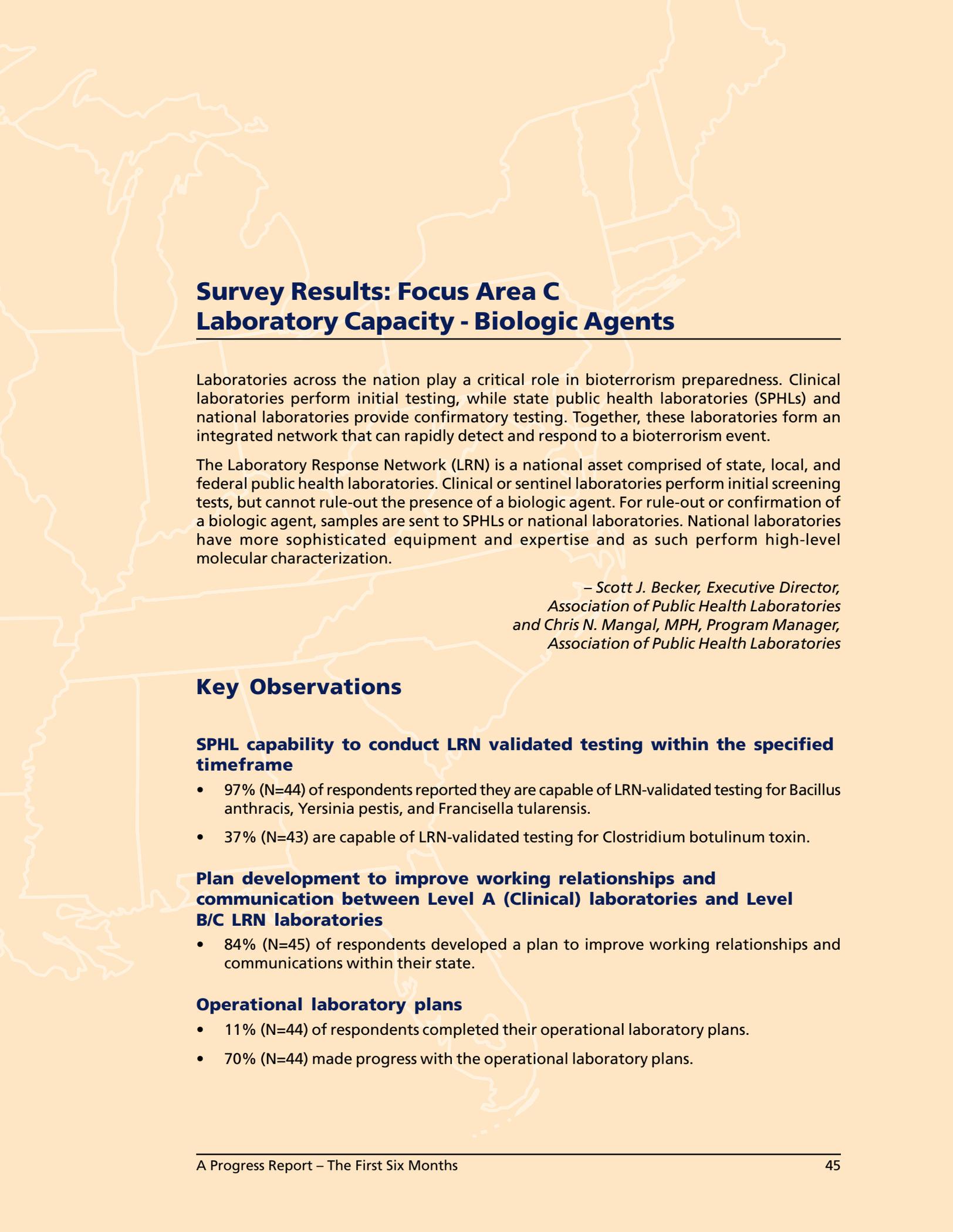
- 61% of respondents have improved their surge capacity for epidemiologic investigation.
- 18% of respondents have systems whose development is mature or beyond.
- 55% of respondents are in the mid-development phase.

(Q 12) "With respect to building capacity for effective epidemiologic surveillance, detection, investigation and response to a bioterrorist/emergency event, assess your state's level of preparedness."

- 65% of respondents have improved their capacity for epidemiologic surveillance, detection, investigation, and response to a bioterrorist/emergency event.
- 18% of respondents have systems whose development is mature or beyond.
- 64% of respondents are in the mid-development phase.





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Survey Results: Focus Area C Laboratory Capacity - Biologic Agents

Laboratories across the nation play a critical role in bioterrorism preparedness. Clinical laboratories perform initial testing, while state public health laboratories (SPHLs) and national laboratories provide confirmatory testing. Together, these laboratories form an integrated network that can rapidly detect and respond to a bioterrorism event.

The Laboratory Response Network (LRN) is a national asset comprised of state, local, and federal public health laboratories. Clinical or sentinel laboratories perform initial screening tests, but cannot rule-out the presence of a biologic agent. For rule-out or confirmation of a biologic agent, samples are sent to SPHLs or national laboratories. National laboratories have more sophisticated equipment and expertise and as such perform high-level molecular characterization.

*– Scott J. Becker, Executive Director,
Association of Public Health Laboratories
and Chris N. Mangal, MPH, Program Manager,
Association of Public Health Laboratories*

Key Observations

SPHL capability to conduct LRN validated testing within the specified timeframe

- 97% (N=44) of respondents reported they are capable of LRN-validated testing for *Bacillus anthracis*, *Yersinia pestis*, and *Francisella tularensis*.
- 37% (N=43) are capable of LRN-validated testing for *Clostridium botulinum* toxin.

Plan development to improve working relationships and communication between Level A (Clinical) laboratories and Level B/C LRN laboratories

- 84% (N=45) of respondents developed a plan to improve working relationships and communications within their state.

Operational laboratory plans

- 11% (N=44) of respondents completed their operational laboratory plans.
- 70% (N=44) made progress with the operational laboratory plans.

Operational relationships between state laboratories and first responders

- The proportion of respondents that have established operational relationships between state laboratories and first responders increased from 84% (N=44) in June 2002 to 91% (N=45) in December 2002.

Public health laboratory ability to conduct tests using PCR and TRF rapid assays

- On the average, respondents reported that one laboratory per respondent is able to conduct real-time polymerase chain reaction (PCR) and time-resolved fluorescence (TRF) rapid assays.

State capacity for rapid and effective laboratory services

- 43% (N=44) of respondents reported systems whose development is mature or beyond.
- 52% (N=44) reported improved capacity for rapid and effective laboratory services.

Implications for the Future

Federal supplemental funding has expanded the ability of state and local biological laboratories to detect bioterror agents and emerging infectious diseases, such as severe acute respiratory syndrome (SARS.) However, there is still a lack of adequate equipment and expertise at SPHLs. On the average, just one laboratory per state has the required instrumentation and staff to conduct tests for real-time PCR and TRF rapid assays. In addition, there is much work to be done in completing the plans for improving overall laboratory services.

The survey results show that most SPHLs are capable of conducting LRN-validated testing. However, not all respondents have the expertise to test for all targeted biologic agents. The CDC and the Food and Drug Administration are currently addressing this deficiency by developing new and rapid assays for the detection of *Clostridium botulinum* neurotoxin, serotypes A, B, E, and F.

Summary of Focus Area C

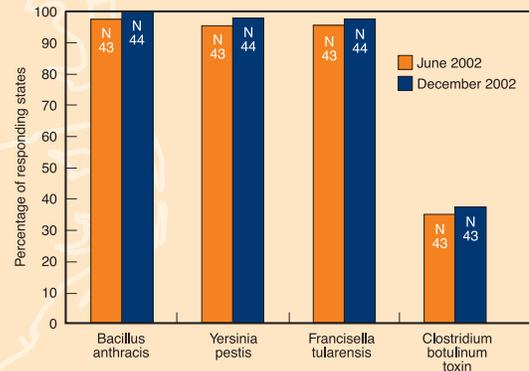
In this technology driven era, safety and security of laboratory data is crucial. Many of the respondents indicated that they have improved or maintained their capacity for securely transmitting data electronically. Laboratories also have updated their computer equipment and are using high-speed Internet access.

Bioterrorism preparedness is an ongoing process that strives to protect the nation from a potential terrorist attack involving biologic agents. Many respondents are involved in sentinel surveillance for biologic agents and the LRN continues to ensure that the nation's public health, clinical, and other laboratories are prepared to rapidly respond to a bioterrorism event.

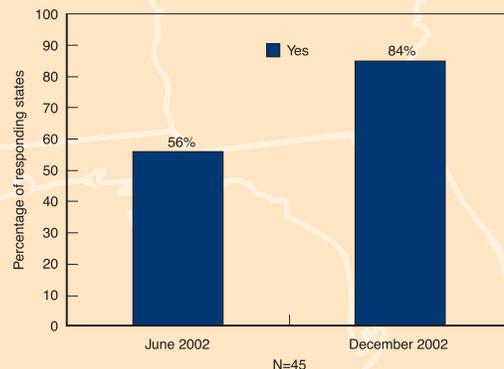
Focus Area C Questions and Answers

(Q 2) "Is your state's public health laboratory capable of conducting Laboratory Response Network (LRN)-validated testing within the specified timeframe for the following?"

- More than 97% of respondents are capable of LRN-validated testing for *Bacillus anthracis*, *Yersinia pestis*, and *Francisella tularensis*. (Q 1)
- 37% of respondents are capable of LRN-validated testing for *Clostridium botulinum* toxin. (Q 1)



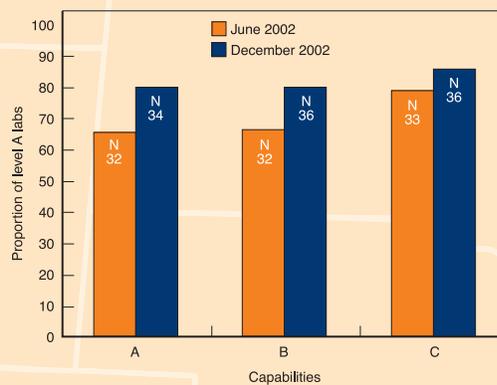
(Q 3) "Has your state developed a plan to improve working relationships and communication between Level A (clinical) laboratories and Level B/C Laboratory Response Network labs to ensure Level A core capabilities (perform rule-out testing on critical BT agents, safely package and handle specimens, refer to higher level (B/C) labs for further testing)?"



- The proportion of respondents that have developed a plan increased from 56% to 84% between June and December 2002.

(Q 3a) "Number of Level A labs that can perform rule-out testing on critical BT agents (see a list of critical BT agents provided in question 1)."

- The average proportion of Level A laboratories that can perform rule-out testing on critical BT agents increased from 66% to 80%.
- Among the respondents, the average number of Level A laboratories is 98. (Q 3d)
- The average proportion of Level A laboratories that can safely package and handle specimens rose from 66% to 79%. (Q 3c)
- The average proportion of Level A laboratories that refer to higher level (B/C) laboratories for further testing increased from 79% to 85%. (Q 3c)

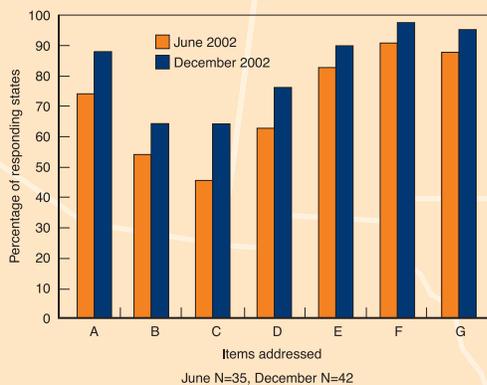


(Respondents could choose more than one.)

- A. Level A laboratories that can perform rule-out testing on critical BT agents
- B. Level A Laboratories that can safely package and handle specimens
- C. Level A laboratories that refer to higher-level (B/C) laboratories for further testing

(Q 4) "Which of the following are addressed in your state's integrated laboratory response plan?"

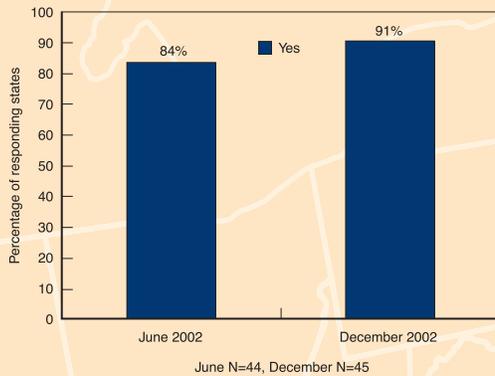
- 98% of respondents' plans address methods of reporting laboratory results to local health departments.
- 64% of respondents address methods for securing surge capacity with their state or region.



(Respondents could choose more than one.)

- A. Roles and responsibilities for laboratory response
- B. Method for securing surge capacity within the state
- C. Methods for securing surge capacity within the region
- D. Integration of laboratory plan with other public emergency responses
- E. Protocols for safe transport of specimens by air and ground
- F. Methods of reporting laboratory results to local health departments
- G. Methods of reporting laboratory results to law enforcement agencies

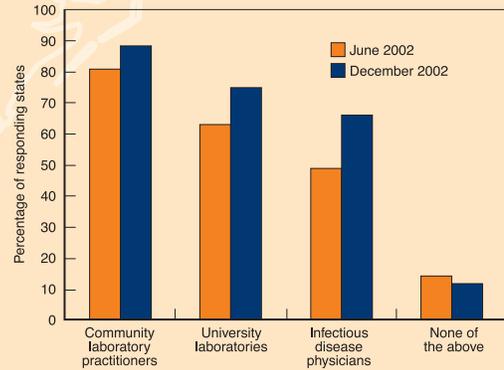
(Q 5) "Has your state laboratory established operational relationships with first responders (as defined by your state, may include HazMat, hospitals, law enforcement and/or epidemiologic investigation teams)?"



- The percent of respondents that have established operational relationships between state laboratories and first responders increased from 84% to 91%.
- The percent of respondents' whose first responders have participated in joint activities was
 - cross-training sessions: 9%
 - conferences: 13%
 - exercises and drills: 5%.
- 93% or more of respondents have established designated points of contact, laboratory support for chain of custody procedures, or laboratory support for procedures for environmental testing with their first responders. (Q 5a)

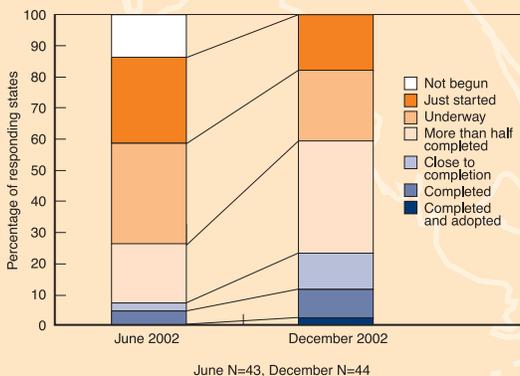
(Q 6) "Which of the following types of community health practitioners has your state laboratory established working relationships with?"

- 89% of respondents report that their laboratory has established working relationships with community laboratory practitioners.
- 66% of respondents report their laboratory has established working relationships with infectious disease physicians.
- The proportion of respondents' community health practitioners who have participated in joint activities was
 - cross-training sessions: 10%
 - conferences: 9%.



(Respondents could choose more than one.)

(Q 7) "What is the current status of your operational laboratory plan?"



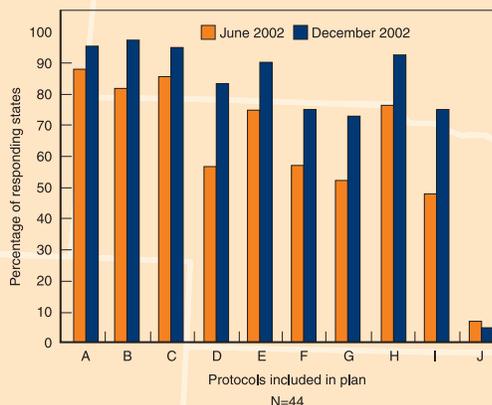
- 72% of respondents have made progress with their operational laboratory plan.
- 11% of respondents have completed their plan.
- Plans in 59% of respondents are at least half complete.

(Q 7a) "Which of the following protocols have been included in your plan?"

- Over 90% of respondents have included specimen/ samples transport and handling, worker safety, appropriate bio-safety level working conditions for each threat agent, quality control and assurance, and secure storage of critical agents in their plan.

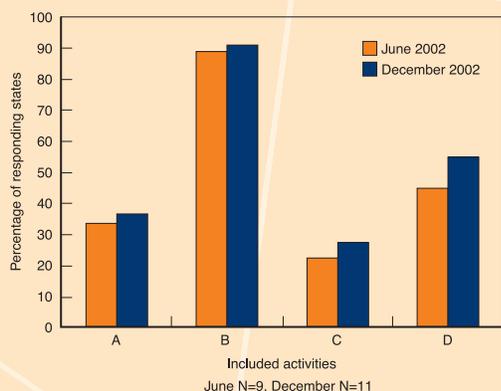
(Respondents could choose more than one.)

- A. Specimen/samples transport and handling
- B. Worker safety
- C. Appropriate Bio-Safety Level working conditions for each threat agent
- D. Staffing and training of personnel
- E. Quality control and assurance
- F. Internal and external proficiency testing
- G. Triage procedure for prioritizing intake and testing of specimens/samples before analysis
- H. Secure storage of critical agents
- I. Appropriate levels of supplies and equipment needed to effectively respond to a bioterrorist event (surge capacity)
- J. None of the above



(Respondents could choose more than one.)

(Q 9a) "Which of the following were included in [your jurisdiction's] simulation exercise?"

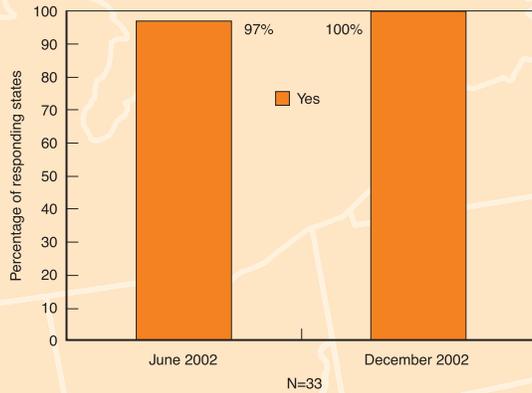


(Respondents could choose more than one.)

- A. Testing the integrated laboratory response plan within the state
- B. Testing the operational laboratory plan and protocols within the state
- C. Debriefing that included all participants
- D. Revisions to plans and protocols based on lessons learned

- The proportion of respondents that have conducted at least one simulation exercise in the last 6 months for Bacillus anthracis, Yersinia pestis, clostridium, botulinum toxin, or Francisella tularensis increased from 23% to 25%.
- 10 out of 11 respondents have tested the operational laboratory plan and protocols within their state.
- 3 out of 11 had a debriefing that included all participants.

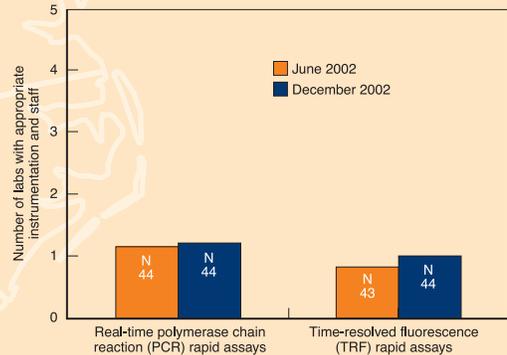
(Q 10a) "Is your state's public health lab using BSL-3 practices?"



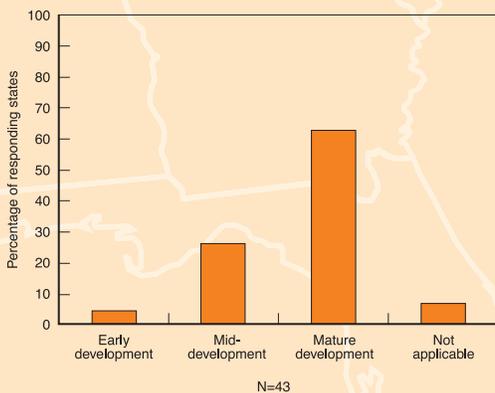
- The proportion of respondents whose laboratories use BSL-3 practices increased from 97% to 100%.
- The average number of BSL-3 facilities per state was 2.5. (Q 10)

(Q 8) "In the table below please indicate the number of public health laboratories in your state that have the appropriate instrumentation and appropriately trained staff to conduct the specified methods."

- The average number of laboratories with appropriate instrumentation and staff to conduct tests for real-time polymerase chain reaction (PCR) and time-resolved fluorescence (TRF) rapid assays was one per state.



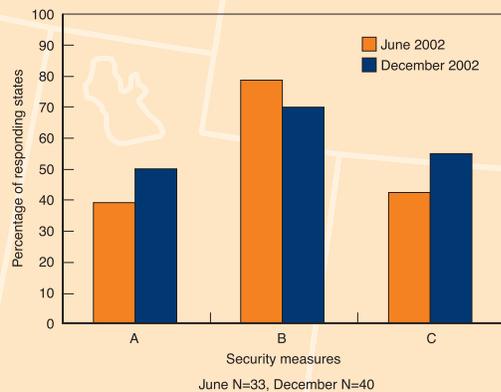
(Q 12a) "At what level is your state in meeting these [Biosafety, Microbiology and Biomedical Laboratory (BMBL)] standards?"



- 66% of respondents have laboratory security compliant with BMBL standards.
- 63% of respondents report nearing completion of activities to fully meet BMBL standards (mature development). (Q 12)

(Q 13) "Which of the following has your state used to enhance its lab security?"

- 70% of respondents use perimeter security to enhance laboratory security.
- Approximately 50% of respondents use video surveillance to enhance laboratory security.
- Approximately 55% of respondents screen for radiological, explosive, and chemical risk of specimens prior to biological analysis.

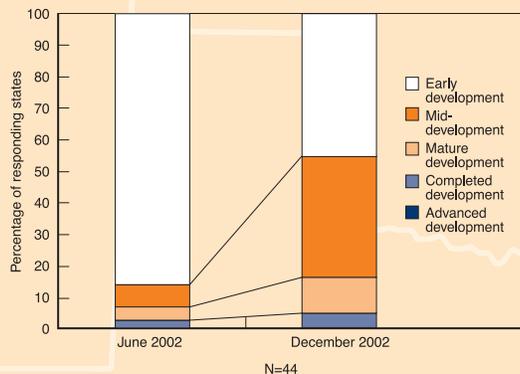


(Respondents could choose more than one.)

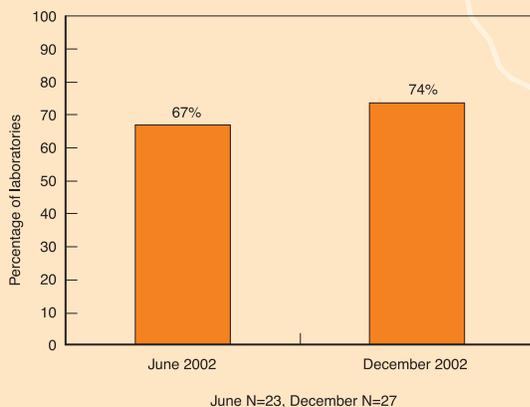
- A. Video surveillance
- B. Perimeter security
- C. Screening for radiological, explosive and chemical risk of specimens prior to biological analysis

(Q 16) "With respect to building capacity for a computerized laboratory data management system capable of securely transmitting data electronically, assess your state's current level of preparedness."

- 48% of respondents have improved their capacity for securely transmitting data electronically.
- 16% of respondents have systems whose development is mature or beyond.
- 39% of respondents are in the mid-development phase (as of December 2002).



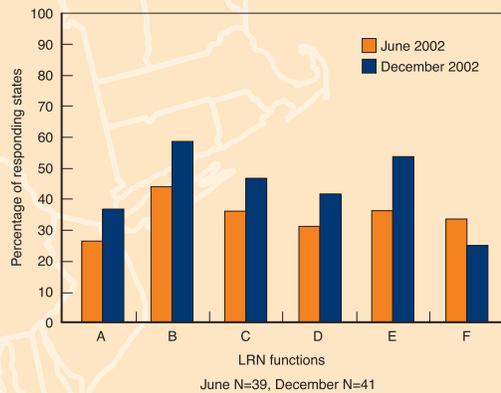
(Q 15) "What percentage of laboratories in your state have appropriate computer equipment and high speed Internet connectivity to access Laboratory Response Network's (LRN) protocols, reagents, and lab user applications?"



- The average percentage of laboratories in responding jurisdictions with appropriate computer equipment and high-speed Internet connectivity increased from 67% in June 2002 to 74% in December 2002.
- The median percentage of laboratories increased from 79% in June 2002 to 90% in December 2002.

(Q 14) "Which of the following functions does your state Laboratory Response Network (LRN) currently perform?"

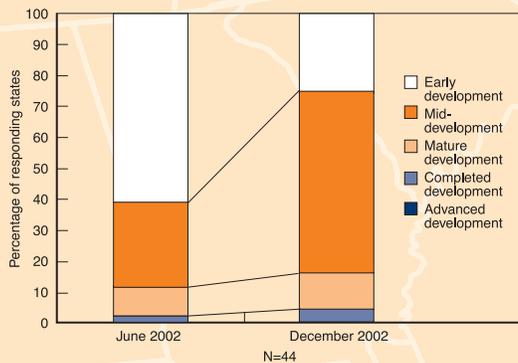
- 59% of respondents report that their LRN performs sentinel surveillance for bioterrorism.
- 41% of respondents report that their state LRN participates in multi-center validation studies for new methods.



(Respondents could choose more than one.)

- A. Network capacity monitoring
- B. Bioterrorism sentinel surveillance
- C. Support of proficiency-testing
- D. Multicenter validation studies for new methods
- E. Support for future LRN site enhancements
- F. None of the above.

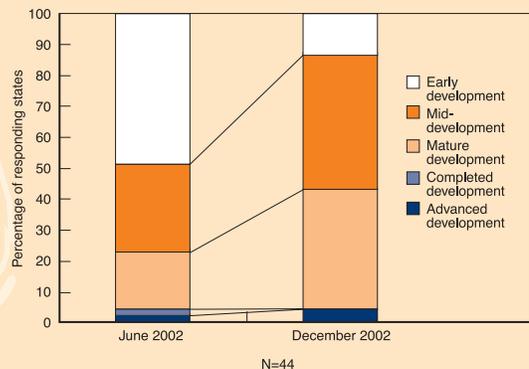
(Q 17) "With respect to building capacity for adequate and secure laboratory facilities functioning within the Laboratory Response Network, assess your state's current level of preparedness."

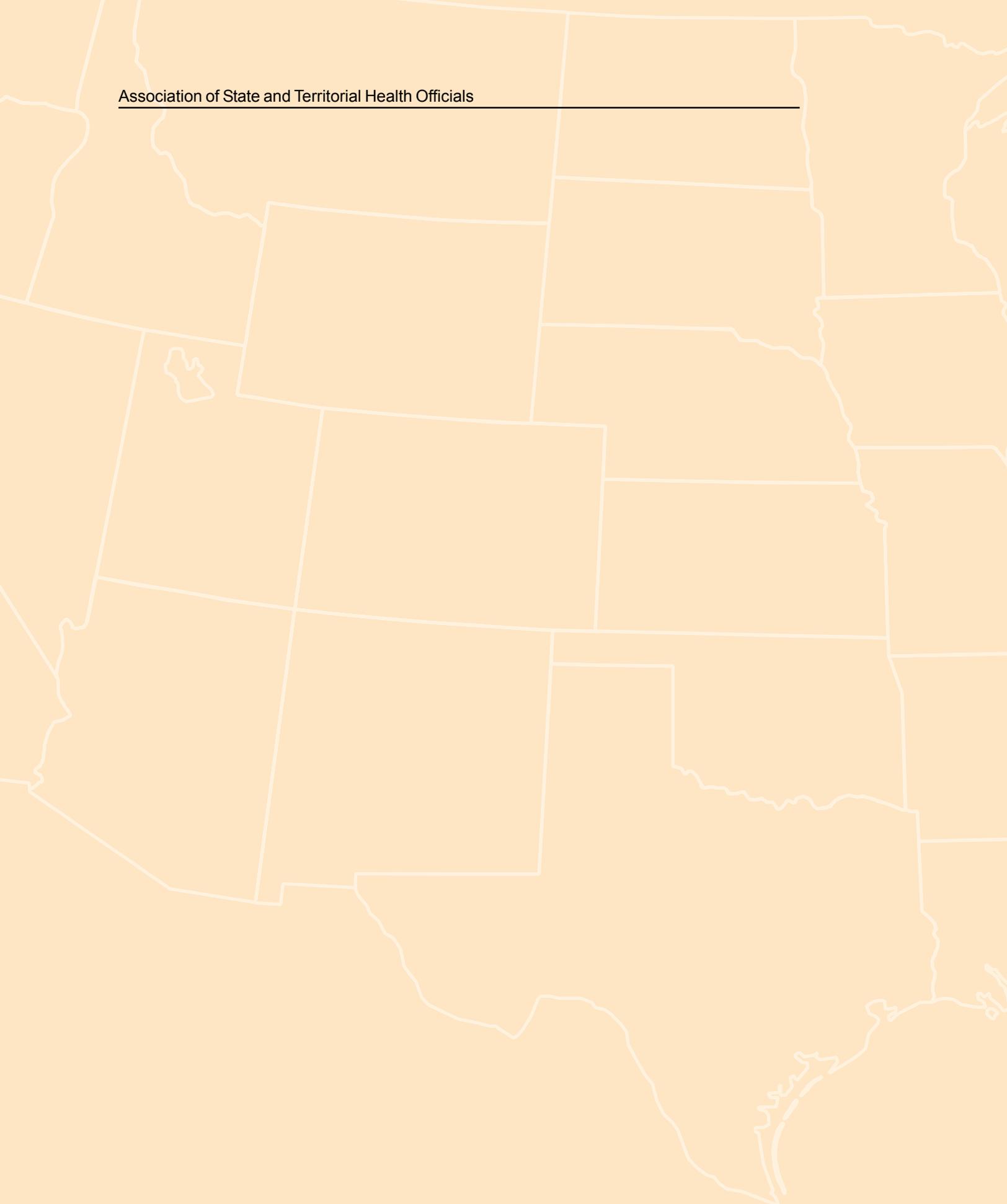


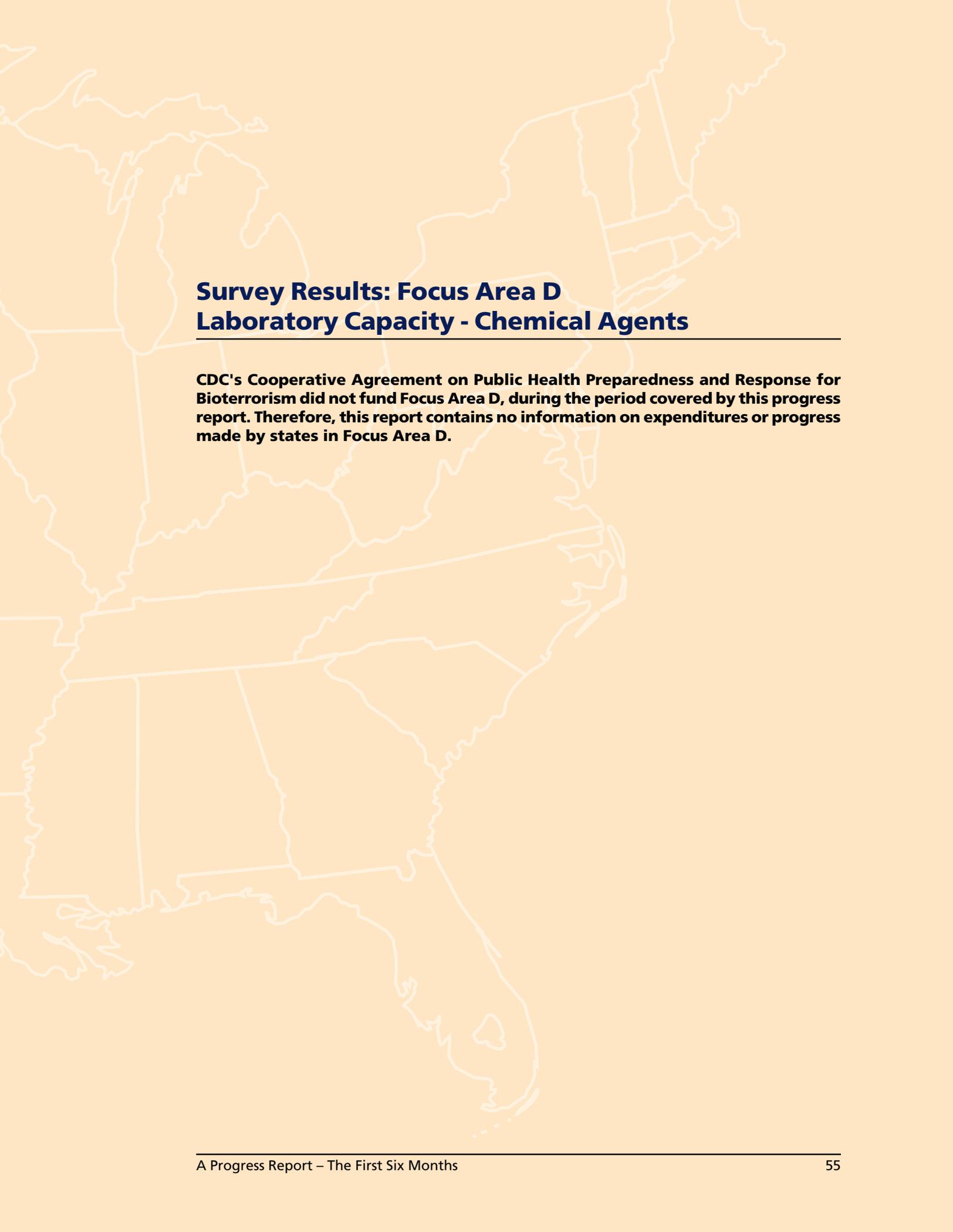
- 43% of respondents have improved their capacity for adequate and secure laboratory facilities functioning within the LRN.
- 16% of respondents have systems whose development is mature or beyond.
- 59% of respondents are in the mid-development phase.

(Q 11) "With respect to building capacity for rapid and effective laboratory services assess your state's level of preparedness."

- 52% of respondents have improved their capacity for rapid and effective laboratory services.
- 42% of respondents have systems whose development is mature or beyond.
- 44% of respondents are in the mid-development phase.

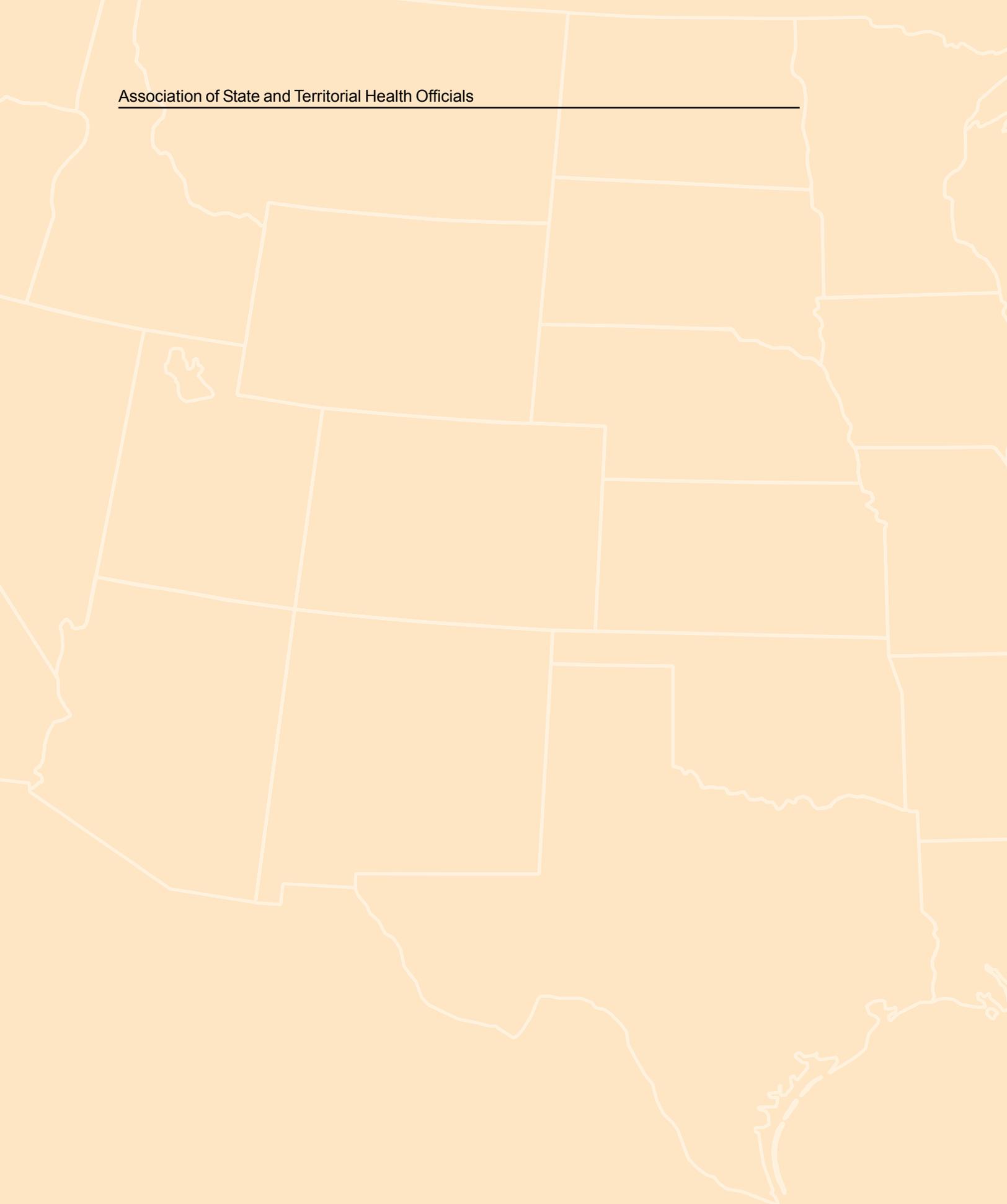


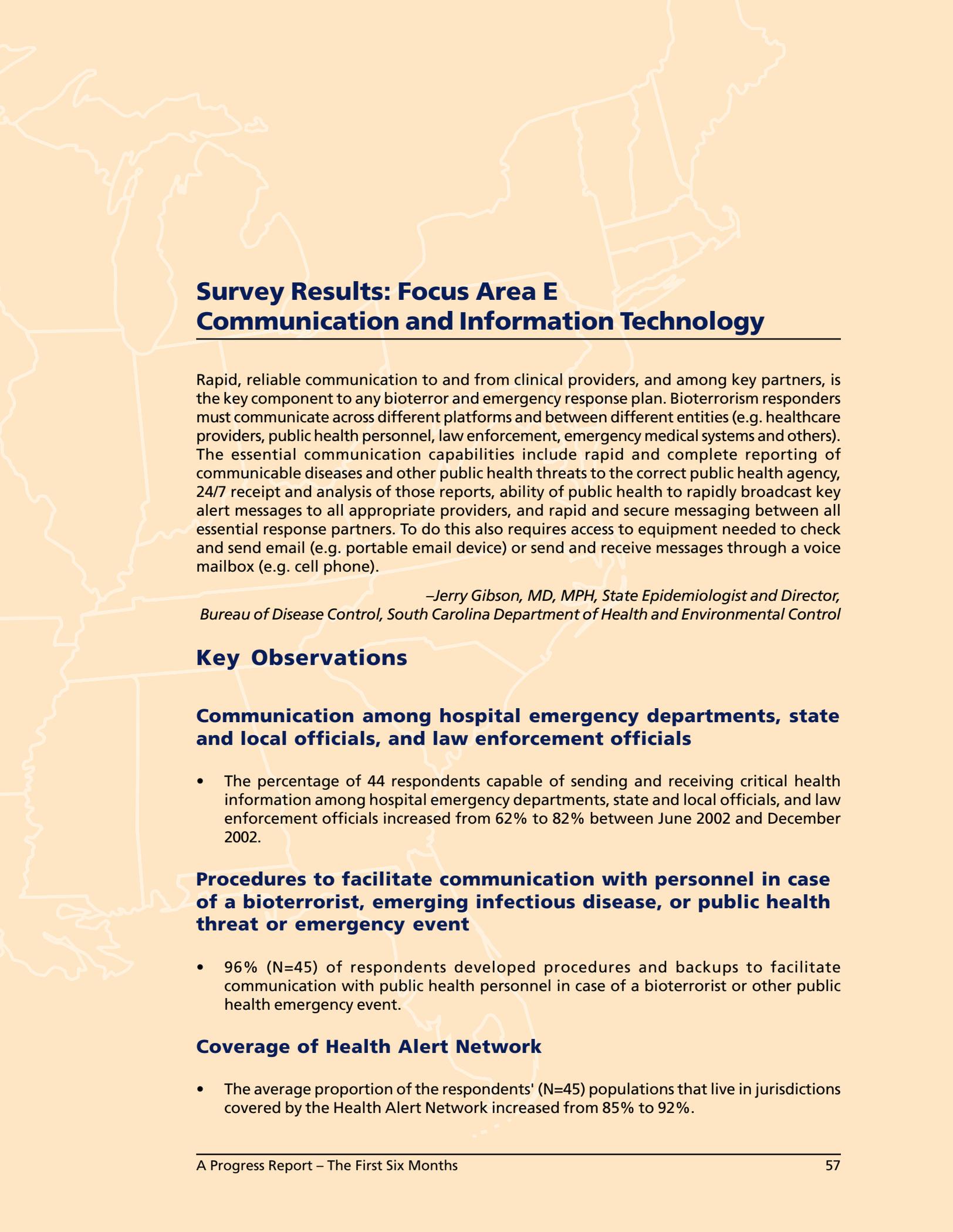


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Survey Results: Focus Area D Laboratory Capacity - Chemical Agents

CDC's Cooperative Agreement on Public Health Preparedness and Response for Bioterrorism did not fund Focus Area D, during the period covered by this progress report. Therefore, this report contains no information on expenditures or progress made by states in Focus Area D.





Survey Results: Focus Area E Communication and Information Technology

Rapid, reliable communication to and from clinical providers, and among key partners, is the key component to any bioterror and emergency response plan. Bioterrorism responders must communicate across different platforms and between different entities (e.g. healthcare providers, public health personnel, law enforcement, emergency medical systems and others). The essential communication capabilities include rapid and complete reporting of communicable diseases and other public health threats to the correct public health agency, 24/7 receipt and analysis of those reports, ability of public health to rapidly broadcast key alert messages to all appropriate providers, and rapid and secure messaging between all essential response partners. To do this also requires access to equipment needed to check and send email (e.g. portable email device) or send and receive messages through a voice mailbox (e.g. cell phone).

*–Jerry Gibson, MD, MPH, State Epidemiologist and Director,
Bureau of Disease Control, South Carolina Department of Health and Environmental Control*

Key Observations

Communication among hospital emergency departments, state and local officials, and law enforcement officials

- The percentage of 44 respondents capable of sending and receiving critical health information among hospital emergency departments, state and local officials, and law enforcement officials increased from 62% to 82% between June 2002 and December 2002.

Procedures to facilitate communication with personnel in case of a bioterrorist, emerging infectious disease, or public health threat or emergency event

- 96% (N=45) of respondents developed procedures and backups to facilitate communication with public health personnel in case of a bioterrorist or other public health emergency event.

Coverage of Health Alert Network

- The average proportion of the respondents' (N=45) populations that live in jurisdictions covered by the Health Alert Network increased from 85% to 92%.

Respondents' capacity for communication connectivity

- 53% (N=45) of respondents reported improved capacity for communications connectivity.
- 13% (N=45) reported their communication systems development is mature or beyond.

Testing of backup/redundant communications systems

- The percentage of messages successfully transmitted using backup or redundant communication systems increased from 70% (N=28) of respondents in June 2002 to 81% (N=35) of respondents in December 2002.

Respondent capacity for secure information and communications systems

- 44% (N=45) of respondents reported progress in building capacity for secure information and communication systems.
- 18% (N=45) reported mature or greater development of capacity for secure information and communication systems.

Implications for the Future

The ability to communicate across operational and organizational lines to quickly detect and respond to a bioterror event, emerging infectious disease, or other public health threat or emergency may be the most important aspect of protecting the health of the public. It is vital that communication systems be available, functional, and backed up in various ways. Respondents reported that they need enhanced information technology infrastructure or equipment to assure that their communications systems meet the criteria for backup and redundancy. In addition, attention needs to be given to the enhanced physical, human, and planning capacity to support those improved communication systems. Ongoing, systematic testing and upgrading of communications systems will also be essential if the results are to be effective over a long period of time.

Summary of Focus Area E

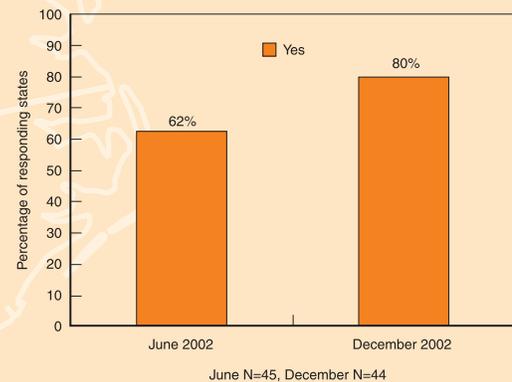
The infusion of cooperative agreement funds for bioterror and emergency preparedness has given respondents the ability to make considerable progress in assuring communications 24 hours per day, seven days per week in more than one mode. Based on the information received from 44 states, the District of Columbia and Los Angeles County, significant progress has been made in this regard in just six months. Continuous testing and upgrading will be essential to ensure that backup/redundant communications are available to every public health jurisdiction in the country.

Focus Area E

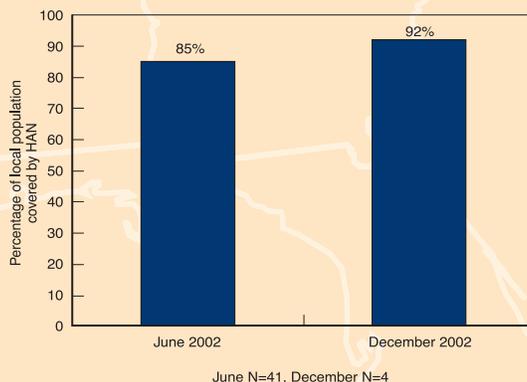
Questions and Answers

(Q 1) "Is your communication system capable of sending and receiving critical health information (including alerts of emergency event data) among hospital emergency departments, state and local officials and law enforcement officials, 24 hours a day, 7 days a week?"

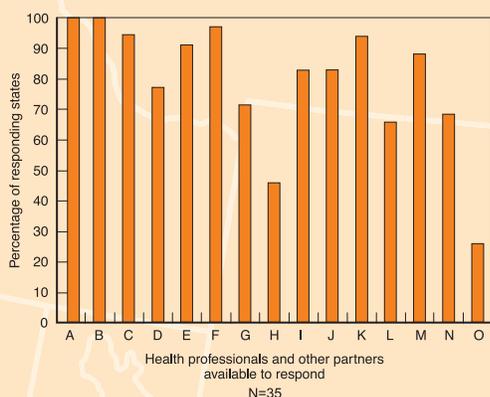
- The proportion of respondents capable of sending and receiving critical health information among hospital emergency departments, state and local officials, and law enforcement officials, 24 hours a day, 7 days a week, increased from 62% to 80%.



(Q 2) "Estimate the percentage of your population that lives in local jurisdictions that are covered by the Health Alert Network."



- The average proportion of the respondents' populations that live in local jurisdictions covered by the Health Alert Network increased from 85% to 92%.
- The median percentages were 97% and 100% respectively.



(Respondents could choose more than one.)

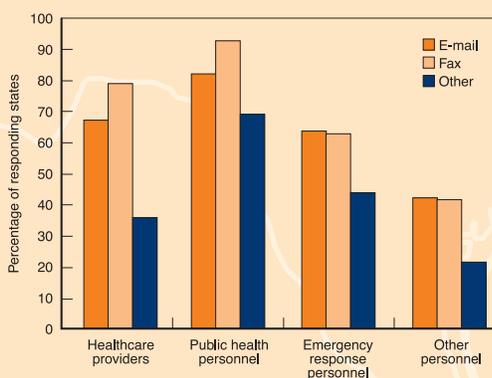
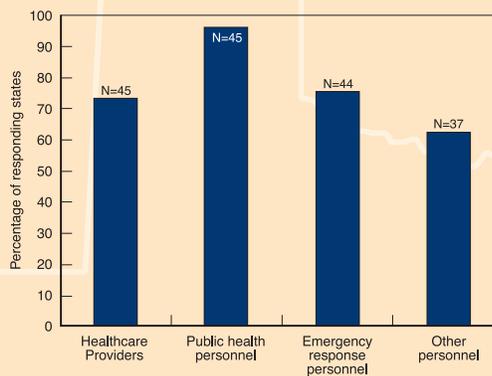
- A. State public health
- B. Local public health
- C. Federal providers
- D. Tribal providers
- E. Hospital emergency departments
- F. Infection control professionals
- G. Private health care providers
- H. Mental health
- I. Environmental health
- J. Law enforcement
- K. State Emergency Management Agency
- L. Local Emergency Management Agency
- M. Emergency Medical Services
- N. First Responders (e.g., HazMat teams)
- O. Other

(Q 3a) "Have you identified representatives [in your jurisdiction who would be available to respond to a bioterrorist/emergency event] from any of the following?"

- More than 91% of respondents with systems include representatives of state and local public health, hospital emergency departments, infection control practitioners, and the state emergency management agency.
- 76% of respondents have established an ongoing system to identify the public health workers, private health care professionals and other partners in their jurisdiction who would be available to respond to a bioterrorist event. (Q 3)
- 97% of respondents with systems report that they include collecting and maintaining contact information for public health workers, private health care professionals, and other parties available to respond to a bioterrorist event. (Q 3b)

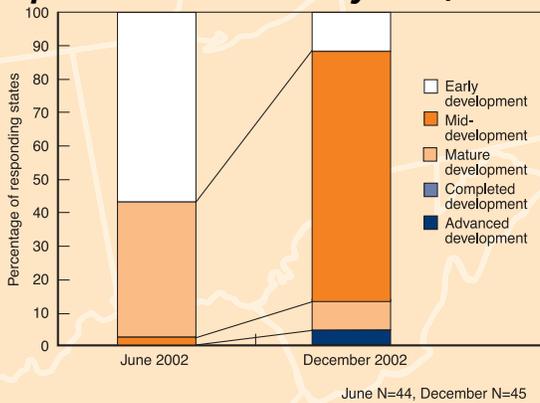
(Q 4) "In the table below please indicate if your state has developed a set of procedures to facilitate communication with personnel in case of a bioterrorist/emergency event and the modes of communication your state will use to contact personnel."

- 96% of respondents have developed procedures to facilitate communication with public health personnel and backups in case of a bioterrorist/emergency event.
- 73% of respondents have developed procedures to facilitate communication with health care providers and backups.
- 75% of respondents have developed procedures to facilitate communication with emergency response personnel and backups.
- 82% of respondents will use e-mail and 93% will use fax to communicate with public health personnel and backups in case of a bioterrorist/emergency event.



- 67% of respondents will use e-mail, and 79% will use fax to communicate with health care providers and backups.
- 64% of respondents will use e-mail and 63% will use fax to communicate with emergency response personnel and backups.

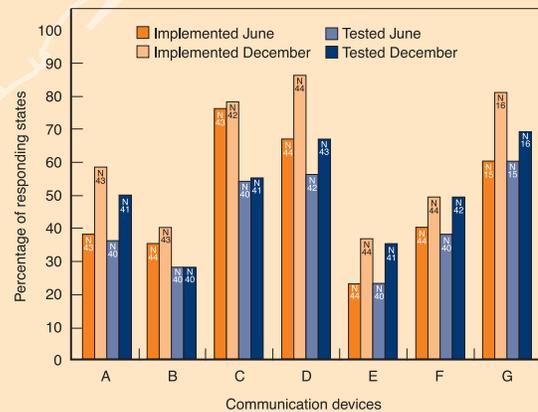
(Q 5) "With respect to building capacity for communication connectivity among public health departments, healthcare organizations, law enforcement and public health officials systems, assess your level of preparedness."



- 55% of respondents have improved their capacity for communication connectivity.
- 13% of respondents have systems whose development is mature or beyond.
- 76% of respondents are in the mid-development phase.

(Q 6) "In the table below please indicate which of the following backup/redundant communication devices have been implemented in your state and if these devices have been tested."

- 86% of respondents have implemented cell phones and 67% have tested them.
- 79% of respondents have implemented voice mailboxes and 56% have tested them.



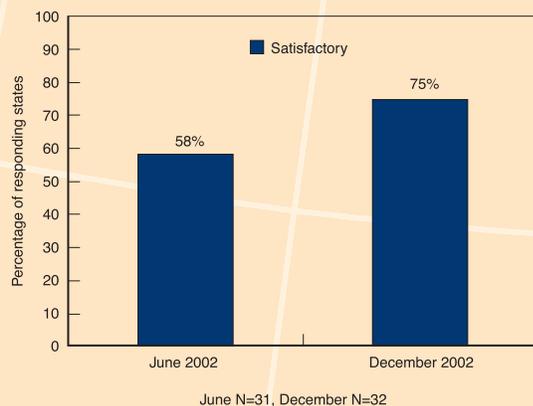
- A. Two-way radios
- B. High-frequency radios
- C. Voice mailboxes
- D. Cell phones
- E. Satellite phones
- F. Wireless messaging
- G. Other

(Q 6a) "Overall, what percentage of your messages were successfully transmitted using the backup/redundant communication systems."

- The average percent of successfully transmitted messages using backup/redundant communication systems increased from 70% in June 2002 to 81% in December 2002.
- The median percents of successfully transmitted messages using backup/redundant communication systems increased from 75% in June 2002 to 90% in December 2002.



(Q 6b) "What were the results of your tests?"



- The percent of respondents with satisfactory backup systems increased from 58% in June 2002 to 75% in December 2002.

(Q 6c) "Based on your testing, what are the three most important areas for improvement [of your jurisdiction's communication systems]?"

Thirty-four respondents answered.

Information Technology Infrastructure Or Equipment

Twenty-one respondents made at least one mention of the need for enhanced information technology infrastructure or equipment with respect to their backup/redundant communications systems. Specific examples of information technology-related issues included:

- "Integration with existing radio networks."
- "Add universal e-mail capacity."
- "Matching technology to geography."

Facilities or Equipment

Eleven respondents made at least one mention of a need for additional or enhanced facilities or equipment for their backup/redundant communications systems. Specific examples included:

- "More cell towers."

- "HAN system purchase and implementation."
- "Not all responders/staff have cell phones and two way radios."

Scope of Users

Eleven respondents mentioned the scope and breadth of users of their systems as areas in need of improvement, with specific responses including:

- "Expanded user base."
- "More state coverage; cell phones, satellite phones, and wireless messaging are not statewide."
- "Narrow application of redundant systems. Links key individuals not all health care partners."

Planning

Seven respondents noted a need for enhanced plans, planning, or protocols as areas most in need of improvement. Specific examples included:

- "Development of a statewide interagency emergency communications plan."
- "Replacement/maintenance plan for equipment."

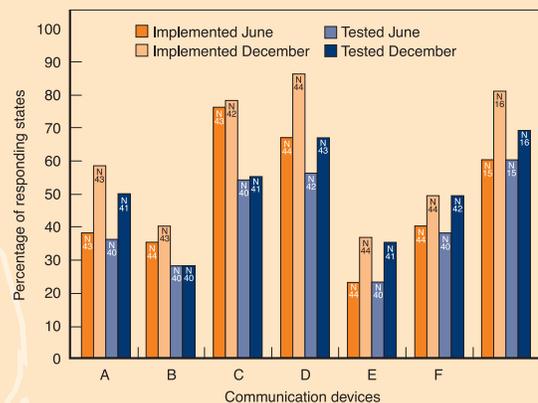
Other

Other areas in need of improvement noted less frequently by respondents included

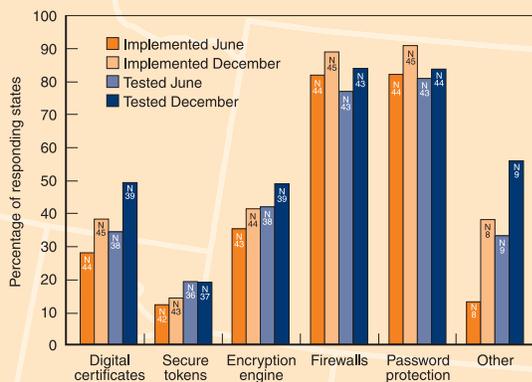
- Accuracy and timeliness issues ("obtain 100% response from responders"; "98% delivery of all messages regardless of method"),
- Data and contact management issues ("accurate e-mail addresses," "keeping lists updated-tracking changes in response partners"),
- Security issues ("secure communications through secure web portal"), and
- Issues related to training and exercise related to these systems ("increased frequency of statewide drills").

(Q 7) "With respect to building capacity for backup/redundant communications systems, assess your level of preparedness."

- 47% of respondents have improved their capacity for backup/redundant systems.
- 16% of respondents have systems whose development is mature or beyond.
- 51% of respondents are in the mid-development phase.



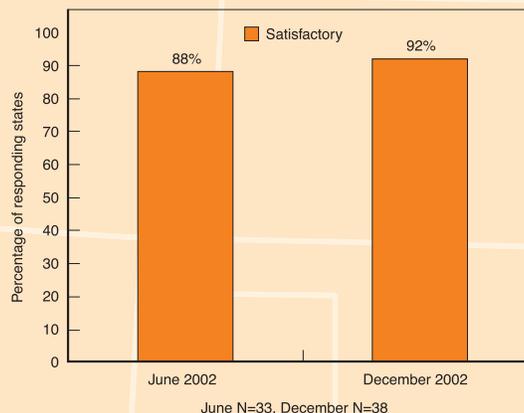
(Q 8) "In the table below, please indicate which types of security measure(s) your state has implemented and if these have been tested."



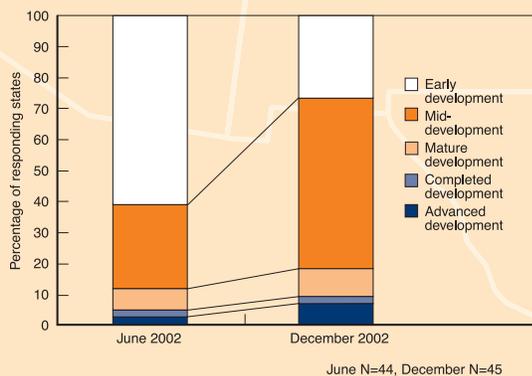
- 91% of respondents have implemented password protection and 84% have tested them.
- 89% of respondents have implemented firewalls and 84% have tested them.

(Q 8a) "What were the results of your [security measures] tests?"

- The percentage of respondents that had tested their systems and determined them to be satisfactory increased from 88% in June 2002 to 92% in December 2002.



(Q 9) "With respect to building capacity for secure information and communications systems, assess your current level of preparedness."



- 43% of respondents have improved their capacity for backup/redundant systems.
- 18% of respondents have systems whose development is mature or beyond.
- 56% of respondents are in the mid-development phase.

(Q 8b) "Based on your testing, what are the three most important areas for improvement [in protecting critical data and information systems]?"

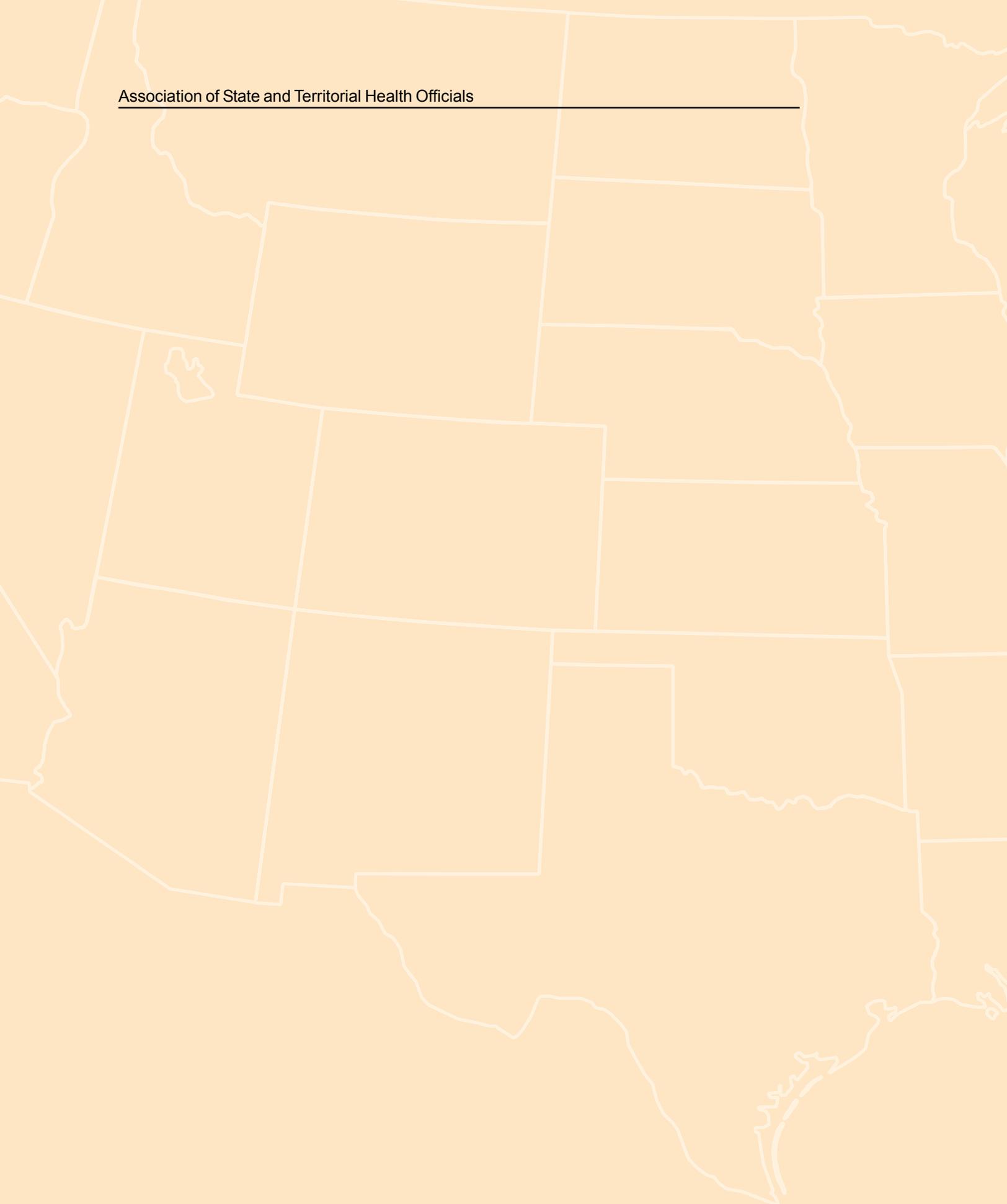
Twenty-nine respondents cited areas in need of improvement based on testing of their capacity for the secure exchange of information to protect critical data and information systems.

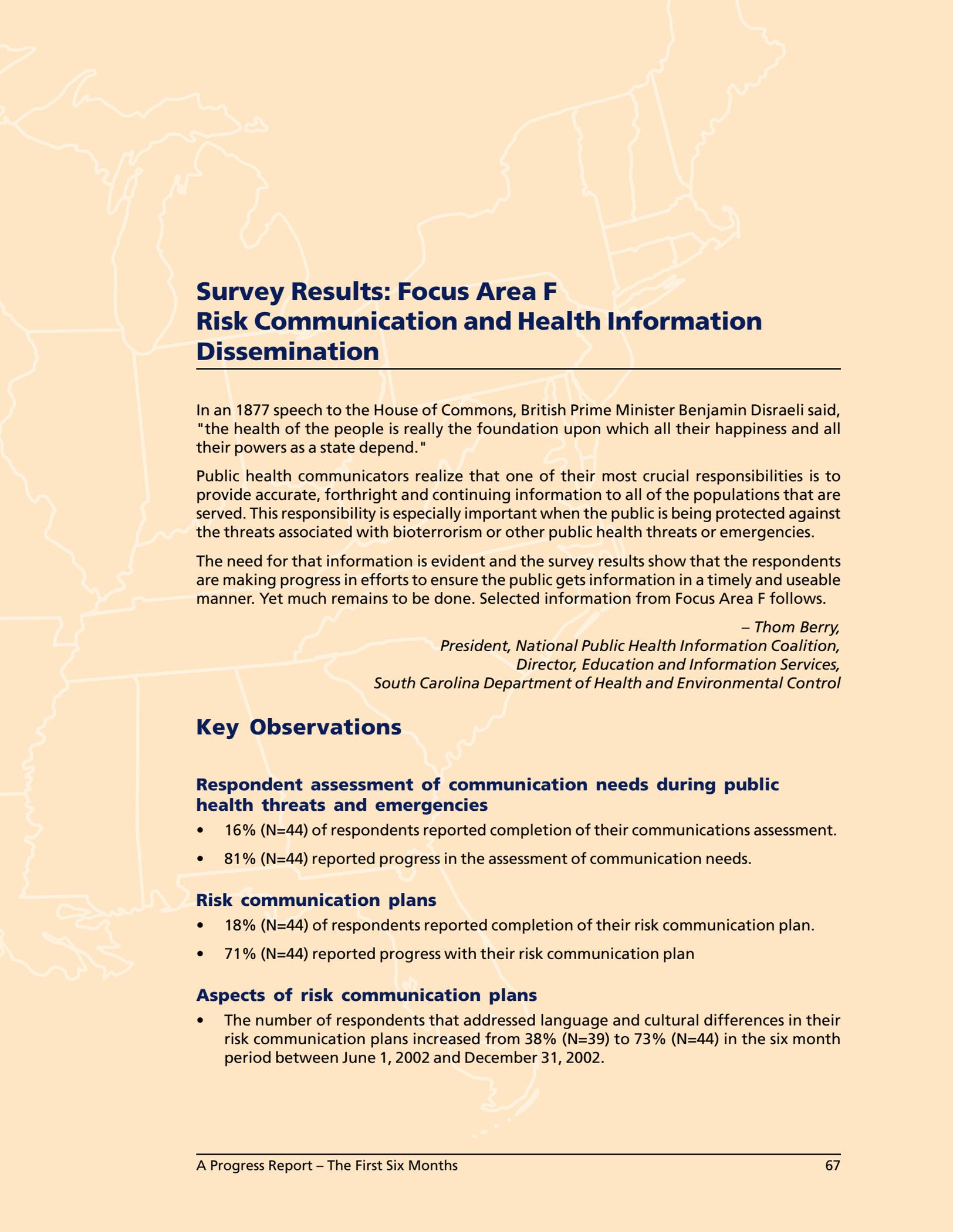
Three noted that this was not applicable to them or that there are no areas for improvement. The remaining responses were quite detailed and technical, with the majority related to the need for enhanced information technology hardware, software, or other equipment. These responses included:

- "Need for intrusion detection system."
- "Infrastructure hardening."
- "Increasing number and configuration of firewalls."
- "Desktop operating system upgrades for public health agencies."
- "Addition of digital certificates for control of highly sensitive information."

A minority of respondents listed less technical issues, including:

- "Ensuring HIPAA compliance."
- "Security awareness training/staff education."
- "User acceptance and understanding of how security technologies support the use of technology to conduct his work."
- "Addition of security for second phase of development."





Survey Results: Focus Area F Risk Communication and Health Information Dissemination

In an 1877 speech to the House of Commons, British Prime Minister Benjamin Disraeli said, "the health of the people is really the foundation upon which all their happiness and all their powers as a state depend."

Public health communicators realize that one of their most crucial responsibilities is to provide accurate, forthright and continuing information to all of the populations that are served. This responsibility is especially important when the public is being protected against the threats associated with bioterrorism or other public health threats or emergencies.

The need for that information is evident and the survey results show that the respondents are making progress in efforts to ensure the public gets information in a timely and useable manner. Yet much remains to be done. Selected information from Focus Area F follows.

*– Thom Berry,
President, National Public Health Information Coalition,
Director, Education and Information Services,
South Carolina Department of Health and Environmental Control*

Key Observations

Respondent assessment of communication needs during public health threats and emergencies

- 16% (N=44) of respondents reported completion of their communications assessment.
- 81% (N=44) reported progress in the assessment of communication needs.

Risk communication plans

- 18% (N=44) of respondents reported completion of their risk communication plan.
- 71% (N=44) reported progress with their risk communication plan

Aspects of risk communication plans

- The number of respondents that addressed language and cultural differences in their risk communication plans increased from 38% (N=39) to 73% (N=44) in the six month period between June 1, 2002 and December 31, 2002.

- The number of respondents that reported having a backup plan for risk communication in the event that areas of the state are without power increased from 38% (N=42) to 64% (N=44) in six months.

Implications for the Future

The survey shows a continuing need for planning, training, and designated staff to communicate information about risk to the public, media and other audiences. An untested plan can quickly crumble in the onslaught of events such as bioterrorism and, when the public and news media are clamoring for information, an untested and unprepared message and messenger can exacerbate an already critical situation.

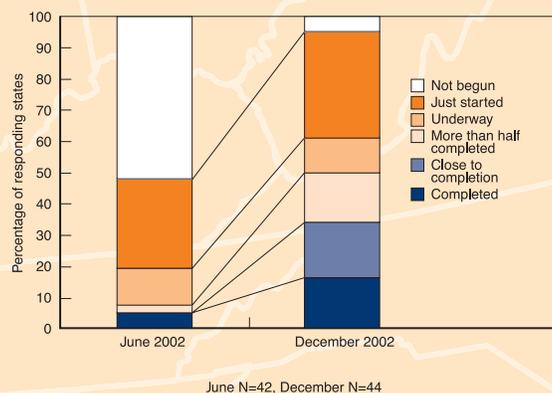
Another ongoing challenge is how to deliver messages to the public when many of the normal communication routes may be unavailable. Power outages and the loss of telephonic communications can wreck an otherwise well thought out plan and messages. It is encouraging to see that the survey shows a majority of the respondents have or are preparing prepackaged informational materials. Those materials should also be in printed form in case of a loss of electricity. Additional information on this can be found in ASTHO's publication, *Phone Lines and Life Lines: How New York Reestablished Contact on September 11, 2001*, which is available from the ASTHO web site www.ASTHO.org.

Summary of Focus Area F

The survey results in Focus Area F are encouraging in that they show a substantial amount of progress. A great deal has been done and is underway in the area of assessment and development of comprehensive risk communications plans. Progress has been made in focusing on the development of redundant communication modes, as well as in developing and testing risk appropriate messages in various languages and geared toward diverse cultures.

Focus Area F Questions and Answers

(Q 1) "What is the status of your jurisdiction's assessment of communication needs for health and risk information on public health threats and emergencies?"



- 81% of respondents have made progress with their assessment of communication needs.
- 16% of respondents have completed their assessment.
- Assessments by 50% of respondents are at least half complete.

(Q 1a) "Based on your assessment, what are your three most important needs [for health and risk information on public health threats and emergencies]?"

Thirty-seven respondents provided answers, although two noted their assessments of communication needs for health and risk information on public health threats and emergencies were not complete. Needs identified by respondents fell into several key categories.

Training and Exercising

Twenty-four respondents made at least one mention of the need for additional training and exercising around communicating health and risk information on public health threats and emergencies. Specific responses included:

- "Participation in a bioterrorism response exercise."
- "Local health department media/communication training."
- "Additional risk communication training for state and local emergency spokespersons."

Planning

Twelve respondents noted the need for enhanced plans, planning, or assessment of their capabilities, with specific examples including:

- "Development of statewide plan for risk communication."
- "A communication plan for the public, media, health care providers, and key partners."
- "Spokesperson order and consistent message."

Communicating with Special Populations

Eleven respondents mentioned issues related to communicating with special populations as among their most important needs:

- "Language/special needs population resources."
- "Low literacy educational materials."
- "Resources to develop and provide appropriate emergency messages to linguistic and cultural minorities on-the-fly (when pre-scripting is not possible, in response to emergent events)."

Staffing

Eight respondents noted a need for additional or designated staff in order to communicate information on health and risk information on public health threats and emergencies. Specific responses included:

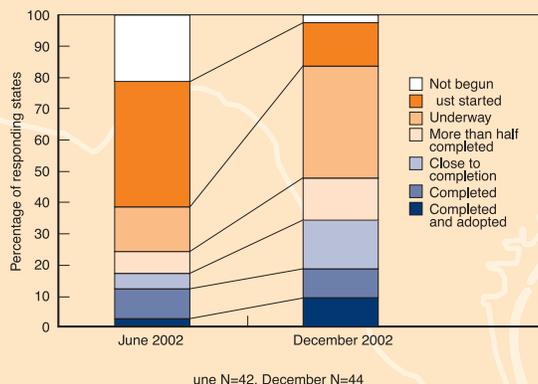
- "Identification of key spokesperson."
- "Designated staff to carry out tasks to support spokespersons."
- "Hiring of qualified staff to perform identified objectives."

Other

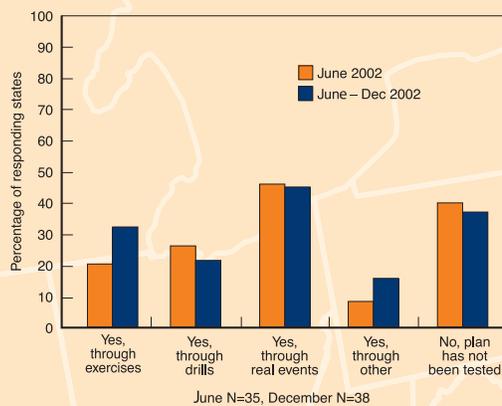
Other needs mentioned less frequently included information technology issues ("better communication systems in rural areas of the state"), communication resources and materials ("centrally coordinated materials and resources to be made available throughout public health system"), and coordination and role clarity ("coordination with adjacent states to ensure effective communication").

(Q 2) "What is the status of your risk communication plan?"

- 71% of respondents have made progress with their risk communication plan.
- 18% of respondents have completed their plan.
- Plans in 48% of the jurisdictions are at least half complete.



(Q 2d) "Has any part of your [backup] plan [for communication in the event that areas in your respondent are without electricity] been tested?"



(Respondents could choose more than one.)

- 32% of respondents have tested their plan through exercises.
- 45% of respondents have tested their plan through real events.

(Q 2c) "Please briefly describe your backup plan [for risk communication in the event that areas in your state are without electricity] in the space provided."

Twenty-nine respondents answered this question. Most provided detailed narrative answers. We list a sample of these responses below:

- "Our agency works closely with the state Division of Emergency Management. Should an emergency occur, our plan would supplement the state Emergency Response Plan, whereby a Joint Information Center would be established and necessary resources dispatched to areas of the state needing direct communication. State employees, Red Cross, Fire Department, volunteers, and others would conduct door-to-door communication."
- "In the event of an electrical outage, we will utilize our emergency backup generators. Additionally, we will provide hard (paper) copies of messages to our Bioterrorism Spokesperson. We will also provide pagers, cell phones, walkie-talkies, radios, and satellite telephones to key bioterrorism personnel."
- "We are making provisions to have hard copies of fact sheets and other necessary background materials preproduced and distributed to local health departments and regional offices of the State Health Department in the event that web-based materials become unavailable. Should there be a loss of electric power, we would work closely with radio stations to disseminate urgent messages. We are developing a generic 'preparing for emergencies' publication that will advise people to have a battery-powered radio and fresh batteries available in their homes."
- "Extensive use of ham radio."
- "Partnering with the State Emergency Management Agency (SEMA), we will use their portable generator trucks to provide power. We will also distribute leaflets, flyers, and bullhorns in neighborhoods to announce local community meetings, since the public will not be able to utilize the media for information if the power outage is widespread."

(Q 2e) "Based on your testing, what are your three most important areas for improvement [in risk communication in the event of loss of electricity]?"

Twenty-four respondents provided answers. Although responses varied, the majority fell into several rather broad categories:

Resources, Materials, and Messages

Nine respondents made at least one mention of the need for resources, materials, and messages for use in risk communication in the event that areas in the state are without electricity, with examples including:

- "Predeveloped and approved public service announcements and press releases."
- "Continued resource development for local public health jurisdictions."

Information Technology and Communication Issues

Eight respondents made at least one mention of information technology and communication issues as areas most in need of improvement. Specific areas noted included:

- "Communication between local and state agencies."
- "Addition of telebriefing capability to streamline media updates."

Coordination and Clarification of Roles

Six respondents noted a need for enhanced coordination or clarification of roles among involved parties. Specific areas noted included:

- "Learning how to function/operate in a joint information center."
- "Need to more clearly define roles for communication staff on the statewide and local level and make leadership assignments based on people's experience and expertise."

Training

Six respondents noted training and education as areas most in need of improvement, with specific examples including:

- "Additional training in risk communication for state and local emergency spokespersons."
- "Education of ham radio operators."

Equipment and Facilities

Five respondents listed equipment and facilities issues as areas most in need of improvement:

- "Creation of a permanent area in which to conduct news conferences."
- "News dissemination equipment."

Staffing

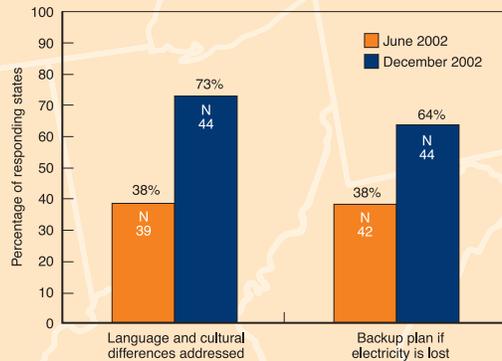
Five respondents mentioned a need for improvement in the area of staffing, with specific responses including:

- "More subject matter experts/writers to craft the messages."
- "Fully staffed communications teams for all shifts."

Other

Other areas in need of improvement included "surge capacity for prolonged event," "backup power," and "better response by local health departments."

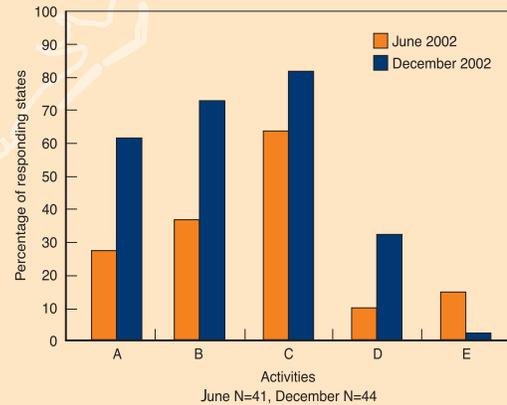
(Q 2a) "Does the [risk communication] plan address language and cultural differences in your state?" (Q 2b) "Do you have a backup plan for risk communication in the event that areas in your state are without electricity?"



- The proportion of respondents that have addressed language and cultural differences in their risk communication plan has increased from 38% to 73%.
- The proportion of respondents with a backup plan for risk communication in the event that areas in their state are without electricity has increased from 38% to 64%.

(Q 3) "Which of the following activities has your jurisdiction completed?"

- 82% of respondents have delineated chain of command for message approval and delivery.
- 32% of respondents have established a regular testing program for routine and emergency communication channels and equipment.



(Respondents could choose more than one.)

- A. Developed pre-approved messages for public
- B. Review of communication strategies and resources from private-sector, media, federal, and other sources
- C. Delineated chain of command for message approval and delivery
- D. Established regular testing program for routine and emergency communication channels and equipment
- E. None of the above

(Q 3a) "Please provide the topics addressed in your [pre-approved] messages [to the public]."

Twenty-nine respondents provided information about the content of pre-approved risk communication messages that they have developed for the public. There was much similarity among the responses, with messages focusing on three key areas.

Smallpox

The majority of the respondents, 23 in total, reported developing risk communication messages related to smallpox. Specific content mentioned included:

- "Smallpox vaccine carries risks, but majority will only have minor side effects."
- "Risk of smallpox or terrorist attack is low."
- "Smallpox: Overall planning, Stage 1, history, vaccination issues."

Anthrax

Fourteen respondents reported developing messages related to anthrax:

- "Anthrax facts."
- "Anthrax symptoms, diagnosis, treatment and control, risk factors."

Disease or Terror Agents

Likewise, 14 respondents made at least one mention of risk communication messages related to other diseases or terrorism agents, with specific examples including:

- "Chemical (GB, VX, Mustard Agent); Radiation."
- "General info for west nile."
- "Botulism."

Other

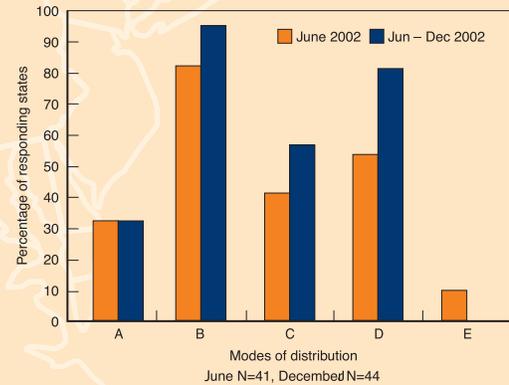
Other risk communication message topics listed included general bioterrorism/terrorism preparedness ("general public can do some things now to prepare") and more specific messages, including "where to receive additional information from DHHS and CDC," "emergency planning for people with disabilities," and "fill-in-the-blank messages saying that a possible case of something unusual and potentially infectious has been reported to the Department of Health." One respondent pointed out that "messages developed by CDC are considered pre-approved by [the Department of Health]."

(Q 4) "Which of the following mode(s) of distribution have been utilized by your state to disseminate public health information about bioterrorism/emergency preparedness?"

- 95% of respondents have posted fact sheets on their web site to disseminate public health information about bioterrorism/ emergency preparedness.
- Other specified modes of distribution include press releases and media interviews.

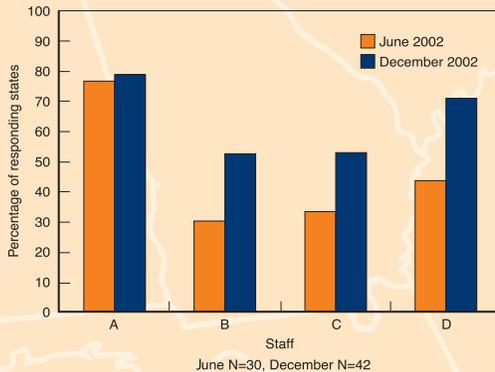
(Respondents could choose more than one.)

- A. Public service announcements
- B. Fact Sheets on your web site
- C. Hotline
- D. Other, please specify
- E. No information about bioterrorism/emergency preparedness has been disseminated



(Q 5) "Which of the following have participated in formal risk and crisis communication training?"

- 79% of respondents indicated their key spokesperson on bioterrorism has participated in formal risk and crisis communication training.
- Other specified staff who received formal risk and crisis training include epidemi-ologists, medical staff, and public information officers.

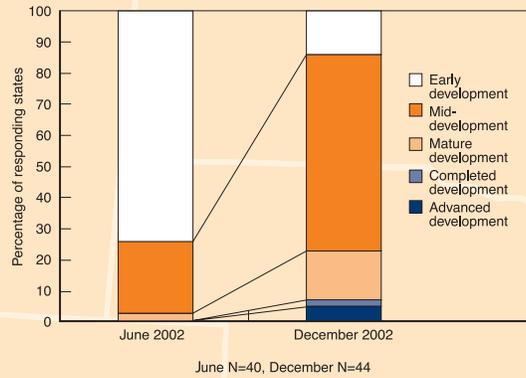


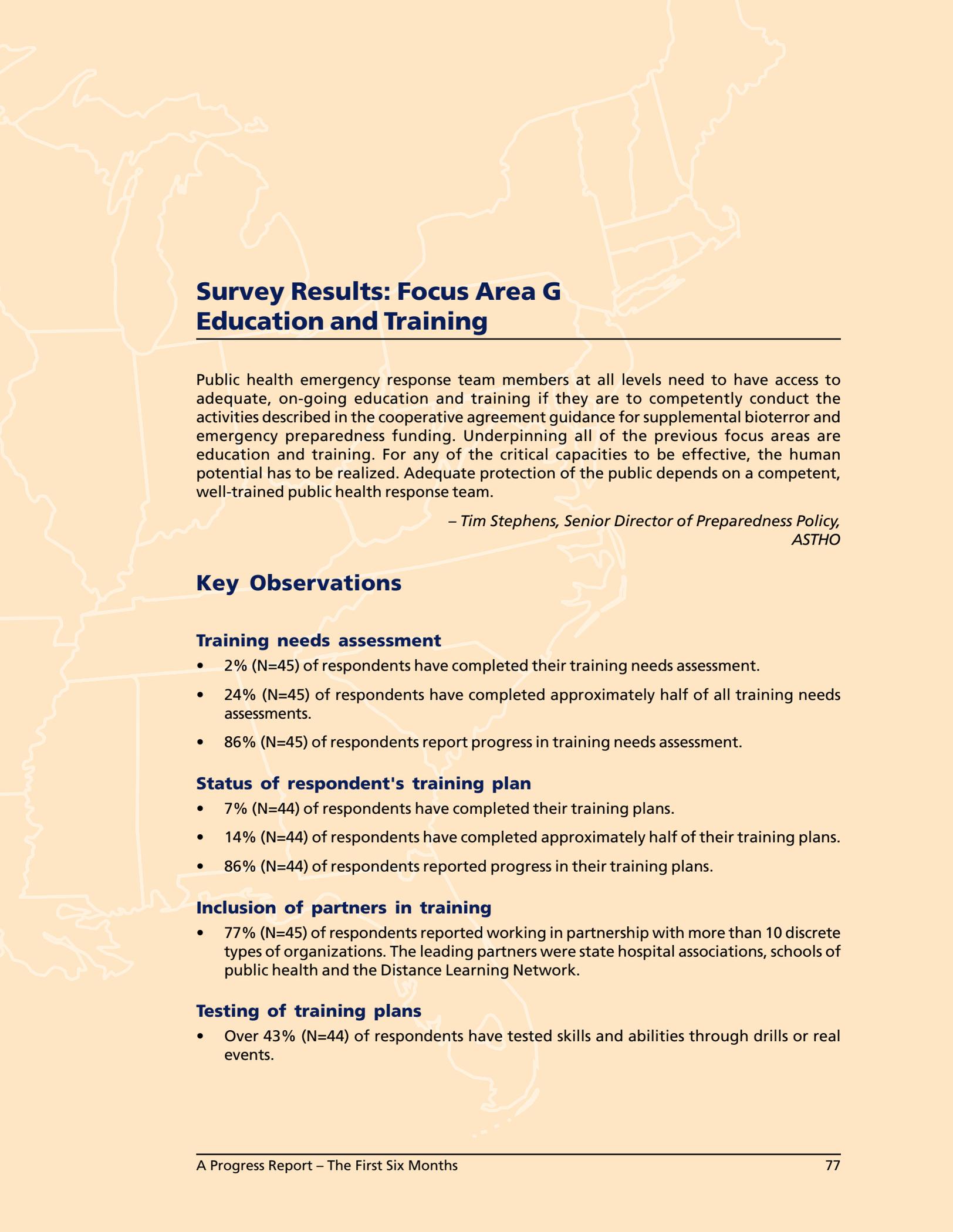
(Respondents could choose more than one.)

- A. Key Spokesperson on Bioterrorism
- B. Executive Director of Bioterrorism and Preparedness
- C. Bioterrorism Preparedness Coordinator
- D. Other staff, please specify

(Q 6) "With respect to building capacity for providing risk communication and health information to the public and key partners, assess your state's level of preparedness."

- 78% of respondents have improved their capacity for rapid and effective lab services.
- 23% of respondents have systems whose development is mature or beyond.
- 64% of respondents are in the mid-development phase.





Survey Results: Focus Area G Education and Training

Public health emergency response team members at all levels need to have access to adequate, on-going education and training if they are to competently conduct the activities described in the cooperative agreement guidance for supplemental bioterror and emergency preparedness funding. Underpinning all of the previous focus areas are education and training. For any of the critical capacities to be effective, the human potential has to be realized. Adequate protection of the public depends on a competent, well-trained public health response team.

– *Tim Stephens, Senior Director of Preparedness Policy, ASTHO*

Key Observations

Training needs assessment

- 2% (N=45) of respondents have completed their training needs assessment.
- 24% (N=45) of respondents have completed approximately half of all training needs assessments.
- 86% (N=45) of respondents report progress in training needs assessment.

Status of respondent's training plan

- 7% (N=44) of respondents have completed their training plans.
- 14% (N=44) of respondents have completed approximately half of their training plans.
- 86% (N=44) of respondents reported progress in their training plans.

Inclusion of partners in training

- 77% (N=45) of respondents reported working in partnership with more than 10 discrete types of organizations. The leading partners were state hospital associations, schools of public health and the Distance Learning Network.

Testing of training plans

- Over 43% (N=44) of respondents have tested skills and abilities through drills or real events.

- On average, 531 public health professionals from the public and private sector were involved in the state exercises and drills. Of these professionals, 96 were from the state health departments.
- 80% of respondents held exercises testing the preparedness skills and abilities of the workforce.

Implications for the Future

The most significant challenges for the respondents involve the "time and commitment" it takes to fully participate in developing a training assessment and plan. The time commitment was frequently mentioned by professionals as a barrier to taking training. Additionally, the lack of information technology infrastructure to support training and the diversity of access was cited as a barrier by 21 respondents. Eleven respondents described the distance from training as a significant barrier for their professionals. Curriculum and targeted training materials were cited as barriers by only four respondents.

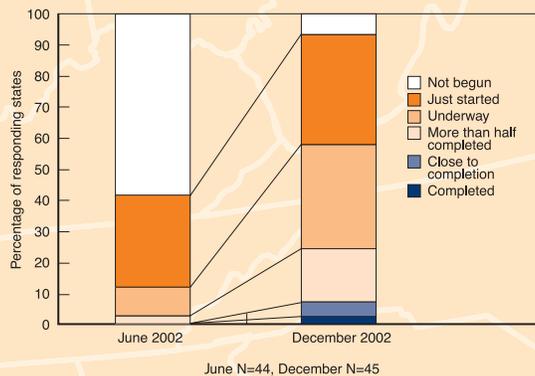
Summary of Focus Area G

Respondents have made substantial progress in the area of identifying training needs and in conducting training sessions. However, additional testing and evaluation of training completed needs to be done before training will have an impact on the success of the other focus areas in the cooperative agreement. Jurisdictions will need to ensure that training and education remain an integral component to the continued development of a comprehensive, mature public health preparedness system.

Focus Area G

Questions and Answers

(Q 1) "What is the status of your state's assessment of the training needs in preparedness for and response to bioterrorism/emergency events for public health and private health professionals?"



- 86% of respondents have made progress in assessing their training needs.
- 2% of respondents have completed an assessment of their training needs.
- Assessments in 24% of jurisdictions are at least half complete.

(Q 1a) "Based on your assessment, what are our three most important needs [for training in preparedness for and response to bioterrorism/emergency events for public health and private health professionals]?"

Thirty-one respondents provided answers, with an additional six respondents noting that their assessment of education and training needs in preparedness for and response to bioterrorism/emergency events for public health and private professionals was not complete. Respondents noted a number of specific needs around training of public health and private healthcare professionals. Although a wide variety of needs were mentioned, some key themes emerged.

Training and Exercises

Fourteen respondents made at least one mention of the need for general training and/or exercises ("training based on CDC bioterrorism preparedness competencies," "basic BT workforce training," "[public health] 101 for county attorney"), with others noting more specific content areas for such training. These included:

- Incident Command Structure/interface with other emergency systems (nine respondents): "Responsibilities and roles of [public health] during an ICS."
- Smallpox (10 respondents): "Finding balance between smallpox and general public health training."

- Information about bioterrorism/other terrorism agents, weapons, and methods (eight respondents): "Basic training on biological, chemical, and radiological events."
- Epidemiology, surveillance, and related areas (six respondents): "Public health skills related to outbreak investigation...sampling techniques."
- Risk communication/general communication (six respondents): "Risk Communications/ Media Training."

Curricula, Tools, and Standards

Five respondents noted a need for curricula, tools, or standards to guide their training work, with examples including:

- "Needs assessment, competencies, and performance data."
- "Examples of curricula linked to competencies for a wide variety of professionals involved in BT preparedness and response."
- "Training materials from CDC."

Information Technology

Five respondents mentioned the need for information technology or other information management systems to help manage their training efforts. Specific examples included:

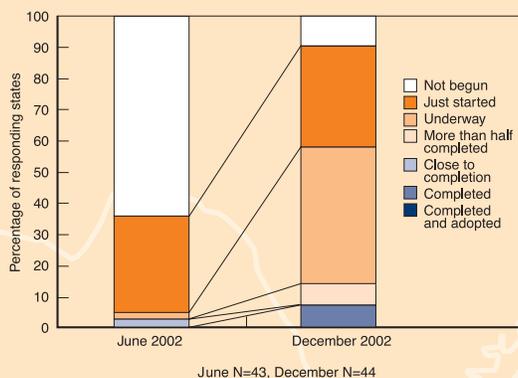
- "Need a learning management tracking system for training."
- "We need to improve our capacity to rapidly print materials, duplicate CDs and videos, as well as post information to the web."

Other

Other needs mentioned less frequently included enhanced staffing ("get our regional training staff in place") and coordination among the different entities involved in preparedness and response ("create a structure with universities, community colleges, and professional organizations to have an 'umbrella' of agencies to deliver preparedness education and training throughout the state").

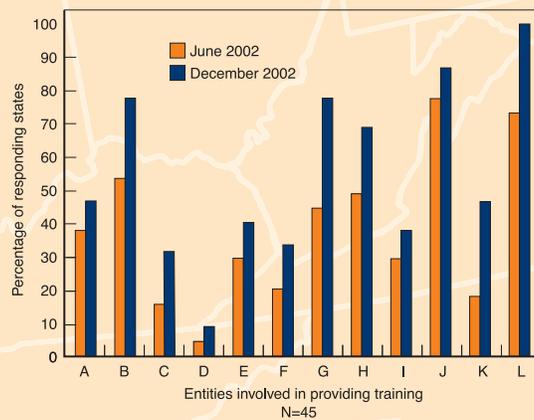
(Q 2) "What is the status of your training plan?"

- 86% of respondents have made progress in their training plan.
- 7% of respondents have completed their training plan.
- Plans in 14% of states are at least half complete.



(Q 3) "Which of the following entities are involved in providing bioterrorism/emergency preparedness training in your state?"

- All respondents have implemented bioterrorism/emergency preparedness training programs.
- Over 77% of respondents have the following entities involved in providing training
 - School of Public Health
 - State Hospital Association
 - Distance Learning Network.
- Other entities included public universities, EMS, and state/local health depts.

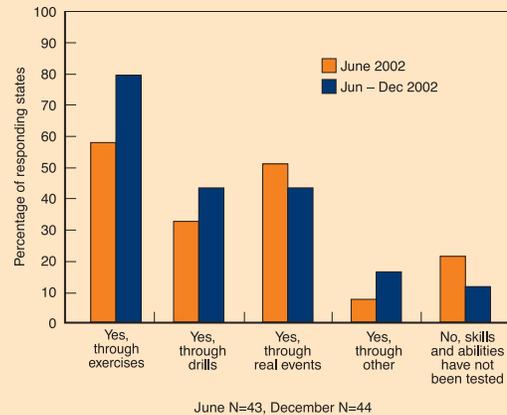


(Respondents could choose more than one.)

- A. School of Medicine
- B. School of Public Health (or Public Health Graduate Programs)
- C. School of Nursing
- D. School of Veterinary Medicine
- E. State Medical Society
- F. State Nursing Association
- G. State Hospital Association
- H. Center for Public Health Preparedness (CDC-supported)
- I. Public Health Training Center (HRSA-supported)
- J. Distance Learning Network (CDC-supported)
- K. Area Health Education Center (AHEC)
- L. Other, please specify

(Q 5) "Has your state tested the preparedness skills and abilities of public health and private health professionals?"

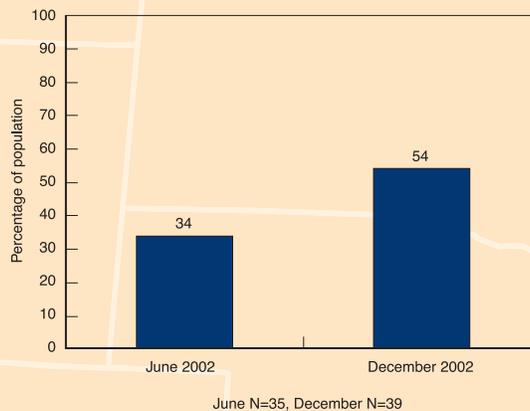
- 80% of respondents have tested preparedness skills and abilities through exercises.
- Over 43% of respondents have tested skills and abilities through drills or real events.
- On average, 531 public health and private health professionals in each jurisdiction were involved in conducting bioterrorism exercises, drills, and other tests. (Q 7)
- On average, 96 state-level public health professionals in each jurisdiction were involved in conducting bioterrorism exercises, drills, and other tests.



(Respondents could choose more than one.)

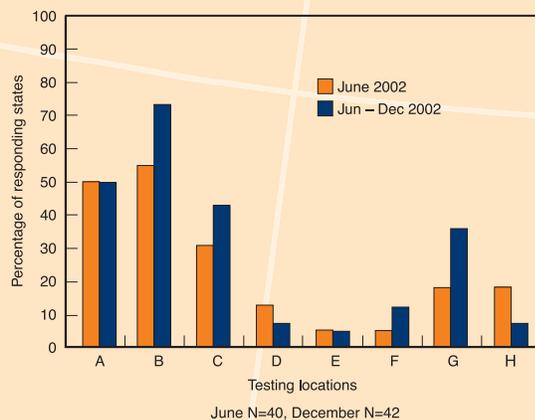
(Q 6a) "Estimate the percentage of your state's population that lives in local jurisdictions that have conducted bioterrorism exercises, drills and other tests."

- The average percentage of a state's population that lives in local jurisdictions that have conducted bioterrorism exercises, drills, and other tests, increased from 34% to 54%. (Q 6)
- The average percentage of a respondent's local jurisdictions that have conducted bioterrorism exercises, drills, and other tests, increased from 19% to 38%.



(Q 8) "Where has testing taken place?"

- Over 73% of respondents have tested in multiple counties or cities.
- 50% of respondents have tested in a single county or city.



(Respondents could choose more than one.)

- A. Single county/city
- B. Multiple counties/cities
- C. Statewide
- D. Multiple states
- E. Our DHHS public health region
- F. Tribal nations
- G. Rural/remote area
- H. Plan has not been tested

(Q 9) "What are the three most important barriers to reaching public health and private health professionals in need of training?"

Forty-one respondents provided answers to this question, including one that noted that its assessment was not complete. Their responses fell into several broad categories.

Time and Commitment

Twenty-nine respondents mentioned the time and commitment it takes to participate in training as among the most important barriers to reaching professionals in need of training. Specific examples included:

- "Voluntary training: how to get professionals to participate in education and training activities that are not mandatory."
- "Time absorbed by smallpox planning."
- "Lack of time due to multiple responsibilities."

Information Technology

Twenty-one respondents noted barriers related to information technology issues involved with training, including:

- "Lack of IT infrastructure for training."
- "Diverse levels of access to technology."
- "Technology for distance learning unavailable in some locations."

Location and Distance

Eleven respondents made at least one mention of barriers related to the location or geographical distance across which they are trying to reach professionals with training. Specific examples included:

- "Geographical distance between communities."
- "Distance (for face-to-face trainings)."
- "Accessibility."

Staffing

Ten respondents listed barriers related to staff and staffing, with specific examples including:

- "Staff to conduct trainings."
- "Staff assigned to other programs, such as WIC, family case management."
- "Number of skilled trainers needed."

Funding and Opportunity Cost

Eight respondents listed barriers related to funding or the opportunity cost of training, with examples including:

- "Cost of training includes loss of work time, compensation for overtime, allowing professionals to attend training during work hours, use of flex time and compensatory time."
- "State budget reductions."
- "Financial barriers to travel."

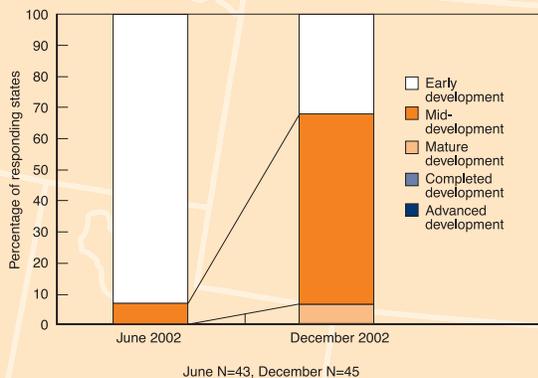
Other

Other barriers noted included enhanced coordination and clarification of roles ("having complete integration of state response age, community colleges, and professional organizations") and a need for enhanced plans or planning ("planning and delivering training people want and need").

Four respondents made at least one mention of barriers related to unmet needs for curricula, materials, and other resources for training. Specific examples included:

- "Curriculum development."
- "Development of targeted training materials."

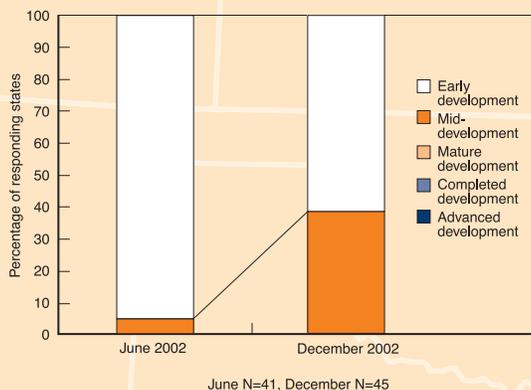
(Q 10) "With respect to your state's capacity to deliver education and training to prepare for a bioterrorist event, assess your state's current level of preparedness."

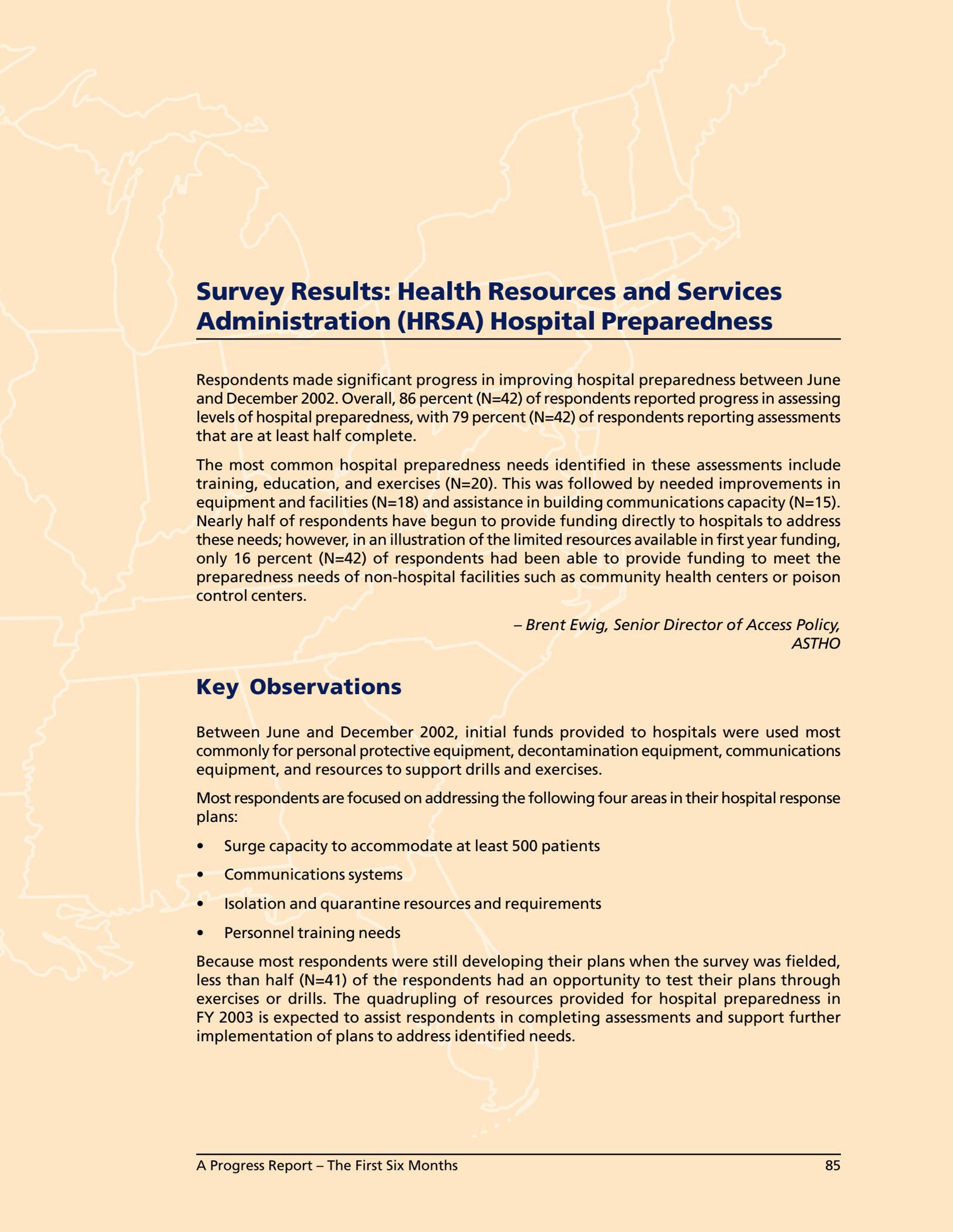


- 70% of respondents have improved their capacity to deliver education and training.
- 7% of respondents have systems whose development is mature or beyond.
- 62% of respondents are in the mid-development phase.

(Q 11) "With respect to your state's capacity to evaluate the effectiveness of training programs for public health and private health professionals, assess your state's current level of preparedness."

- 37% of respondents have improved their capacity to evaluate the effectiveness of training programs for public/private health professionals.
- 0% of respondents have systems whose development is mature or beyond.
- 38% of respondents are in the mid-development phase.





Survey Results: Health Resources and Services Administration (HRSA) Hospital Preparedness

Respondents made significant progress in improving hospital preparedness between June and December 2002. Overall, 86 percent (N=42) of respondents reported progress in assessing levels of hospital preparedness, with 79 percent (N=42) of respondents reporting assessments that are at least half complete.

The most common hospital preparedness needs identified in these assessments include training, education, and exercises (N=20). This was followed by needed improvements in equipment and facilities (N=18) and assistance in building communications capacity (N=15). Nearly half of respondents have begun to provide funding directly to hospitals to address these needs; however, in an illustration of the limited resources available in first year funding, only 16 percent (N=42) of respondents had been able to provide funding to meet the preparedness needs of non-hospital facilities such as community health centers or poison control centers.

– Brent Ewig, Senior Director of Access Policy,
ASTHO

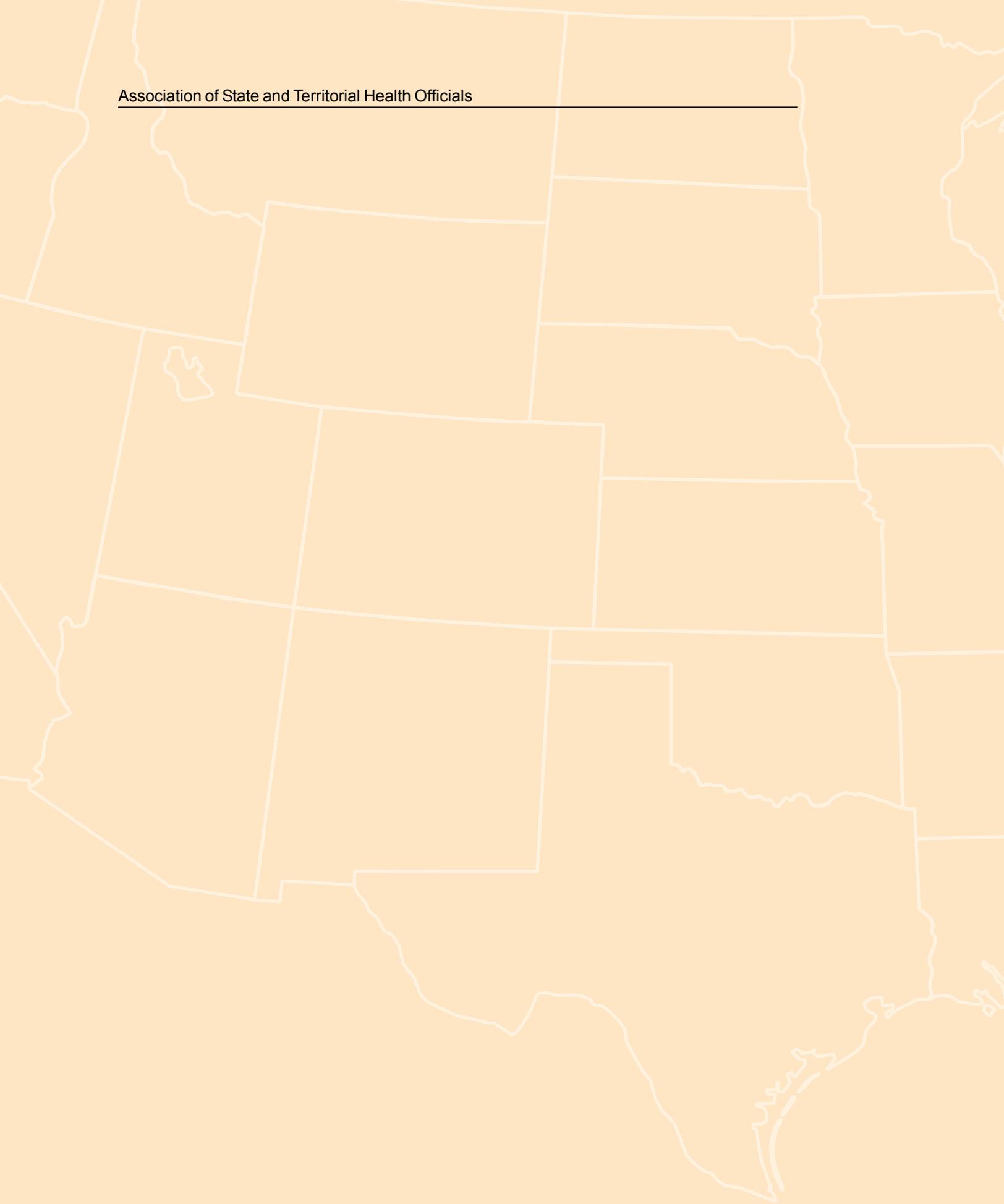
Key Observations

Between June and December 2002, initial funds provided to hospitals were used most commonly for personal protective equipment, decontamination equipment, communications equipment, and resources to support drills and exercises.

Most respondents are focused on addressing the following four areas in their hospital response plans:

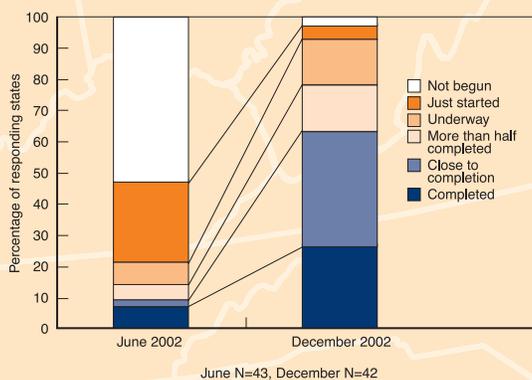
- Surge capacity to accommodate at least 500 patients
- Communications systems
- Isolation and quarantine resources and requirements
- Personnel training needs

Because most respondents were still developing their plans when the survey was fielded, less than half (N=41) of the respondents had an opportunity to test their plans through exercises or drills. The quadrupling of resources provided for hospital preparedness in FY 2003 is expected to assist respondents in completing assessments and support further implementation of plans to address identified needs.



Hospital Preparedness Questions and Answers

(Q 1) "What is the current status of your state's assessment of hospital preparedness?"



- 86% of respondents have made progress in assessing their hospital preparedness.
- 26% of respondents have completed an assessment of their hospital preparedness.
- Assessments in 79% of respondents' jurisdictions are at least half complete.

(Q 1a) "Based on your assessment, what are your three most important needs thus far [for your state's hospital preparedness]?"

Thirty respondents answered this question. Responses fell into several broad categories:

Training, Exercise, and Education

Twenty respondents noted training, exercise, and education related to hospital preparedness as areas most in need of improvement, including:

- "Training and education of hospital personnel, especially physicians and nurses in the emergency department."
- "Incident command training."
- "Training staff in emergency procedures related to bioterrorism."

Equipment and Facilities

Eighteen respondents made at least one mention of equipment or facilities issues as areas most in need of improvement, with specific examples including:

- "Respiratory isolation needs-specifically, availability of negative pressure rooms in facilities and N95 masks for hospital personnel."
- "Purchase of decontamination and personal protective equipment."
- "Improving hospital emergency department isolation capacity."

Communication

Fifteen respondents made at least one mention of communication-related issues as areas most in need of improvement. Specific areas noted included:

- "Communications infrastructure."
- "Communications equipment."
- "Regular flow of information between department of health and hospitals and public information."

Planning

Twelve respondents made at least one mention of needs related to plans, planning, or protocols around hospital preparedness. Specific examples noted included:

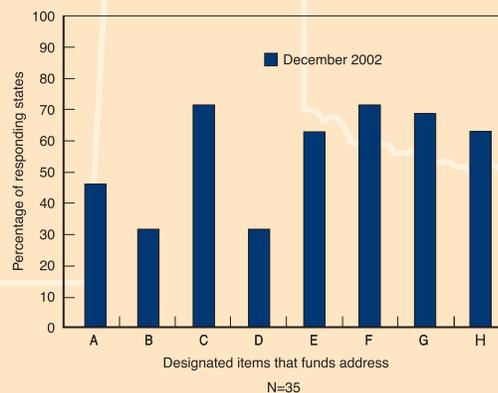
- "Completion of individual hospital response plans."
- "Mass event response (policies/procedures, drills, reuse policies, and procedures)."
- "Local/regional/statewide plan for triage and transfer."

Other

Other needs noted less frequently included coordination or delineation of roles among those involved in preparedness ("bridge between hospitals and health department"), personnel issues ("staff to help regions . . . to implement the plan), and surge capacity.

(Q 2a) "Which of the following have HRSA [cooperative agreement] funds been designated to address?" (in hospitals)

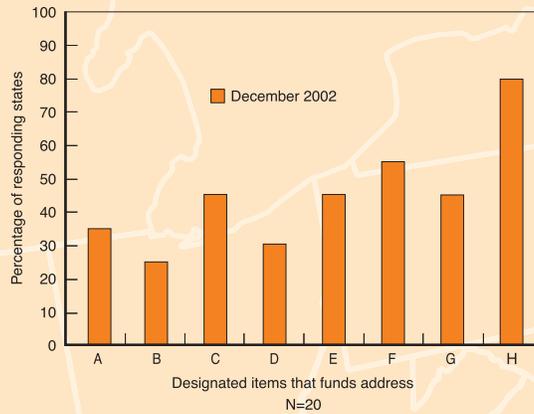
- Of the 44% of respondents that indicated hospitals are receiving HRSA funds, the average number of hospitals was 69. The median was 56.
- Over 62% of respondents indicated HRSA funds to hospitals are designated to address the following:
 - personal protective equipment
 - decontamination equipment
 - communications equipment
 - drills or exercises.
- Other addressed items included assessment, planning, and training.



(Respondents could choose more than one.)

- A. Medications
- B. Vaccine stockpiles
- C. Personal protective equipment
- D. Quarantine
- E. Decontamination equipment
- F. Communications equipment
- G. Drills or Exercises
- H. Other

(Q 3a) "Which of the following have HRSA [cooperative agreement] funds been designated to address?" (in non-hospital healthcare facilities)



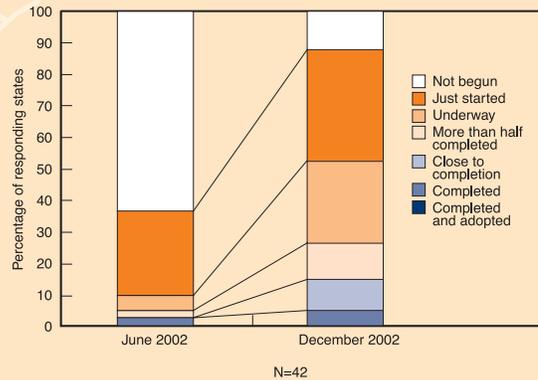
(Respondents could choose more than one.)

- A. Medications
- B. Vaccine stockpiles
- C. Personal protective equipment
- D. Quarantine
- E. Decontamination equipment
- F. Communications equipment
- G. Drills or Exercises
- H. Other

- Over 44% of respondents indicated HRSA funds are designated to address the following:
 - personal protective equipment
 - decontamination equipment
 - communications equipment
 - drills or exercises.
- Other addressed items included planning and training.
- Of the 17% of respondents that indicated non-hospital health care facilities are receiving HRSA funds, the average number of facilities was 5. The median was 4. (Q 3)

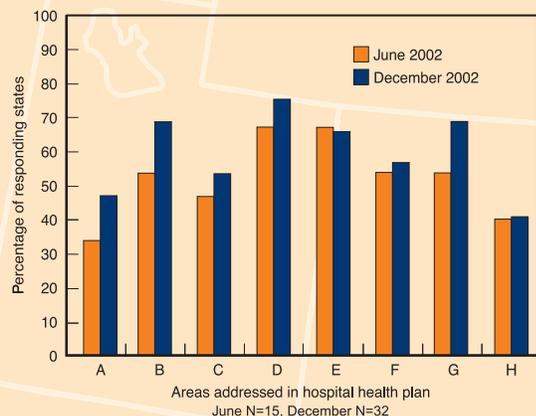
(Q 4) "What is the status of your state's hospital response plan?"

- 79% of respondents have made progress in developing their plan.
- 5% of respondents have completed their plan.
- Plans are at least half complete in 26% of respondents' jurisdictions.



(Q 4a) "Which of the following are addressed in your plan?"

- Over 65% of respondents have addressed the following in their hospital response plan:
 - surge capacity to accommodate at least 500 casualties
 - communications systems
 - isolation and quarantine
 - personnel training needs.

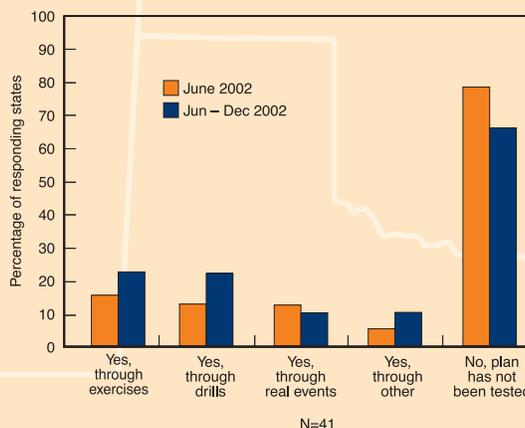


(Respondents could choose more than one.)

- A. Triage
- B. Surge capacity to accommodate at least 500 casualties on a regional basis
- C. Decontamination equipment
- D. Communications systems
- E. Isolation and quarantine
- F. Supplemental personnel to handle large influxes of patients
- G. Personnel training needs
- H. Other

(Q 4b) "Has any part of your hospital plan been tested?"

- 66% of respondents have not tested their hospital response plan.
- 22% of respondents have tested their hospital response plan through exercises or drills.



(Respondents could choose more than one.)

(Q 4c) "Based on your testing, what are the three most important areas for improvement [of your state's hospital response plan]?"

Twelve respondents provided answers. Responses fell into several key categories.

Communication

Eleven respondents mentioned a need for enhanced communication among those involved in hospital preparedness:

- "Timely information to state on bed status."
- "Communications-enhancing redundant communication capacity."
- "Communication equipment."

Training

Seven respondents noted a need for improvement in the area of education or training. Specific responses included:

- "Training and education in emergency response."
- "Incident command training."

Coordination

Five respondents made at least one mention of a need for enhanced coordination or delineation of roles among the various parties involved in hospital preparedness, with specific examples including:

- "Coordination with outside non-hospital agencies."
- "Incident command."

Planning

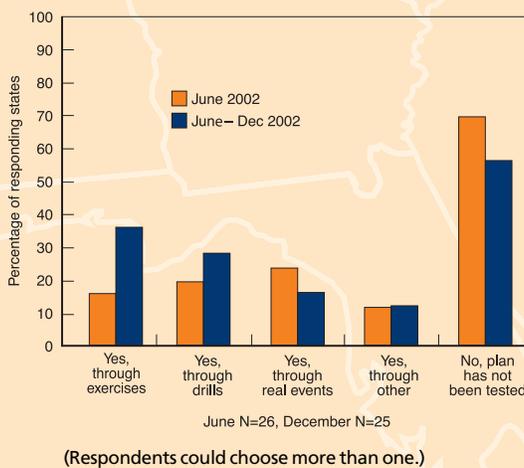
Four respondents listed needs related to plans, planning, or protocols based on their assessments of hospital preparedness. Examples noted included:

- "Understanding of state medical plan."
- "More planning at the local level prior to exercise".

Other

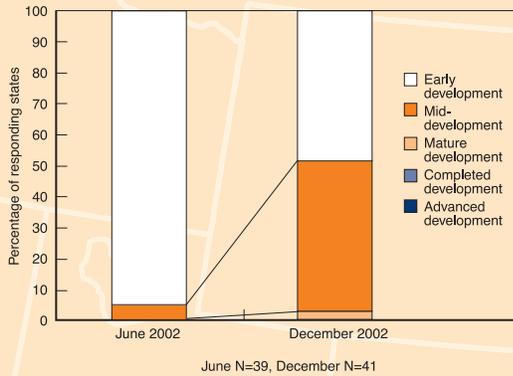
Other important needs listed included equipment or facilities ("PPE, Decontamination equipment, negative pressure rooms") and training or exercises ("training and education in emergency response").

(Q 5) "As a part of your response plan, does your state have a system in place to communicate with hospitals in order to make real-time assessments of bed capacity?" (Q 5a) "Has this system been tested?"

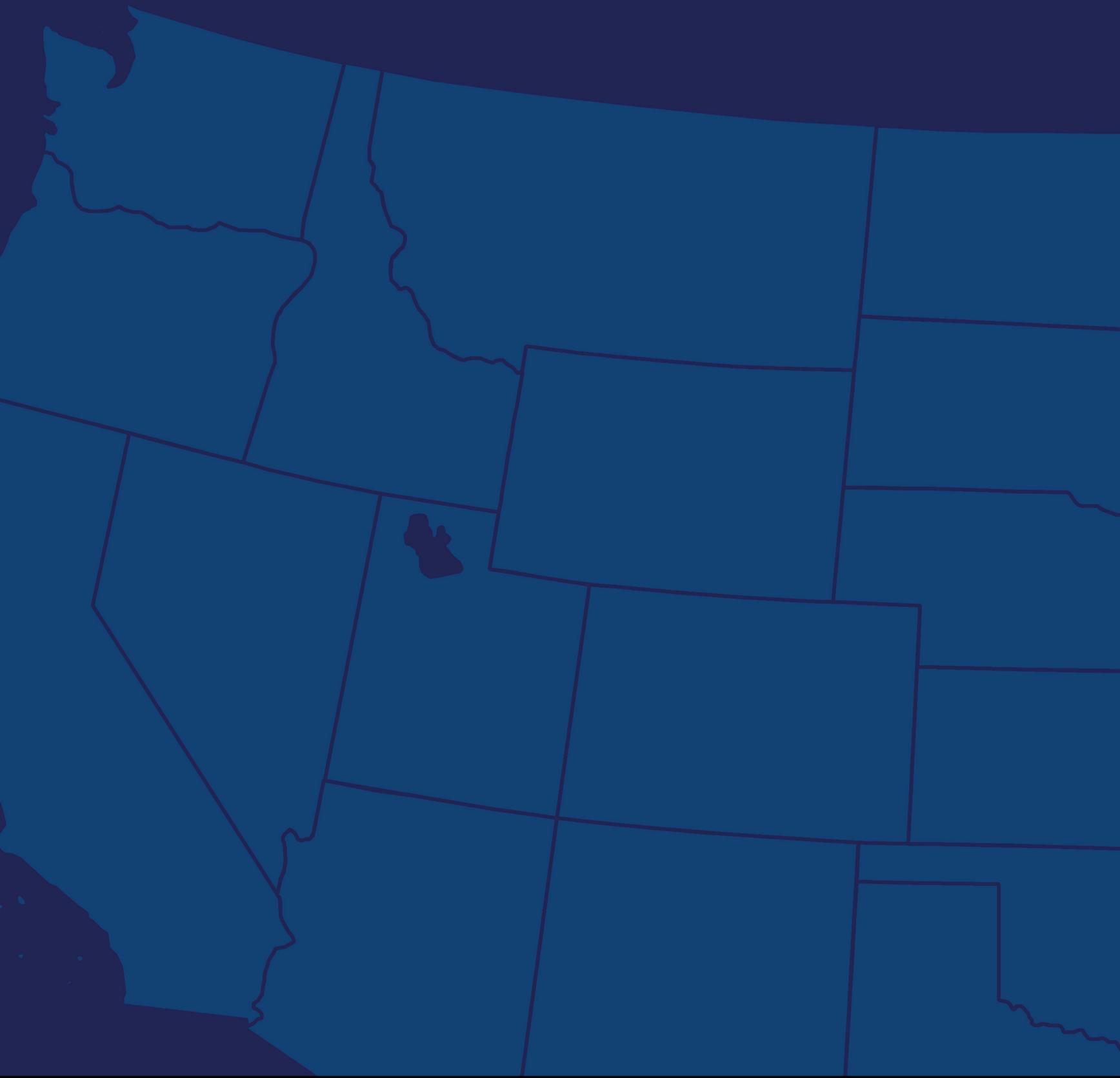


- 40% of respondents have tested their communication system through exercises or drills. (Q 5a)
- 36% of respondents have a system for communicating with hospitals to make real-time assessments of bed capacity.
- Over 91% of respondents are using the following modes of communication to contact hospitals in case of a bioterrorist/emergency event: (Q 5b)
 - e-mail
 - phone
 - fax

(Q 6) "With respect to building capacity, assess your state's current level of hospital preparedness."



- 51% of respondents have improved their capacity for hospital preparedness for a bioterrorist, emerging infectious disease, or other public health threat.
- 2% of respondents have systems whose development is mature or beyond.
- 49% of respondents are in the mid-development phase.



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