National Health Security Strategy
2015–2018

Public Comment Draft
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Editor's note: An opening by the Secretary of the Department of Health and Human Services will be inserted here as the first page, as was done in the 2009 *National Health Security Strategy* (NHSS). It will describe how the 2014 NHSS builds on current scientific evidence, progress made in health security since 2009, the purpose of the NHSS, the intended audience, and how the audience should use the NHSS.

Introduction

Our Nation must cope with a wide range of natural and human-caused incidents that can have major health consequences. These include infectious disease outbreaks, hurricanes, earthquakes, storms, tornadoes, tsunamis, hazardous material spills, nuclear accidents, biological and other terrorist attacks, fires, and many others. National health security is a state in which the Nation and its people are prepared for, protected from, and resilient in the face of such health incidents. Prepared and resilient individuals and communities are able to leverage and coordinate contributions from all sectors of society to withstand incidents and limit their negative health consequences.

In 2006, Congress passed landmark legislation to promote national health security, establishing the position of Assistant Secretary for Preparedness and Response (ASPR) within the Department of Health and Human Services (HHS) and directing the Secretary of HHS to develop a *National Health Security Strategy* (NHSS) and *Implementation Plan* (IP) every four years. The 2015-2018 NHSS marks the second milestone for Congress's quadrennial requirement. The statutory authority for an HHS-coordinated NHSS derives from Section 2802 of the Public Health Service (PHS) Act (42 U.S.C. 300hh-1).[1] Congress set goals to be addressed in the NHSS and IP.[2] The NHSS provides strategic direction for the coordination of the Nation's health security system and ensures that efforts to improve health security nationwide are guided by a common vision, based on sound evidence, and carried out in an efficient and collaborative manner.

The NHSS recognizes the linkages between health security and other security domains and is aligned with related national strategies and policies. For example, both the NHSS and the *National Security Strategy* (NSS)[3] address resilience, the threats of pandemics and infectious diseases, coordination across levels of government, global cooperation for public health, communication with the public, engaged communities and citizens, and strategic partnerships with nongovernmental organizations. Both the NHSS and the *National Policy Goal*, developed in response to Presidential Policy Directive 8, emphasize prevention and mitigation of threats to the

[1] Section 2802 of the Public Health Service Act (PHS) (42 U.S.C. 300hh-1), as amended by section 103 of the Pandemic and All Hazards Preparedness Act (PAHPA), signed into law in December 2006, and as amended by the Pandemic and All-Hazards Preparedness Reauthorization Act (PAHPRA), in March 2013.

[2] The eight preparedness goals are listed in 42 U.S.C. 300hh-1 (b) as the following: integration, public health, medical, at-risk individuals, coordination, continuity of operations, countermeasures, and medical and public health resiliency.

[3] The White House, National Security Strategy, Washington, D.C., May 2010. As of May 3, 2013: http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf

Nation's security.[4] The NHSS shares concepts with other national strategies and policies that relate to health security and supports their implementation.

A Comprehensive Approach to National Health Security

The NHSS takes a comprehensive approach to achieving national health security. It addresses the potential contributions of stakeholders at all levels of government (i.e., state, local, tribal, territorial, federal), as well as individuals and communities, including the private sector, nongovernmental organizations, and the academic and research sectors. All individuals and organizations can contribute to national health security, and their engagement is critical to strengthening the health security and resilience of their communities.

The NHSS also addresses the full range of actions that stakeholders need to take before, during, and after an incident (see Figure 1).[5] In the context of national health security, *prevention* involves actions to avoid or stop an incident with negative health consequences, while *protection* refers to actions to secure the Nation and its people from the effects of such an incident. *Mitigation* involves actions to lessen the impact of an incident and thus reduce loss of life and injury. *Response* includes actions to save lives, reduce the impact of an incident on people's health, and meet basic human needs after an incident has occurred. *Recovery* encompasses actions to assist communities affected by an incident in addressing any negative health consequences (which may impact the community's physical, behavioral, or social health and well-being) and in resuming normal activity after the incident has ended.

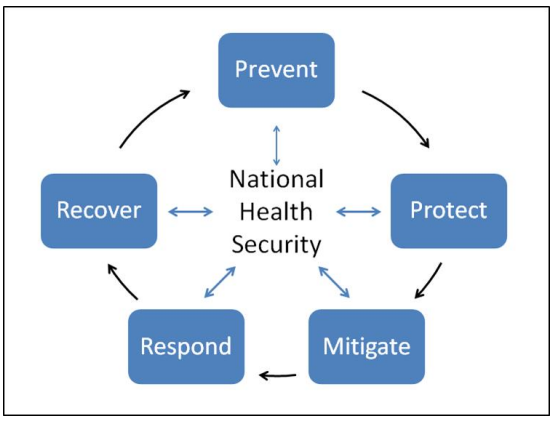

Figure 1: Mission Areas Relevant to National Health Security

Though it builds on lessons learned, the NHSS is fundamentally prospective, focused on what stakeholders nationwide should and can do to improve national health security over the next four years. A future focus is important because the factors affecting national health security are continually evolving and typically unpredictable. For example, the health threats to the Nation are constantly changing, and new threats emerge. Terrorist groups may develop novel

[4] FEMA, National Preparedness Goal, 2011. As of February 26, 2014: http://www.fema.gov/national-preparedness-goal

[5] *Presidential Policy Directive/PPD-8: National Preparedness*, March 30, 2011. As of December 18, 2013: http://www.dhs.gov/presidential-policy-directive-8-national-preparedness

ways to defeat our Nation's defenses; antibiotic resistance may reduce our ability to stop the spread of deadly diseases; and climate change may exacerbate the range, frequency, and destructive power of extreme weather events. The economic environment is also dynamic and unpredictable, affecting the resources available to strengthen national health security. The NHSS therefore promotes approaches to health security that are efficient, effective, and synergistic, making use of existing resources and everyday practices and capabilities wherever possible. Advances in knowledge, technologies, and cooperative relationships change what is possible and have the potential to significantly improve national health security.

Vision, Goal, and Guiding Principles

The NHSS will drive policies and programs, encourage coordinated planning and activities, and help prioritize investments at all levels of government and across sectors. It provides direction by establishing a vision and goal, guiding principles, strategic objectives, and high-priority areas for the next four years:

- The **vision** for national health security is that of *a Nation that is secure and resilient in the face of diverse incidents with health consequences*.
- The **goal** of national health security is to *strengthen and sustain communities' abilities to prevent, protect against, mitigate the effects of, respond to, and recover from incidents with negative health consequences through enhanced individual and community resilience.*

Guiding Principles

A set of principles has guided the development of the NHSS and will also guide its implementation. The guiding principles reflect our national values and describe the characteristics that lead to higher-level performance and positive relationships.

Strategic Alignment

The NHSS will contribute a national—not just federal—perspective to efforts by stakeholders at all levels of government and in all sectors to improve health security in communities across the Nation.

Fidelity to the Evidence Base

Scientifically based evidence is the foundation for policies, programs, practices, and decision-making regarding national health security, and the evidence base will be developed and improved through research.

Continuous Quality Improvement

Policies, programs, and practices to improve national health security will be monitored, evaluated, and improved using systematic and rigorous quality management processes.

Community Involvement

A whole-community approach will be used to foster effective partnerships and collaboration within and among communities, and the needs and contributions of all individuals will be integrated into national health security efforts.

Maximum Benefit

National health security will be strengthened and sustained by adopting a systems perspective that leverages opportunities in one area to make advances in others and that prioritizes improvements that benefit multiple sectors, populations, or levels of government, while addressing the needs and contributions of at-risk individuals.

Integration

National health security will also be strengthened and sustained by integrating health security capabilities into routine (i.e., everyday) processes and practices. The public health, health care, and emergency management systems interact on a daily basis, and improvements in daily operations will facilitate collaboration and coordination when an incident occurs.

Strategic Objectives

Strategic objectives organize and steer improvement efforts within functional areas critical to achieving national health security, such as health resilience and health situational awareness. The priorities identified for each strategic objective require dedicated and focused attention for the next four years.

The goal of the NHSS is supported by five objectives. For each objective, the strategy identifies key priorities to guide implementation through 2018:

1. Build and sustain health resilience.
2. Plan for and implement effective countermeasures.
3. Ensure health situational awareness to support decision-making before, during, and after incidents.
4. Create and sustain integrated, scalable public health, health care, and emergency management systems supported by a highly competent workforce.
5. Strengthen global health security.

The *NHSS Implementation Plan* (see the appendix) specifies activities on which stakeholders need to collaborate to address these priorities. The next sections explain the priorities in greater detail.

1. Build and Sustain Health Resilience

Scope

Health resilience refers to a community's ability to leverage its assets (culture, values, resources, capabilities) to care for the physical, behavioral, and social health of its residents; to minimize negative health impacts; and to strengthen and sustain individual- and community-level health and well-being on an ongoing basis. Health resilience depends not only on the health and well-being of the community, but also on its infrastructure.

Vision

Building and sustaining health resilience will help communities withstand disaster and recover more rapidly and effectively. Health-resilient individuals and communities will be able to handle daily adversities and a wide and unpredictable range of incidents with the potential for negative health consequences. Households will seek out and provide support to their neighbors; their members will be connected to community organizations and trained in how to respond to an incident. Individual resilience, coupled with robust social networks, will foster whole-community resilience and support community well-being and health security. Improvements to

the built environment (e.g., affordable and secure housing, sustainable and economically viable neighborhoods) will bolster the health and well-being of community members, as emphasized in the *National Prevention Strategy*.[6] Emphasis will be given to actively promoting health and well-being, building psychological resilience, and increasing community connectedness. Public health, health care, and human services will help foster social connectedness to strengthen community resilience and aid recovery.

Progress

The Nation must build on the progress it has achieved in building and sustaining health resilience. Building resilience was a goal of the 2009 NHSS. Other national strategies (e.g., the *National Disaster Recovery Framework*) now also recognize the importance of resilient individuals and communities, as do the federal cooperative agreements that fund states' efforts to improve capabilities related to national health security. The Centers for Disease Control and Prevention (CDC) established partnership requirements and measures for cross-sector collaboration in community preparedness and integrated planning in its 2011 capabilities for the Public Health Emergency Preparedness (PHEP) cooperative agreement.[7] HHS's Hospital Preparedness Program (HPP) released the *Healthcare Preparedness Capabilities: National Guidance for Healthcare System Preparedness*, which included a capability focused on cross-sector partnerships.[8] A national discussion has begun about the value of human and infrastructure elements in creating resilient communities and should be sustained. Expanded health insurance coverage contributes to the health resilience of the population and improves access to care. Incidents with negative health consequences underscore the importance of resilient individuals and communities, robust bystander response (e.g., spontaneous action to help another person), and strong partnerships among people and organizations that can be leveraged to improve response and sustain recovery.

Priorities

Several actions are needed to continue to build and sustain health resilience. Communities need to continue steps to build and foster a *culture of resilience*. This includes educating residents about the actions they can take to be healthier and more resilient every day, as well as ways in which they can protect themselves from incidents with negative health consequences.

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[6] National Prevention Council, *National Prevention Strategy*, 2011. As of February 27, 2014: http://www.surgeongeneral.gov/initiatives/prevention/strategy/
[7] *CDC Preparedness Capabilities*, 2011. http://www.cdc.gov/phpr/capabilities/
[8] *Healthcare Preparedness Capabilities*, January 2012. https://www.phe.gov/preparedness/planning/hpp/reports/documents/capabilities.pdf

Communities that plan together will be better able to identify risks and take action to withstand an incident and recover more swiftly. Governmental and nongovernmental organizations can improve the physical, behavioral, and social health and well-being of a community. These groups need to forge strong relationships in order to understand each community's unique strengths and vulnerabilities before an incident and to quickly provide resources to those in need and mobilize a whole-community effort during mitigation, response, and recovery. Relationships among stakeholders in government and private industry, nongovernmental organizations, and academia expand the reach of government resources and extend the public workforce, while also supporting nongovernmental organizations in meeting people's needs. All organizations need to develop, train, and exercise response and recovery plans in coordination with community partners. These activities should address the access and functional needs of at-risk individuals, especially those who are least able to help themselves.

Strategic Objective 1 Priorities:

- Encourage social connectedness through multiple mechanisms to promote community resilience, emergency preparedness, and recovery.
- Enhance coordination of health and human services through partnerships and other sustained relationships.
- Build a culture of resilience by promoting physical and behavioral health; leveraging day-to-day health and community systems to support health resilience; and increasing access to information and training to empower individuals to assist their communities following incidents.

2. Plan for and Implement Effective Countermeasures

Scope

The term *countermeasures* refers to medical countermeasures (MCMs) and nonpharmaceutical interventions (NPIs) that may be used to limit the adverse health impacts of incidents. MCMs include vaccines, antimicrobials, diagnostics, and ventilators, while NPIs include personal interventions, such as hand hygiene and respiratory etiquette, as well as community-level interventions for social distancing, such as school closures and promoting telework (i.e., working at home).

Vision

Developing and maintaining effective countermeasures means that the Nation will better protect communities from and mitigate the effects of chemical, biological, radiological, nuclear,

and explosive (CBRNE) threats. The Nation will continue to develop both a comprehensive suite of countermeasures and a coordinated process for implementation. The suite of countermeasures will address both naturally occurring incidents, such as emerging infectious diseases, and human-caused ones, such as terrorist attacks. To achieve this vision, planning efforts will consider the most effective countermeasures, of any type, for a particular situation. In many cases, a combination of MCMs and NPIs will be most effective (e.g., using social distancing measures in pandemic before a vaccine is available). Decisions to use countermeasures will be informed by robust plans for their integrated and effective use. Effective planning for implementation of any countermeasure will address the range of potential situations requiring its use.

Progress

The Nation must sustain and extend the progress it has made in developing and implementing countermeasures. The Biomedical Advanced Research and Development Authority's (BARDA's) Centers of Innovation in Advanced Development and Manufacturing assist companies in developing vaccines and biological biodefense products. Department of Defense (DoD) partners have provided significant levels of funding for MCMs of joint HHS/DoD priority while coordinating closely down to the project level. CDC has invested significantly in procuring materiel for the Strategic National Stockpile. These investments have supported progress in early and late-stage MCM research and in identifying new applications and uses of existing products. State and local capacity to receive, distribute, and dispense MCMs has improved since 2009. Still, gaps in MCM resources remain. Point-of-care diagnostic tools are priorities for advanced development but are not currently available for some high-priority threats. In the past four years, research has been conducted to model the impact of different NPIs on influenza transmission, and new evidence-based guidance for communities on the use of NPIs is being developed and will be available soon. Moving forward, it is important to sustain progress to date and to continue to foster innovation in the face of budgetary challenges.

Central to this strategic objective is the 2012 *Public Health Emergency Medical Countermeasures Enterprise* [PHEMCE] *Strategy* and *Implementation Plan*.[9] The PHEMCE provides an integrated vision of the MCM enterprise, which is necessary to ensure the maximum health benefit and most efficient use of public and private resources. The PHEMCE has facilitated and strengthened interaction among federal stakeholders and between federal stakeholders and the private sector (see Figure 2). The figure shows the PHEMCE mission

[9] U.S. Department of Health and Human Services, *Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) Strategy* 2012, and *Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) Implementation Plan*, December 2012.

components, as well as lead agencies both within and outside of HHS and essential nonfederal stakeholders. Moving forward, additional efforts are needed to facilitate the engagement of the full range of essential nonfederal stakeholders.

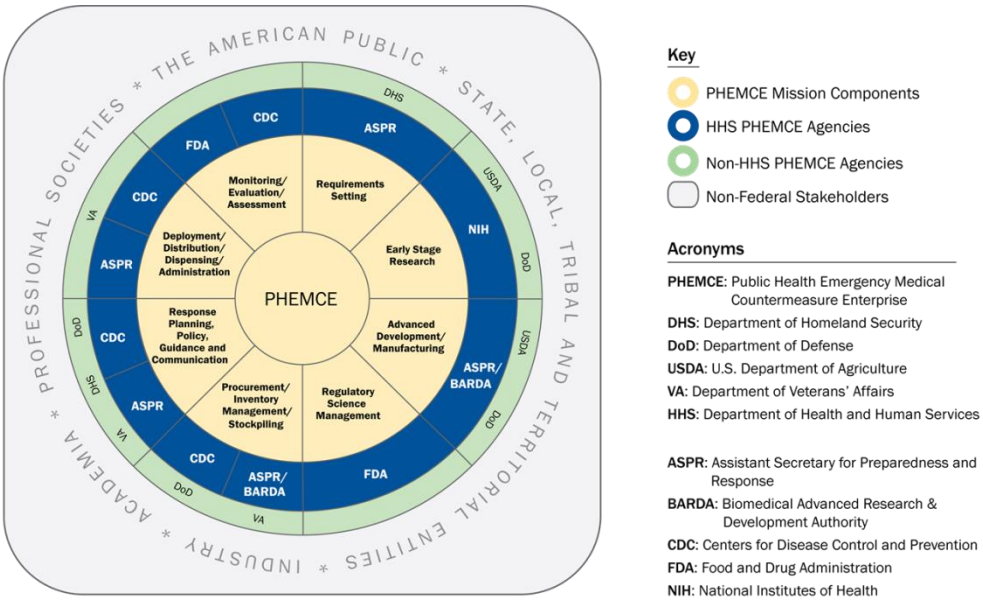


Figure 2: PHEMCE Lead Agencies[10]

Priorities

This NHSS objective will facilitate implementation of the integrated vision laid out in the PHEMCE Strategy by improving collaboration with nonfederal stakeholders (which are depicted on the outer edge of Figure 2) to ensure that PHEMCE's priorities are achieved.

Public health and emergency management professionals at all levels must consider the full range of countermeasures options available and determine where the most effective and sustainable investments can be made. The Nation must ensure that countermeasures are developed to address the needs of all segments of the population, including the needs of at-risk individuals and children. Effective implementation of NPIs requires planning and preparation to identify effective interventions, the situations in which they should be deployed, and methods for monitoring their effects. Robust planning efforts should be guided by the best available evidence. Accomplishing these efforts will involve knowing the intersection between biology and those measures which are required to contain the threat, and deciding which measures we will

[10] Source: U.S. Department of Health and Human Services, Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) Strategy 2012

prioritize. More research is needed to inform decisions regarding which interventions are most effective under specific circumstances; to identify, understand, and plan to mitigate the potential secondary effects of the interventions; and to determine their feasibility (e.g., public acceptability, enforcement).

Strategic Objective 2 Priorities:

- Develop decision-making frameworks and coordinated processes that consider both MCMs and NPIs when determining the best approaches to reducing adverse health effects of particular incidents of concern.
- Refine PHEMCE processes to improve nonfederal stakeholder collaboration.
- Improve NPI research and translation capabilities to ensure that evidence is accurate and actionable.

3. Ensure Health Situational Awareness to Support Decision-Making Before, During, and After Incidents

Scope

Health situational awareness[11] is the active, continuous, accurate, and timely collection, analysis, interpretation, and sharing of data from multiple sources to support effective decision-making before, during, and after an incident with negative health consequences. Health situational awareness includes biosurveillance[12] and other health and nonhealth inputs (e.g., lab/diagnostics, health service utilization, active intelligence, and supply chain information, as shown in Figure 3), as well as systems and processes for effective communication among responders and critical health resource monitoring and allocation.

Vision

The Nation will continue to develop and maintain a robust capacity for health situational awareness. Such a capacity will enable decision-makers to identify and understand environmental and emerging health threats and their potential consequences; to monitor available

[11] Health situational awareness is a knowledge state that results from the process of active information gathering (both domestic and international) with appropriate analysis, integration, interpretation, validation, and sharing of information related to health threats and the health of the human population, as well as health system and human services resources, health-related response assets, and other information that could impact the public's health to inform decision making, resource allocation, and other actions.

[12] *Biosurveillance* is defined in the National Strategy for Biosurveillance as "the process of gathering, integrating, interpreting, and communicating essential information related to all-hazards threats or disease activity affecting human, animal, or plant health to achieve early detection and warning, contribute to overall situational awareness of the health aspects of an incident, and to enable better decision making at all levels."

response capabilities and resources; to identify triggers for course correction; and to allocate and use resources efficiently and effectively. Health situational awareness will include a focus on at-risk individuals with access and functional needs. It will be user defined depending on what decision is being made, and by whom, so it will be relevant to different 'consumers.' In addition, health situational awareness will be flexible, adaptive, and dynamic in order to support decision-makers effectively as situations evolve and their information requirements change.

Health situational awareness will be enabled by communications systems that facilitate the flow of information both among governmental and nongovernmental partners and among state, local, tribal, territorial, and federal governments. Systems will be interoperable and have a high degree of functional compatibility[13], particularly among states and localities. Many types of health-related and non-health-related data will contribute to situational awareness, as shown in Figure 3. Situational awareness will involve collecting, aggregating, and processing data from both traditional and nontraditional sources (such as social media) and from various governmental and nongovernmental stakeholders, while ensuring that data from all sources are of high quality. Health situational awareness will include the ability to interpret data to create relevant, tailored information that decision-makers can use. Decision-makers will have the capability to visualize and manipulate data from many sources to create an operational picture suited to the specific situation and the decisions before them. To facilitate the use and interpretation of data, processes will be in place to ensure that *data* (e.g., numbers, statistics) are translated into *information* (i.e., meaning and implications) and then into communications and *messages* (i.e., explanations of what needs to be done). In this way, decision-making will be enhanced so that resources are used efficiently and effectively, threats are prevented or mitigated, and public health is safeguarded.

[13] Functional compatibility is defined as a combination of means and ways to perform a set of tasks under specified standards and conditions that collectively provide the ability to achieve a desired effect.

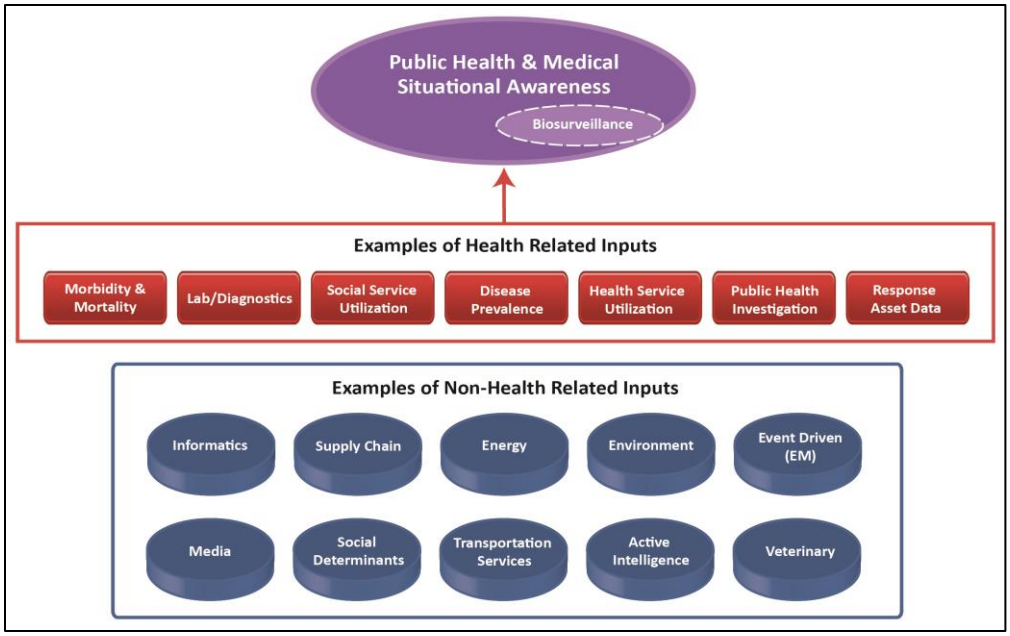


Figure 3: Inputs to Health Situational Awareness

Progress

Since 2009, the government has developed national strategies to improve health situational awareness. These include the *National Strategy for Biosurveillance*, the *Federal Health Information Technology Strategic Plan*, and the *National Biosurveillance Strategy for Human Health Version 2.0*.[14] In addition, the *Public Health and Medical (PH&M) Situational Awareness Strategy* is currently being developed in response to the Pandemic and All-Hazards Preparedness Reauthorization Act (PAHPRA).[15] PAHPRA calls for the establishment of a near–real-time, electronic nationwide public health situational awareness capability. The *PH&M Situational Awareness Strategy* will provide a road map for developing such a capability. Improvements in providing health situational awareness have been demonstrated during responses to several incidents, including the Deepwater Horizon oil spill (2009), the H1N1

[14] The White House, *National Strategy for Biosurveillance*, Washington, D.C., July 2012 (as of February 26, 2014: http://www.whitehouse.gov/sites/default/files/National_Strategy_for_Biosurveillance_July_2012.pdf); Office of the National Coordinator for Health Information Technology (ONC), *Federal Health Information Technology Strategic Plan 2011–2015* (as of February 26, 2014: http://www.healthit.gov/sites/default/files/utility/final-federal-health-it-strategic-plan-0911.pdf); U.S. Department of Health and Human Services, *National Biosurveillance Strategy for Human Health*, Version 2.0, 2010.

[15] Section 2802 of the Public Health Service Act (PHS) (42 U.S.C. 300hh-1), as amended by section 103 of the Pandemic and All Hazards Preparedness Act (PAHPA), signed into law in December 2006, and as amended by the Pandemic and All-Hazards Preparedness Reauthorization Act (PAHPRA), in March 2013.

influenza outbreak (2009–2010), the Haitian earthquake (2010), the Middle East Respiratory Syndrome (MERS) virus (2012), and the avian influenza A (H7N9) virus (2013).

Progress has also been made in measuring health situational awareness, particularly in the area of laboratory services, but additional measures are needed to track biosurveillance activities and information-sharing among disparate biosurveillance and health situational awareness systems. In addition, the number and diversity of stakeholders involved in health situational awareness creates several challenges, including the difficulty of understanding the range of health situational awareness needs and in coordinating across all the public and private stakeholders. Improvements in data collection and sharing across stakeholders are also needed.

Priorities

The development of several national strategies relevant to health situational awareness has increased attention in this area and promoted a shared vision. The next step is to implement that vision by continuing to build and improve the data systems needed to support effective health situational awareness. Over the next four years, it will also be critical to achieve a better understanding of the full range of health situational awareness needs across stakeholders and how well current operational capabilities address them. Coordination across public and private stakeholders can be facilitated by creating a voluntary oversight body with representatives from key stakeholder groups. In addition, data collection and sharing across stakeholders can be informed by a better understanding of the barriers (e.g., barriers to surveillance, barriers to interoperability) and ways to address them. More generally, data collection and information creation activities need to be flexible and responsive to adapt to evolving decision support requirements. The ability to refine data sources throughout the life cycle of an incident and to include contextual information is vitally important and should be strengthened and promoted.

Strategic Objective 3 Priorities:

- Improve surveillance systems and data-sharing with respect to all hazard interactions in order to address environmental, zoonotic, and other emerging threats and their immediate, short, and long-term health effects.
- Promote continuous improvement through innovative systems, tools, and partnerships to ensure that information to support decision making is relevant, timely and integrated among health security stakeholders.
- Determine and expand operational capabilities to meet the health situational awareness needs for all relevant stakeholders so that data sourcing is both situationally and user-defined.
- Develop a voluntary, collaborative oversight body and management structure for health situational awareness to set consistent policies.

- Address technology and policy challenges to ensure interoperable information and communications systems.

4. Create and Sustain Integrated, Scalable Public Health, Health Care, and Emergency Management Systems Supported by a Highly Competent Workforce

Scope

The public health, health care, and emergency management systems are related, overlapping systems contributing to national health security. Public health includes disease prevention, health promotion, laboratories, epidemiology, community health, and environmental health. Health care delivery services include primary care, specialty care, emergency care, long-term care, prehospitalization, emergency medical services, outpatient/ambulatory care, and inpatient/hospital care, as well as behavioral health care (mental health, substance abuse, and stress-related services). Emergency management includes police, fire, and others involved in the preparation for and coordination of emergency functions. The integration of these systems means that they are able to work together effectively and function as a coordinated whole in support of national health security. Scalable systems are able to adjust, on immediate notice, from routine operations to crisis mode.

Vision

Integrated, scalable public health, health care, and emergency management systems will ensure that the national health security workforce can collaborate and communicate effectively. Integrated, scalable public health, health care, and emergency management systems will work together to perform effectively in support of all phases of an incident. They will be able to scale up when needed using established, trained, and exercised processes and practices. In addition, they will address the needs of all communities, including at-risk individuals and children. The workforce supporting these systems will be highly competent and available in sufficient numbers to meet routine and surge demands.

The systems will be integrated through coordinated planning, training, and exercising. Integration will also be bolstered by improving the services provided by public health, health care, and emergency management systems on a routine basis. Effective, efficient, and coordinated daily operations will support the ability of these systems to work in a coordinated way to prevent, protect against, mitigate the effects of, respond to, and recover from an incident. Sufficient laboratory and epidemiology capabilities will support the ability of these systems to effectively meet the needs of a surge or increased demand for services above normal levels of performance. Laws, rules, regulations, financing, and planning will enable these systems to share

information and to work with one another under the most urgent and trying of circumstances. These systems will be supported by a workforce (including both paid staff and volunteers) that is well trained in their respective disciplines, in established incident management practices and systems, and in competencies regarding the safe performance of their roles and responsibilities during an incident. In addition, the workforce will have sufficient numbers of people in public health, health care, and emergency management education programs and professions. Finally,the workforce will be trained on key competencies and educated about their respective disciplines and how these fit into the national health security system.

Progress

The Nation has made progress toward establishing the foundation for integrated and scalable public health, health care, and emergency management systems. Regional planning alliances and health care coalitions are proliferating, improving scalability and fostering coordination across public health, health care, and emergency management systems. In 2011, 94.5 percent of acute care hospitals reported participation in a coalition for emergency planning and response.[16] While the number of coalitions is increasing, more information is needed about how to organize and structure coalitions to maximize their effectiveness. The implementation of the Patient Protection and Affordable Care Act of 2010 (ACA) has expanded insurance coverage, including care for preventive services and mental health parity, although some individuals will continue to lack insurance and, in addition, access to insurance does not ensure access to care, particularly in rural or other remote areas. The adoption of electronic health records (EHRs) has facilitated the integration of health care and other organizations. However, EHR interoperability issues across levels of government, across federal agencies, and between the public and private sectors remain a challenge. Health care delivery organizations have improved their workers' ability to respond to a rapid, temporary increase in demand through better integration with public health, emergency management, and other partners. Many organizations have developed guidance, tools, and templates to strengthen the surge capacity of the national health security system, including resources for crisis standards of care at the state and local levels. The PHEP and HPP cooperative agreements have defined capabilities and associated guidance that help states, territories, and select large municipalities improve integration across the public health, health care, and emergency management systems, including resources addressing the needs of at-risk individuals.

[16] Rambhia KJ, Waldhorn RE, Selck F, Mehta AK, Franco C, and Toner ES, "A Survey of Hospitals to Determine the Prevalence and Characteristics of Healthcare Coalitions for Emergency Preparedness and Response," *Biosecurity and Bioterrorism*, Vol. 10, No. 3, September 2012, pp. 304–313.

Since 2009, the Nation has also made progress in building a highly competent workforce. In particular, there has been a focus on identifying core competencies for the disaster medicine and public health workforces, facilitated by the CDC-funded Preparedness and Emergency Response Learning Centers (PERLCs) program. Many training courses have been held, including training in points of dispensing (PODs), safety, and environmental health. Progress has been made toward quantifying the number of staff and volunteers available and assessing the ability to notify and assemble them, but measurement and logistical challenges remain. There is a need to evaluate the effectiveness of workforce training and to develop new training materials in areas where none currently exist. Moreover, budget cuts and workforce shortfalls continue to affect state and local public health agencies.

Priorities

The priorities for this strategic objective seek to sustain and build on recent progress. Increased integration will improve the resilience of the system, meaning that it will become more scalable, robust, and adaptive to changing situations, efficient, interoperable, and sustainable. These qualities may be strengthened through coalition-building, as well as cooperative planning and exercising across all phases of an incident. The ability of these systems to function in an integrated fashion when an incident occurs can be improved by building on routine services so that the relationships and processes are in place and well understood when the systems move from baseline operations to crisis response mode. Additional competency-based training is needed to help staff, volunteers, and the agencies and organizations they serve to understand and perform their specific roles and responsibilities regarding an incident. A broad training framework that articulates professional roles and competencies for national health security and offers training and career development paths will help ensure current and future proficient and effective workers. Ongoing recruitment and retention strategies (when feasible) are critical to ensure that there is a sufficient supply of qualified workers to meet routine and surge demands for services. Efforts are also essential to ensure that the national health security workforce is capable of addressing the needs of all individuals, including at-risk individuals and children.

Strategic Objective 4 Priorities:

- Define and strengthen health care coalitions and regional planning alliances across all incident phases.
- Build upon and improve routine systems and services as a foundation for incident response and risk reduction, focusing on common elements that leverage the alignment of routine capabilities with those needed during an incident.
- Strengthen competency-based health security–related workforce training.

- Ensure that sufficient numbers of trained workers and volunteers with appropriate qualifications and competencies are available when needed.
- Effectively manage and use nonmedical volunteers and affiliated, credentialed, and licensed (when applicable) health care workers.
- Ensure that the integrated, scalable system can meet the needs of at-risk individuals, including children.

5. Strengthen Global Health Security

Scope

"Global health security" refers to preparedness for and response to acute health incidents that could pose a risk to security, destabilize economies, disrupt social cohesion, and affect the critical business of government[17]. In a globalized world, where people, goods, and diseases move rapidly across borders, the ability of a country to respond in a timely and effective manner to incidents with negative health consequences impacts not only that country's health security, but also the health security of the global community.

Vision

Incidents that can impact global health security range from an intentional or accidental release of chemical, biological, radiological, or nuclear (CBRN) agents to the spread of naturally occurring (including newly emerging and drug-resistant) infectious diseases. Likewise, the emergence of zoonotic diseases in animals can result in significant morbidity or mortality in human populations, and the emergence of diseases in plants, especially in food crops, may have profound consequences affecting nutrition and consequently human health. In recent years, events like the 2009 Influenza Pandemic *(H1N1),* the current ongoing threats of Avian Influenza A (H7N9) and (H5N1), and Middle East Respiratory Syndrome (MERS) coronavirus, are examples of how diseases or threat agents can be transmitted from animal species to humans and spread or have the potential to spread rapidly around the globe. The 2010 earthquake in Haiti, the 2011 tsunami and nuclear power plant incident in Japan, the 2013 typhoon in the Philippines, among others also showed how local events that exceed local response capacities may require an international effort to support the affected country or region in its response and recovery.

[17] Global Health Security Initiative. Retrieved from http://ec.europa.eu/health/preparedness_response/docs/ghsi_anniversary_en.pdf

Progress

Recognizing this global interconnectedness, the United States supports the World Health Organization (WHO)'s International Health Regulations (IHR 2005).[18] This legally binding agreement contributes to global public health security by providing a new framework for the coordination of the management of events that may constitute a public health emergency of international concern, and it calls for countries to improve their capacity to detect, assess, notify and respond to public health threats. In particular, article 44 of the IHR (2005) encourages states to share technical, logistical, and financial resources through bilateral and multilateral channels in order to develop, strengthen and maintain public health capacities. To this end, the United States, through the U.S. Government and non-government organizations, works with a myriad of nations and international organizations through partnerships, initiatives and capacity building programs to implement IHR 2005 and mitigate the emergence, spread, and impact of health security threats. These efforts focus on developing domestic, regional or global preparedness and response plans, training public health personnel, expanding laboratory and surveillance capacity, improving biosafety and biosecurity practices, developing emergency operations centers, and facilitating a timely and more efficient response to public health emergencies, conducting joint outbreak investigations and sharing of public health and medical materiel and personnel, among others. Furthermore, recognizing that human health, animal health, and ecosystem health are inextricably linked, the United States has supported global efforts of the One Health Initiative and the work of the World Organization for Animal Health (OIE) and of the United Nations Food and Agricultural Organization (FAO), which address animal and plant diseases that can spread globally and have a direct or indirect impact on public health.[19]

Priorities

Contributing to global health security remains a priority for the United States. The need to strengthen global health security as a critical component of the country's health security is highlighted in the *National Strategy for Countering Biological Threats*[20], the *National Strategy for Pandemic Influenza*[21], and the *National Strategy for Biosurveillance*[22], among others. These

[18] World Health Organization. (Accessed 3/21/2014). *Global Capacities, Alert and Response.* Retrieved from http://www.who.int/ihr/en/
[19] One Health Initiative. (Accessed 3/21/2014). *One Health Initiative will unite human and veterinary medicine.* Retrieved from http://www.onehealthinitiative.com/
[20] The White House. (November 2009). *National Strategy for Countering Biological Threats.* (http://www.whitehouse.gov/sites/default/files/National_Strategy_for_Countering_BioThreats.pdf
[21] Homeland Security Council. (November 2005). *National Strategy for Pandemic Influenza.* Retrieved from http://www.flu.gov/planning-preparedness/federal/pandemic-influenza.pdf
[22] The White House. (July 2012). *National Strategy for Biosurveillance.* Retrieved from http://www.whitehouse.gov/sites/default/files/National_Strategy_for_Biosurveillance_July_2012.pdf

documents called for the United States to partner with countries and international organizations to develop key priorities, objectives, and activities to ensure that global health security is strengthened, while taking into account areas of common and distinct needs and interests for each partner. Thus, the United States must continue efforts to achieve concrete, measurable and impactful gains in the world's ability to prevent and mitigate the effects of public health threats, detect threats early, and respond and recover rapidly and effectively from public health emergencies of international concern.

Strategic Objective 5 Priorities:

- Develop and strengthen partnerships to support global development of core public health capacities in support of the WHO International Health Regulations (IHR 2005), the World Organization for Animal Health, and the Food and Agriculture Organization.
- Increase global capabilities to detect diseases in a timely manner by improving global efforts and coordination to develop novel diagnostics and strengthening laboratory systems, and developing and linking global networks for biosurveillance.
- Improve capabilities to prevent the global spread of public health threats and diseases by promoting the development of biosafety and biosecurity systems, frameworks for food and drug safety, and mechanisms to address weaknesses in the medical supply chain.
- Strengthen international capabilities to respond to public health emergencies of international concern by developing infrastructure for emergency communications and incident response systems, and frameworks and policies for the international sharing of samples, medical countermeasures, and medical/public health personnel.

Conclusion

Achieving national health security is a collective responsibility that involves all segments of society, from individuals and their families to public and private institutions. The NHSS is a call to action for sustaining progress toward the overall NHSS vision—a Nation that is secure and resilient in the face of diverse incidents with health consequences. It is also a call to *coordinated* action among all stakeholders—individuals, families, communities, and all sectors (e.g., local, state, tribal, territorial, and federal governments; private industry; nongovernmental organizations; academic and research organizations). It describes a vision and goal for national health security, as well as a set of specific objectives and key priority areas for each of the objectives. It represents, in short, an important step in ensuring that our Nation is able to prevent, protect against, mitigate the effects of, respond to, and recover from a wide array of incidents with negative health consequences.

To achieve this goal we will build and sustain resilience efforts, approach CBRNE threats by identifying and using the most effective tools, and increase our situational awareness through a near-real time capability for decision makers. Though the public health, health care, and emergency management systems are constantly evolving, they must still be integrated and scalable to deal with all hazards. Finally, we must also identify the best opportunities through which we engage outside our borders.

The NHSS is a high-level guide for action that charts a course for the Nation, one that will ultimately lead to a more health-secure future. To support execution of the strategy, the appendix provides the NHSS Implementation Plan (IP). The IP proposes the specific activities that stakeholders should undertake, often collaboratively, to realize the vision and goal for national health security. The IP is aligned with the NHSS and proposes activities for each strategic objective and each priority area. The IP addresses the contributions of multiple stakeholders, describing both what federal stakeholders will do and what other stakeholders can do. The IP also explains the approach that HHS/ASPR will use to manage and coordinate the implementation of the strategy and to evaluate progress toward national health security.

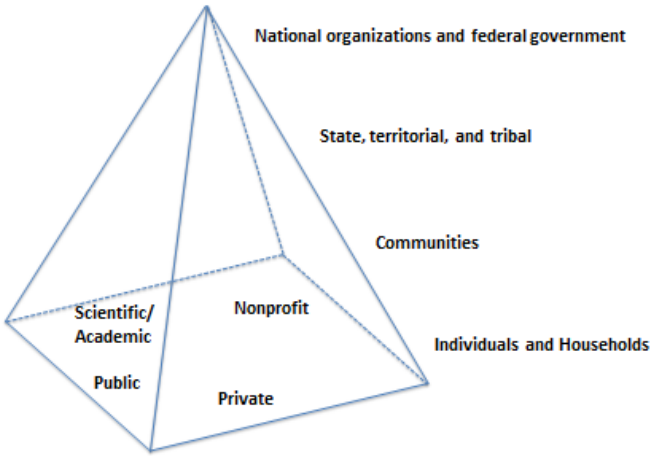
Appendix: National Health Security Strategy Implementation Plan 2015–2018

Introduction

This appendix, the *NHSS Implementation Plan* (IP), serves as a detailed road map to guide the Nation and facilitate collaboration and coordination among stakeholders to achieve national health security. It elaborates on the high-priority focus areas introduced in the NHSS by describing specific implementation activities on which stakeholders should collaborate in order to address those priorities over the next four years.

National Health Security Stakeholders

Implementing the NHSS requires contributions from a wide variety of stakeholders. These stakeholders can be visualized as a pyramid (Figure A.1). Each side of the pyramid represents a sector that plays a role in national health security, including public (e.g., local, state, and federal governments), private (e.g., for-profit businesses), nonprofit (e.g., nongovernmental organizations, faith-based groups), and academic/scientific (e.g., colleges and universities, research institutions). Different entities within these sectors are represented, from individuals and households at the base to national organizations, such as the federal government, at the top. There are some entities, such as multinational corporations (private) or national nongovernmental organizations (nonprofit), that may have activities at all levels, whereas others will be active only in select levels.



591
592 **Figure A.1: National Health Security Stakeholders**

593 The diversity of stakeholders reflects the fact that national health security is the responsibility
594 of the entire Nation. Governments can contribute resources, provide leadership, and coordinate
595 actions; however, they cannot adequately address health security priorities without the initiative,
596 investment, and innovation of partners outside government. Individuals, for example, may be
597 called on to respond to an incident, and new technologies provide opportunities for individuals to
598 contribute to situational awareness. Community organizations can provide assets for all incident
599 phases, mobilize and train volunteers, and promote health resilience. While the government can
600 offer guidance to nongovernmental partners, it is the responsibility of those recipients to convey
601 their needs and implement solutions. Activities through which stakeholders at all levels and in all
602 sectors can contribute to progress toward national health security are described below.

603 Aligning Implementation with Strategy

604 While strategy is essential to defining a vision for national health security and illuminating a
605 path forward, true progress will be achieved only through diverse stakeholders engaging in
606 sustained, focused, and coordinated action. The activities operationalize the objectives and
607 priorities laid out in the strategy. They also are the means to achieve progress that can be tracked
608 and measured for the next four years. Because many of the activities require partnerships among
609 stakeholders, they will not only advance the individual objectives, but also strengthen the
610 coordination and integration that are critical for resilience.

Implementation Activities

The implementation activities were developed and selected through an intensive stakeholder engagement process managed by HHS/ASPR. At the start of the process, candidate priorities and activities for each priority area in the NHSS were created using input from multiple sources, including subject matter experts, national strategies and policies, formal evaluations of progress for the 2009 NHSS, and academic and gray literature. Focus groups, surveys, and in-depth interviews with hundreds of governmental and nongovernmental subject matter experts were used to evaluate and prioritize activities and identify issues of strategic importance over the next four years.

Broadly, activities fall into four categories. For some stakeholders, key contributions will take the form of direct provision of *services* (e.g., crafting and testing plans, stockpiling medications for chronic conditions). For others, activities may involve creating policy *guidance*, standards, or metrics appropriate for their communities. Other activities might involve developing *incentives* (e.g., tax credits) that increase the number of nongovernmental entities engaged in actions that enhance their community's health security. Stakeholders may also be involved in *capacity-building* activities. Table A.1 provides examples of implementation activities in each of these four categories. Activities typically require the participation and coordinated action of multiple stakeholders.

Table A.1: Examples of Implementation Activities in Four Broad Categories

Guidance and Information-Sharing	Incentives	Services	Capacity-Building
• Communicate vision and goals • Develop and disseminate strategies and policies • Articulate principles • Define objectives and priorities • Develop plans • Develop and promote standards and measures • Develop laws and regulations	• Issue grants • Enact taxes and tax credits • Offer prizes to reward performance • Create subsidies • Support research and disseminate tool development	• Provide technical assistance • Provide training • Develop and run certification programs • Develop and run credentialing programs	• Provide public information • Engage stakeholders • Create and sustain partnerships • Build and maintain coalitions • Support communities of practice • Enter into memoranda of understanding • Support process improvement

Guidance and Information-Sharing	Incentives	Services	Capacity-Building
			• Building the evidence base

Organization of the Document

The remainder of the IP is organized in six sections: one section for each of the five strategic objectives that outlines activities and a final chapter describing the approach that will be used to manage and coordinate implementation and evaluate progress toward national health security. The activities are organized by stakeholder group, and one lead organization is specified for each activity to clearly communicate roles and responsibilities over the next four years.

Strategic Objective 1: Build and Sustain Health Resilience

Overview

Health resilience refers to a community's ability to leverage its assets (culture, values, resources, capabilities) to care for the physical, behavioral, and social health of its residents; to minimize negative health impacts; and to strengthen and sustain individual- and community-level health and well-being on an ongoing basis. Health resilience depends not only on the health and well-being of the community, but also on its infrastructure.

The NHSS identifies three priorities to build and sustain health resilience. The remainder of this section outlines activities to be performed in the next four years to address each of the high-priority focus areas for implementation.

Priority Areas and Notional Activities

Editor's note: Below are some potential high-priority activities for implementation over the next four years. These are provided as notional examples only. The final set of activities will be developed and selected through multiple iterations with federal and nonfederal stakeholders.

Priority 1.1: Encourage social connectedness through multiple mechanisms to promote community resilience, emergency preparedness, and recovery.

Activity 1.1.1: Federal partners will disseminate information on community connectedness, social connections, and resilience among members of the faith-based community.

Activity 1.1.2: Federal partners will review and summarize information on the best uses of social media to share emergency information throughout communities.

Activity 1.1.3: Federal partners will explore models for using social media for bidirectional information exchange with the public.

Activity 1.1.4: Federal partners will inventory methods that agencies and programs use to promote social connections among their constituents.

Activity 1.1.5: Federal partners will work with nonfederal stakeholders to create guidance for neighborhood groups and associations on how to become more engaged in resilience and response activities within the community.

Activity 1.1.6: Nonfederal partners can create templates and toolkits for use of social media as well as specific messages that are tailored to their local constituents

Activity 1.1.7: Nonfederal partners can develop and implement trainings for community organizations on how to create and maintain connections prior to and in between incidents.

Priority 1.2: Enhance coordination of health and human services through partnerships and other sustained relationships.

Activity 1.2.1: Federal partners will inventory and assess current training materials on effective provision of health and human services that affect post-disaster outcomes.

Activity 1.2.2: Federal partners will develop a framework for integration of health and human services during and after disaster, with particular attention to systems for data collection; development of action plans for federally supported human service programs; care of at-risk individuals; and accommodation of household pets.

Activity 1.2.3: Federal partners will identify and organize promising practices in developing partnerships to promote resilience.

Activity 1.2.4: Federal partners will explore options for incentivizing human services providers to participate in coalitions.

Activity 1.2.5: Nonfederal partners such as local government can create requirements for integrated health and human service emergency plans.

Activity 1.2.6: Nonfederal partners can cross train providers in health and human services on resilience planning.

Activity 1.2.7: Nonfederal partners can map local assets for provision of health and human services during and after incidents.

Activity 1.2.8: Nonfederal partners can work with the faith community to ensure that faith leaders have adequate behavioral health support themselves so that they can assist their constituents during an incident.

Priority 1.3: Build a culture of resilience by promoting physical and behavioral health; leveraging day-to-day health and community systems to support health resilience; and increasing access to information and training to empower individuals to assist their communities following incidents.

Activity 1.3.1: Federal, state, and local partners will develop messages to promote a culture of resilience that can be used locally, with particular attention to messaging for at-risk individuals.

Activity 1.3.2: Federal partners will identify opportunities to promote volunteerism and general training in first aid and related topics.

Activity 1.3.3: Nonfederal partners such as NGOs and businesses can partner to strengthen the volunteer base for incidents.

Activity 1.3.4: Nonfederal partners can implement trainings on bystander response.

Activity 1.3.5: Nonfederal partners such as the private sector can promote and incentivize volunteerism and wellness activities through programs that recognize and/or compensate employees for their efforts in these areas.

Activity 1.3.6: Individuals and households can use routine community meetings to discuss the topic of health security and sponsor "preparedness parties" (e.g., at the start of hurricane season) and related community events to encourage planning for incident response and recovery.

Strategic Objective 2: Plan for and Implement Effective Countermeasures

Overview

The term *countermeasures* refers to medical countermeasures (MCMs) and nonpharmaceutical interventions (NPIs) that may be used to limit the adverse health impacts of incidents. MCMs include vaccines, antimicrobials, diagnostics, and ventilators, while NPIs include personal interventions, such as hand hygiene and respiratory etiquette, as well as community-level interventions for social distancing, such as school closures and promoting telework (i.e., working at home).

The NHSS identifies three priorities to plan for and implement effective countermeasures. The remainder of this section outlines activities to be performed in the next four years to address each of the high-priority focus areas for implementation.

Priority Areas and Notional Activities

Editor's note: Below are some potential high-priority activities for implementation over the next four years. These are provided as notional examples only. The final set of activities will be selected through multiple iterations with federal and nonfederal stakeholders.

Priority 2.1: Develop decision-making frameworks and coordinated processes that consider both MCMs and NPIs when determining the best approaches to reducing adverse health effects of particular incidents of concern.

Activity 2.1.1: Federal partners will work with state and local stakeholders to improve state and local readiness to make and implement decisions about use of MCMs and NPIs in responses through the identification, design and implementation of exercises/drills that involve integrated MCM-NPI approaches to addressing disease outbreaks.

Activity 2.1.2: Federal partners and nonfederal stakeholders will improve guidance on integrated MCM-NPI responses in the national pandemic response plan.

Activity 2.1.3: Federal partners will work with state and local stakeholders to improve the regional utility of NPI guidance by mapping appropriate NPIs and scarce medical resources

to specific regions and developing guidance/tools to help regions make optimal use of resources during outbreaks.

Activity 2.1.4: Nonfederal partners can develop a coordinated approach to contribute information on implementation constraints and opportunities for medical and nonmedical countermeasures.

Priority 2.2: Refine PHEMCE processes to improve nonfederal stakeholder collaboration.

Activity 2.2.1: Federal partners will work with PHEMCE stakeholders and state and local entities to inventory current and anticipated PHEMCE implementation activities to identify those that would benefit from input of additional nonfederal stakeholders (e.g. emergency medical services, public utilities).

Activity 2.2.2: Federal and nonfederal partners will work together to design a framework for engagement that includes nonfederal partners in high impact decisions without causing undue burden.

Activity 2.2.3: Federal partners and other PHEMCE stakeholders will work to ensure a good fit between risk/need and investments by periodically assessing current MCM capabilities against threat/risk assessments of selected scenarios.

Activity 2.2.4: Federal partners and other PHEMCE stakeholders will work to improve federal-nonfederal communication on security-sensitive PHEMCE-related issues by reviewing existing protocols for communicating classified information to (state, local, territorial, and tribal) SLTT partners and working collaboratively with those partners to identify, test, and implement effective practices.

Activity 2.2.5: Federal partners will work with state and local public health departments and business groups to expand the use of closed points of dispensing (PODs) for MCMs by increasing their number through aggressive recruiting; improving their visibility by integrating them into local plans; increasing their capacity by providing technical assistance, and demonstrating their capability through participation in local exercises.

Activity 2.2.6: Business and nonprofit groups can work with federal, state, and local government entities to increase the number of closed PODs and the frequency with which closed PODs are exercised.

Activity 2.2.7: Nonfederal partners can participate in drills and exercises focused on the distribution and dispensing of MCMs.

Priority 2.3: Improve NPI research and translation capabilities to ensure that evidence is accurate and actionable.

Activity 2.3.1: Federal partners will work with SLTT partners to improve the utility of federal guidance on NPI use/implementation by seeking stakeholder input, testing/evaluating the utility of guidance to specific intended audiences, and identifying additional audiences needing targeted guidance.

Activity 2.3.2: Federal partners will work with SLTT partners, and professional societies to develop/improve strategies for reducing demand for respirators and masks during outbreaks by exploring and developing approaches that include (but are not limited to) guidance on extended/repeat use of respirators, patient cohorting in medical care facilities, use of ventilated headboards for patient beds, elastomeric respirators, etc.

Activity 2.3.3: Federal partners will work with the scientific community and research sponsors to assess the social and economic costs of NPI implementation (thus improving feasibility of NPIs) by prioritizing this topic in public health research agendas.

Activity 2.3.4: Federal partners will work with state and local public health departments to develop guidance on how to implement NPIs efficiently by promoting efforts to translate research into practice.

Activity 2.3.5: Nonfederal partners such as state government can identify legal barriers to effective implementation of NPIs in state law and work with relevant policymakers on approaches for addressing barriers.

Activity 2.3.6: Nonfederal partners such as state and local government can provide training on PPE (personal protective equipment) use for government employees and community partners.

Activity 2.3.7: Individuals and households can identify and address personal barriers for complying with social distancing requirements.

Activity 2.3.8: Nongovernmental organizations can facilitate communication between the government and the public regarding NPIs, expectations for their use, and potential barriers to implementation.

Strategic Objective 3: Ensure Health Situational Awareness to Support Decision-Making Before, During, and After Incidents

Overview

Health situational awareness is the active, continuous, accurate, and timely collection, analysis, interpretation, and sharing of data from multiple sources to support effective decision-making before, during, and after an incident with negative health consequences. Health situational awareness includes biosurveillance and other health and nonhealth inputs (e.g., lab/diagnostics, health service utilization, active intelligence, supply chain information), as well as systems and processes for effective communication among responders and critical health resource monitoring and allocation.

The NHSS identifies five priorities for ensuring health situational awareness to support decision-making. The remainder of this section outlines activities to be performed in the next four years to address each of the high-priority focus areas for implementation.

Priority Areas and Notional Activities

Editor's note: Below are some potential high-priority activities for implementation over the next four years. These are provided as notional examples only. Note that there are many more candidate priorities for this objective because a parallel process to develop the Situational Awareness Strategic Implementation Plan is occurring simultaneously. The final set of activities will be selected through multiple iterations with federal and nonfederal stakeholders.

Priority 3.1: Improve surveillance systems and data-sharing with respect to all hazard interactions in order to address environmental, zoonotic, and other emerging threats and their immediate, short, and long-term health effects.

Activity 3.1.1: Federal partners will develop a prioritized list of hazard and/or exposure areas to focus strategic planning activities and resource allocation for One Health (e.g., food safety, specific zoonotic diseases).

Activity 3.1.2: Federal partners will develop an equivalent framework to the International Health Regulations (IHR) for animal health.

Activity 3.1.3: Federal partners will ensure One Health is integrated into the PH&M situational awareness strategy and in the activities performed under the National Strategy for Biosurveillance and the National Biosurveillance Strategy for Human Health.

Activity 3.1.4: Federal partners will and nonfederal partners can fund or carry out research priorities under One Health relevant areas identified by the 2013 National Biosurveillance Science and Technology Roadmap.

Activity 3.1.5: Nonfederal partners can represent animal and environmental health perspectives in deliberations over the design of new electronic health information systems.

Activity 3.1.6: Nonfederal partners can strengthen joint health, intelligence, agricultural and law enforcement capabilities for prevention and mitigation of animal or human disease incidents.

Activity 3.1.7: Nonfederal partners can promote the integration of public health informatics professionals with other human and animal health professionals.

Priority 3.2: Promote continuous improvement through innovative systems, tools, and partnerships to ensure that information to support decision making is relevant, timely and integrated among health security stakeholders.

Activity 3.2.1: Federal partners will work with nonfederal partners to create a set of operational principles to inform decisions and resource allocation, set priorities, facilitate data access and sharing, consider meaningful use requirements, adopt standardization for IT and diagnostics, and ensure integration of animal and environmental surveillance data.

Activity 3.2.2: Federal partners will work with nonfederal partners to develop and disseminate data-use/data-sharing agreements to provide models that address privacy, security, ethical constraints, data ownership and stewardship, and liability protections.

Activity 3.2.3: Federal partners will develop secure, seamless pathways by which appropriate classified information, intelligence products, open-source information, and relevant health information can be shared across agencies.

Activity 3.2.4: Building on current work, federal partners will conduct a comprehensive multi-agency review and evaluation of existing data systems and sources that could be used across the preparedness to recovery spectrum for health situational awareness purposes.

Activity 3.2.5: Federal partners will work with nonfederal partners to enable movement and exchange of health information to support patient health care needs as well as population-oriented uses in near real-time.

Activity 3.2.6: Federal partners will work to recognize state and local systems and their functional compatibility horizontally and vertically on a national level, especially with regard to system compatibility and information sharing.

Activity 3.2.7: Federal partners will work to build a multi-agency system that integrates knowledgeable and skilled people/experts who can analyze and interpret the data and technology to provide validation and, as accurately as possible, early signals.

Activity 3.2.8: Federal partners will develop a framework and research agenda to guide and support alignment of data systems and capabilities afforded by new administrative data systems, health information exchanges, EHRs and personal health records, and surveys.

Activity 3.2.9: Federal partners will and nonfederal partners can fund or carry out research priorities under relevant areas identified by the 2013 National Biosurveillance Science and Technology Roadmap.

Priority 3.3: Determine, and expand operational capabilities to meet, the health situational awareness needs for all relevant stakeholders so that data sourcing is both situationally and user-defined.

Activity 3.3.1: Federal partners will identify and consider proprietary interests that may inhibit incorporation of private resources, including approaches for carefully controlled data sharing and maintaining confidentiality of information.

Activity 3.3.2: Federal partners will review and update information management frameworks to align with current IT policies, coordinating with other stakeholders to determine critical information exchange requirements and best practices.

Activity 3.3.3: Nonfederal partners can promote and participate in partner collaborations between traditional public health partners and other stakeholder organizations.

Activity 3.3.4: Federal partners will work with government and nongovernmental partners to identify and adopt best practices related to voluntary and collaborative oversight to ensure improvement and stewardship of the PH&M SA capability.

Activity 3.3.5: Federal partners will create an inventory of current and planned investments across the full spectrum of activities relevant to biosurveillance, along with a process to keep the database up to date (i.e., on a quarterly basis).

Activity 3.3.6: Federal partners will convene agencies focused on zoonotic diseases to determine activities and mechanisms for and barriers to coordination and data sharing.

Activity 3.3.7: Nonfederal partners can establish state-level roadmaps articulating state visions and strategies for electronic health information exchange using a collaborative approach involving appropriate stakeholders.

Activity 3.3.8: Nonfederal partners can convene to identify and resolve gaps in data standards and promote consensus for implementing standards.

Activity 3.3.9: Nonfederal partners can establish regional and cross-jurisdictional networks of biosurveillance professionals and researchers in public health and health care.

Priority 3.4: Develop a voluntary, collaborative oversight body and management structure for health situational awareness (SA) to set consistent policies.

Activity 3.4.1: Federal partners will designate a situational awareness oversight advisory forum for coordinating all public health and health care situational awareness data that have already been collected, processed, and analyzed from agencies on a national level.

Activity 3.4.2: Federal partners will establish governance for federal programs for human health information standards and integration.

Activity 3.4.3: Federal partners will and nonfederal partners can identify opportunities for improvement in SA through reviews of recent national events and evaluation of SA efforts across the spectrum from preparedness to recovery.

Activity 3.4.4: Federal partners will and nonfederal partners can establish forums for the sharing of best practices, protocols, and lessons learned in SA at all levels of public health and health care.

Activity 3.4.5: Federal partners will and nonfederal partners can establish systematic and ongoing methods and mechanisms for multi-stakeholder priority setting and decision-making.

Activity 3.4.6: Nonfederal partners such as states and local public health organizations can develop scientific agendas and programs to determine how new data integration technologies and SA products, tools, and standards will become part of routine public health practice.

Activity 3.4.7: Nonfederal partners can provide public health expertise in fusion centers to promote information sharing and partnership in the interests of both preventing and mitigating public health threats as well as assuring national security.

Priority 3.5: Address technology and policy challenges to ensure interoperable information and communications systems.

Activity 3.5.1: Federal partners will promote harmonization of the Health Insurance Portability and Accountability Act (HIPAA) requirements.

Activity 3.5.2: Federal partners will issue Requests for Information (RFIs) aimed at private and academic sectors to gain information on capabilities, approaches, technical tools, and techniques for PH&M SA data integration.

Activity 3.5.3: Federal partners will work to implement and leverage standardization of data elements to promote interoperability.

Activity 3.5.4: Federal partners will and nonfederal partners can continue working to determine the feasibility of and mechanisms for using health information exchanges to obtain population level data, perform public health analytics, and patient tracking.

Activity 3.5.5: Federal partners will identify ways to expand ongoing assessments of health information exchange usage by nontraditional providers such as pharmacists and long-term care providers, to include public health and human services (e.g., housing).

Activity 3.5.6: Federal partners will conduct a review and assessment of potential cybersecurity threats to health care systems with the goal of developing contingency plans for continuity of operations in the event of a cyber-attack.

Activity 3.5.7: Nonfederal partners can conduct a review of state policies regarding data use for health information exchanges that may act as barriers to data consolidation, aggregation, and sharing in order to develop mechanisms for addressing barriers.

Activity 3.5.8: Nonfederal partners can conduct a review and inventory of state laws, policies, and standards that currently act as barriers to functional compatibility.

Strategic Objective 4: Create and Sustain Integrated, Scalable Public Health, Health Care, and Emergency Management Systems Supported by a Highly Competent Workforce

Overview

The public health, health care, and emergency management systems are related, overlapping systems contributing to national health security. Public health includes disease prevention, health promotion, laboratories, epidemiology, community health, and environmental health. Health care delivery services include primary care, specialty care, emergency care, long-term care, prehospitalization, emergency medical services, outpatient/ambulatory care, and inpatient/hospital care, as well as behavioral health care (mental health, substance abuse, and stress-related services). Emergency management includes police, fire, and others involved in the preparation for and coordination of emergency functions. The integration of these systems means that they are able to work together effectively and function as a coordinated whole in support of national health security. Scalable systems are able to adjust, on immediate notice, from routine operations to crisis mode. These systems are supported by a workforce that is well trained in their respective disciplines, in established incident management practices and systems, and in competencies regarding the safe performance of their roles and responsibilities during an incident.

The NHSS identifies six priorities for creating and sustaining integrated, scalable public health, health care, and emergency management systems supported by a highly competent workforce. The remainder of this section outlines activities to be performed in the next four years to address each of the high-priority focus areas for implementation.

Priority Areas and Notional Activities

Editor's note: Below are some potential high-priority activities for implementation over the next four years. These are provided as notional examples only. The final set of activities will be selected through multiple iterations with federal and nonfederal stakeholders.

Priority 4.1: Define and strengthen health care coalitions and regional planning alliances across all incident phases.

Activity 4.1.1: Federal partners will take steps to build the evidence base around coalition effectiveness including developing and testing metrics of coalition performance.

Activity 4.1.2: Federal partners, in collaboration with state and local governments, will develop a forum for health care coalitions across the country to connect and provide peer-to-peer guidance on challenges in developing various aspects of health care coalitions, sharing successes, and developing partnerships especially in the case of neighboring coalitions.

Activity 4.1.3: Federal partners will work with state and local governments to incentivize health care coalitions to plan for and conduct multi-disciplinary disaster exercises involving key stakeholders; including fire, emergency medical services, law enforcement, public health, medical facilities, businesses, and NGOs.

Activity 4.1.4: Federal partners will develop tools and guidance for the inclusion of nontraditional organizations in the regional preparedness planning process.

Activity 4.1.5: Local health departments can work with nonprofit hospitals to identify ways that the hospitals can contribute to community health resilience by addressing issues identified in a community's health needs assessment.

Activity 4.1.6: Health care coalitions and regional health care entities can develop behavioral health response teams to support providers/responders and their families.

Priority 4.2: Build upon and improve routine systems and services as a foundation for incident response and risk reduction, focusing on common elements that leverage the alignment of routine capabilities with those needed during an incident.

Activity 4.2.1: Federal partners will provide guidance to state and local governments to work with health care coalitions and individual health care facilities to identify and strengthen routine systems that are critical during disaster response by identifying barriers that compromise the use of routine systems during disasters.

Activity 4.2.2: Federal partners will explore options for offering incentives to state and local governments and private entities (e.g., hospitals through the HPP) to identify, take steps to strengthen, and incorporate routine systems into preparedness activities.

Activity 4.2.3: Federal partners will incentivize the development and implementation of tools that promote the coordination of care (e.g., patient tracking tools, EHR compatibility features, etc.). Federal partners will develop standards for product development that would support national health security goals.

Activity 4.2.4: Nonfederal partners can support the widespread application of principles of disaster risk reduction.

Priority 4.3: Strengthen competency-based health security-related workforce training.

Activity 4.3.1: Federal partners will survey volunteer management organizations to understand the linkages between these organizations and the various federal programs.

Activity 4.3.2: Federal partners will review activities to develop minimum competency-based standards for disasters in curricula for the health care workforce and perform a gap analysis to assess curriculum development needs.

Priority 4.4: Ensure that sufficient numbers of trained workers and volunteers with appropriate qualifications and competencies are available when needed.

Activity 4.4.1: Federal partners will strengthen mechanisms (or guidance for developing mechanisms) to rapidly identify providers during an incident and facilitate deployment at the state and local levels.

Activity 4.4.2: Federal partners will explore options for developing incentives for states to participate in interstate emergency medical services licensure compacts.

Activity 4.4.3: Federal partners will work to establish appropriate staffing levels and related guidance for states and localities to provide services in a range of scenarios (e.g., from normal to crisis functioning).

Activity 4.4.4: Nonfederal partners can participate in public-private initiatives to support workforce expansion for response.

Priority 4.5: Effectively manage and use nonmedical volunteers and affiliated, credentialed, and licensed (when applicable) health care workers.

Activity 4.5.1: Federal partners will work with other stakeholders to develop and extend core competency workforce training curricula and products. This will include the development (or extension) of course training programs (i.e., curricula) for integration into stand-alone or existing educational programs. It will also include the development (or extension) of other types of educational or training products, based on core competencies.

Activity 4.5.2: Federal partners and key stakeholders will integrate national recommendations into a federal guidance framework on crisis standards of care. This work will include specifications about the timing (i.e., triggers) for crisis standards and staffing recommendations, as well as model legal frameworks.

Activity 4.5.3: Federal partners will work with Public Health Emergency Preparedness (PHEP) Cooperative Agreement grantees to match developed training products to identified core competencies and capabilities.

Activity 4.5.4: Federal partners will work to develop systems for rapid retrieval of credentials to facilitate deployment of health care professionals at the state and local levels.

Activity 4.5.5: Federal partners will work with voluntary organizations not traditionally involved in national health security to assist them in defining roles in incident response and identifying ways they can contribute to community resilience in all phases of disaster.

Activity 4.5.6: Nonfederal partners can develop and adopt standards for nonpharmaceutical protections for responders and volunteers

Priority 4.6: Ensure that the integrated, scalable system can meet the needs of at-risk individuals, including children.

Activity 4.6.1: Federal partners will develop quality measures for pediatric disaster preparedness and response in order to provide guidance to state and local governments regarding incidents impacting children.

Activity 4.6.2: Federal partners will work with state and local governments and businesses to incentivize accounting for the needs of children during disasters by matching an appropriate proportion of governmental or private funds spent on adult disaster preparedness and response with funds for such activities for the pediatric population.

Activity 4.6.3: Federal partners will create/strengthen guidance to address gaps that may arise in health care service provision for at-risk individuals.

Activity 4.6.4: Nonfederal partners can educate individuals and households regarding the various needs of, and available services for, at-risk individuals at each incident phase.

Activity 4.6.5: Nonfederal partners can facilitate communication among at-risk individuals and the public health, health care, and emergency management systems.

Strategic Objective 5: Strengthen Global Health Security

Overview

Global health security refers to preparedness for and response to acute health incidents that could pose a risk to security, destabilize economies, disrupt social cohesion, and affect the critical business of government. In a globalized world, where people, goods, and diseases move rapidly across borders, the ability of one nation to respond in a timely and effective manner to incidents with negative health consequences impacts not only that nation's health security, but also the health security of the global community.

The NHSS identifies four priorities to further strengthen global health security. The remainder of this section outlines activities to be performed in the next four years to address each of the high-priority focus areas for implementation.

Priority Areas and Notional Activities

Editor's Note: Below are some potential activities for implementation over the next four years. These are provided as notional examples only. The final set of activities will be selected through multiple iterations with federal and nonfederal stakeholders.

Priority 5.1: Develop and strengthen partnerships to support global development of core public health capacities in support of the WHO International Health Regulations (IHR 2005), World Organization for Animal Health, and the Food and Agriculture Organization.

Activity 5.1.1: Federal partners will engage with international organizations and partner countries to strengthen and establish bilateral, regional, or multilateral initiatives to reduce health security risks.

Activity 5.1.2: Federal partners will engage in a cross-sectoral work with partner countries to advance ongoing bilateral and multilateral collaborations to promote efforts to increase capability to respond to public health threats.

Priority 5.2: Increase global capabilities to detect diseases in a timely manner by improving global efforts and coordination to develop novel diagnostics, strengthening laboratory systems, and developing and linking global networks for biosurveillance.

Activity 5.2.1: Federal partners will work with partner countries and nongovernmental stakeholders to promote the establishment of global early alerting and reporting systems that can predict and identify public health threats.

Activity 5.2.2: Federal partners will work with partner countries to strengthen capabilities for accurate and transparent reporting potential health threats to the World Health Organization, (WHO), One Health Initiative and the work of the World Organization for Animal Health (OIE) and of the United Nations Food and Agricultural Organization (FAO).

Activity 5.2.3: Federal partners will work with partner countries to explore development of frameworks or processes for rapid international sharing of non-influenza pathogens with pandemic potential.

Activity 5.2.4: Federal partners will work with international organizations and partner countries to develop novel diagnostics and capabilities to deploy them.

Activity 5.2.5: Federal partners will work with partner countries to strengthen laboratory systems capable of safely and accurately detecting all major dangerous pathogens while ensuring minimal bio-risk.

Priority 5.3: Improve capabilities to prevent the global spread of public health threats and diseases by promoting the development of biosafety and biosecurity systems, frameworks for food and drug safety, and mechanisms to address weaknesses in the medical supply chain.

Activity 5.3.1: Federal partners will work with international organizations and partner countries to promote the appropriate and responsible use of antibiotics in all settings including promoting safe practices in livestock production.

Activity 5.3.2: Federal partners will work with international organizations and partner countries to provide information, tools, training, and infrastructure that contribute to building or strengthening regulatory capacity and provide a platform for inspection of foreign facilities.

Activity 5.3.3: Federal partners will work with partner countries to develop multisectoral policy frameworks to advance safe and responsible conduct for managing biological material to support diagnostic, research and biosurveillance activities, including identifying, securing, safely monitoring and storing dangerous pathogens in a minimal number of facilities.

Priority 5.4: Strengthen international capabilities to respond to public health emergencies of international concern by developing infrastructure for emergency communications and incident response systems, as well as frameworks and policies for the international sharing of samples, medical countermeasures, and medical/public health personnel.

Activity 5.4.1: Federal partners will work with international organizations and partner countries to promote establishment of Emergency Operations Centers that communicate on a 24/7 basis during a public health emergency.

Activity 5.4.2: Federal partners will work with international organizations and partner countries to create, train, and make functional, multisectoral rapid response teams, with access to a real-time information system and with capacity to attribute the source of a disease outbreak or agent release.

Activity 5.4.3: Federal partners will work with partner countries and international organizations to improve availability of public health emergency medical countermeasures by increasing global production capacity.

Activity 5.4.4: Federal partners will work with international organizations and partner countries to strengthen global mechanisms to increase procurement and stockpiling of medical countermeasures.

Activity 5.4.5: Federal partners will strengthen domestic and international infrastructures, and policies and operational frameworks to rapidly deploy public health medical countermeasures internationally in response to emergencies.

Implementation Management

Oversight

HHS will fulfill its statutory responsibility for the NHSS using a three-tiered oversight model sponsored by the Secretary of HHS. The oversight model provides for strategic direction, stakeholder engagement, management and coordination, and functional work over the NHSS phases of strategy formulation, implementation, and evaluation, as well as research that supports the national health security endeavor. As Figure A.2 shows, the top tier of the model will be a strategic component chaired by HHS ASPR with representatives from its federal partners. The second tier will be a management component chaired by the HHS Division of Policy and Strategic Planning (DPSP). The third tier will be a functional component composed of four workgroups, devoted to the functions of evaluation, strategy formulation, implementation, and research.

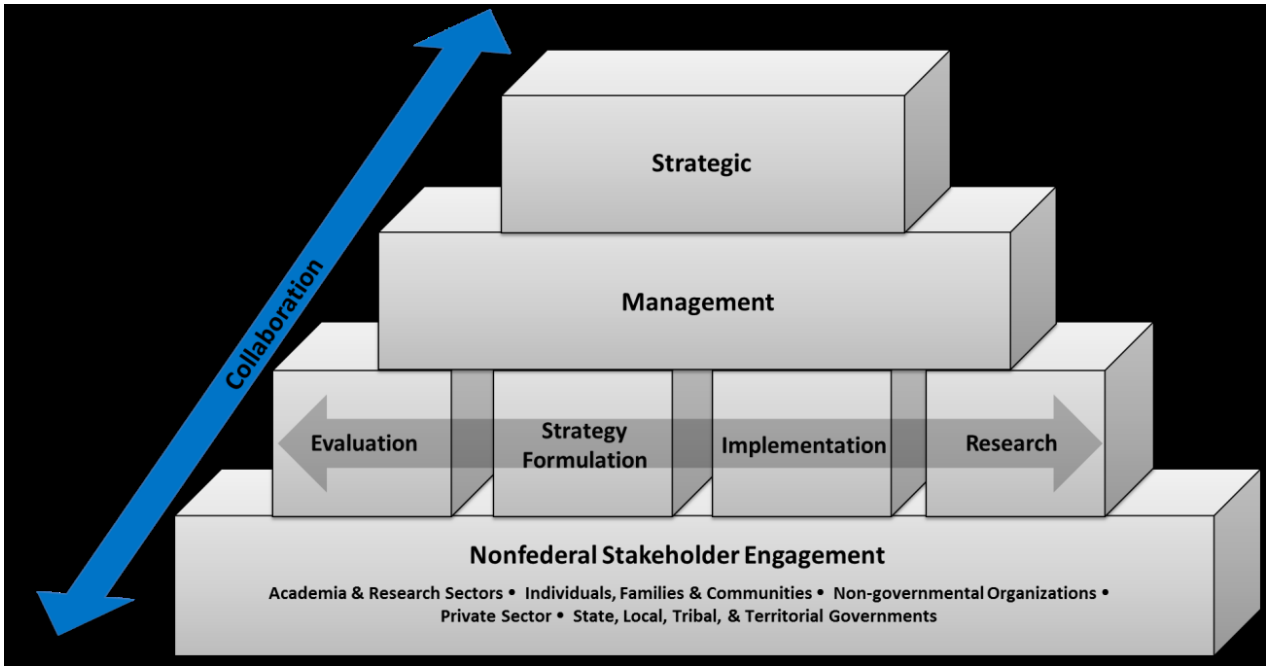


Figure A.2: Components of NHSS Oversight Model

The oversight model was developed in response to lessons learned from the first NHSS quadrennial cycle and demonstrates a commitment to quality improvement. The model has several strengths: It will facilitate communication and idea-sharing among federal and nonfederal

stakeholders. The strategic component will provide strategic direction, including redirection, and shape new approaches to improving national health security. Within the functional component, the implementation and strategy formulation workgroups will work collaboratively to develop course corrections and to shift emphasis to areas where more progress is needed. The evaluation and research workgroups will provide the implementation and strategy formulation workgroups with evidence regarding which activities are meaningful, effective, and cost-effective. HHS will use the oversight model to manage and coordinate implementation of the NHSS and execution of the IP.

The implementation management goal for 2015–2018 is to have all relevant stakeholders engaged in conducting the activities specified in the IP. Implementation management will focus on fostering and coordinating stakeholder participation nationwide. Where possible and appropriate, HHS will seek nonfederal champions from all sectors to take a strong role in implementation activities and help promote bottom-up experimentation and consensus-building among nonfederal implementation stakeholders. Publication of the NHSS and the IP set the initial conditions for nationwide participation in achieving national health security by providing all stakeholders with a shared vision and a roadmap to achieve it.

Building on the guidance provided in the NHSS and IP, HHS will work continuously over the next four years to help encourage and sustain stakeholder participation in implementation activities. It will do so primarily by supporting stakeholder execution of activities called for in the IP and by performing evaluations of progress toward national health security. Within the oversight model, the implementation workgroup will be responsible for the implementation support function, and the evaluation workgroup will be responsible for the evaluation function. The outputs of these two workgroups will help all stakeholders to leverage their available assets creatively and flexibly in order to contribute successfully to national health security.

Supporting Stakeholder Execution of the IP

The implementation workgroup will engage in several activities to support stakeholder progress in executing the IP. These include *implementation tracking* to assess the current status of implementation; *analysis* of information to identify successes, shortfalls, barriers, and enablers; *continuous improvement* to identify and execute or recommend corrective actions; and periodic *public communications* to sustain support for implementation efforts and to encourage additional stakeholders to participate actively.

Implementation tracking. The implementation workgroup will collect and maintain data and other information on the status of IP activities. Tracking implementation status will enable the workgroup to create a common operating picture (COP) that will be shared with all stakeholders to help coordinate their efforts. The workgroup will obtain data directly from federal partners,

leverage existing data sources to the extent practicable, and request voluntary submission of progress data from nonfederal stakeholders. To fill gaps in existing data sources, the workgroup will develop incentives for stakeholders to report data voluntarily, remove barriers to data collection, disseminate data reporting standards, and ensure data security and integrity. Information of interest includes not only progress toward completion of specific IP activities but also resource availability and allocation, facilitators or barriers to initiating or implementing activities, and stakeholder relationships.

Analysis. In addition to creating a COP, the implementation workgroup will analyze implementation tracking data to identify gaps between planned and actual implementation activities, as well as barriers and enablers of participation. The workgroup will provide venues in which implementation champions can work with the group to interpret and draw implications from tracking data. These collaborative analyses will help to support local tailoring or adaptation of features of the implementation. The workgroup will also document promising practices and lessons learned.

Continuous improvement. Based on implementation data, the implementation workgroup will work with stakeholders, including nonfederal champions, to identify actions that should be taken to improve implementation of the NHSS and execution of the IP. These will include targeting resources to problem areas and/or promising opportunities, providing technical assistance, identifying and mobilizing new stakeholders and relationships among stakeholders, and working directly and collaboratively with implementation stakeholders to create common awareness of implementation barriers/enablers and address them through corrective actions. Proposed corrective actions and other initiatives to improve implementation will be passed to the management component for review and approval and to the strategic component for vetting by federal partners as appropriate.

Public communications. The implementation workgroup will publicize information on implementation status in order to socialize and market key concepts in the NHSS and IP, publicize success stories, disseminate best practices, promote accountability, and mobilize new stakeholders. The workgroup will also collaborate with the public affairs representative on the Tier 2 management component (described above and shown in Figure A.2). Reporting will include press releases, reports or report cards, social media outreach, and speeches and announcements by HHS officials. Venues will include conferences or webinars with groups of stakeholders.

Evaluating Progress Toward National Health Security

Editor's note: The formal evaluation framework for the NHSS cycle is currently being developed, and the section will be updated once it is finalized.

In addition to monitoring stakeholder execution of the activities in the NHSS IP, HHS will also perform evaluations of progress toward national health security. This will be the responsibility of the evaluation workgroup.

Uses of evaluation. Stakeholders have two broad uses for evaluations of progress. First, evaluations that focus on how the strategy is being implemented will help stakeholders to identify implementation problems and facilitate improvements. Second, evaluations that focus on outcomes of implementation will provide stakeholders with information about achievement, promote accountability, and contribute to assessments of cost-effectiveness and return on investment.

Evaluation products and services. The Public Health Service Act (42 U.S.C. 300hh-1) requires that the Secretary of HHS submit a quadrennial evaluation of progress (EOP) made toward achieving national health security. The EOP is the chief and culminating output of the evaluation workgroup, but not the sole one. The workgroup will generate a variety of evaluation products and services to meet evolving stakeholder needs. The workgroup will develop the initial slate of products and services based on stakeholder engagement to determine and prioritize current needs for evaluation.

Cycles of evaluation. Evaluations will be evidence-based, drawing on all available sources of evidence. One source will be the tracking data collected by the implementation workgroup; however, there are many additional sources of information to be used for evaluation. These include, for example, published and unpublished academic literature, conference proceedings, and expert opinion. The evaluation functional group will transform evidence into evaluation products and services by cycling through seven activities: (1) collect evidence, (2) categorize evidence, (3) assess quality of evidence, (4) analyze and integrate with other evidence, (5) synthesize and interpret evidence, (6) develop and distribute products and services, and (7) obtain and use feedback. The workgroup will work through the evaluation cycle quarterly, semi-annually, and annually to create building blocks that can be used in the quadrennial EOP. Evaluation activities will be organized to align with the objectives and priorities specified in the NHSS.

Conclusion

Implementing the NHSS is a complex endeavor that involves stakeholders in multiple sectors and at all levels. HHS will manage the implementation successfully by using the oversight model described above. The model is designed to enable implementation activities to be conceived, initiated, monitored, evaluated, and improved through collaborations among HHS, other federal agencies, and nonfederal stakeholders. Regular engagement with stakeholders and recruitment of champions will enrich the ability of HHS to refine and improve the implementation as it unfolds. Success will build on success. For example, the successful recruitment of champions will improve the impact of marketing and communication efforts by virtue of their relationships with key stakeholder groups. Similarly, the successful cultivation of partnerships with stakeholder organizations and professional groups will provide access to valuable additional data related to capabilities, activities, and progress toward national goals. By effectively and adaptively managing the implementation of the NHSS and execution of the IP activities, HHS will ensure that the current quadrennial cycle moves the nation significantly closer to the vision of national health security.