



The National Public Health and Medical Situational Awareness Strategy Implementation Plan (2015-2018)

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U.S. Department of Health and Human Services
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Introduction

The Pandemic and All-Hazards Preparedness Reauthorization Act (PAHPRA),¹ enacted on March 13, 2013, calls for the establishment of a near real-time, electronic, nationwide public health situational awareness capability and a coordinated strategy and accompanying implementation plan (IP). Active and timely Public Health and Medical Situational Awareness (PH&M SA) (see definition herein) provides the foundation for thoughtful decisions and deliberate actions that, in turn, may result in better resource utilization, successful mitigation of domestic and international emerging threats (including chemical, biological, radiological, nuclear, or explosive weapons attack), and improved health outcomes for the population. PH&M SA captures information before, during, and after an incident related to health threats and health system and response resources, thereby informing decision makers and improving prevention, protection, mitigation, response, recovery efforts, and ultimately, health outcomes. Effective PH&M SA requires the ability to tap into information from relevant sources, both domestic and international; the efficient use of appropriate information technologies for sharing information; and the active use of information to make timely, well-informed decisions. PH&M SA also requires effective coordination of information dissemination across federal, state, and local governments, as well as with international organizations, other countries, community based organizations, academia, and health system and other private sector entities.

The PH&M SA Strategy (Strategy) was completed and submitted to Congress in May 2014.² It identifies the primary goal for PH&M SA, provides definitions, establishes guiding principles, and identifies the objectives and strategies that will enhance the nation's PH&M SA during the period 2015-2018. The five objectives identified in the Strategy serve as the basis for the development of actions in the IP. The IP has been developed to align closely with the Situational Awareness chapter of the National Health Security Strategy (NHSS) 2015-2018 and our goal is to leverage the NHSS reporting process and not increase the overall reporting requirements for affected departments and agencies (D/A).

PH&M SA Strategy Goal

To enhance the nation's health security and protect the health, safety, and well-being of the American people by enhancing the nation's operational PH&M SA capability to support decision making at all government levels and across critical infrastructure sectors before, during, and after an incident.

In aligning the PH&M SA IP with the National Disaster Recovery Framework and the National Response Framework, the development of a near real-time, electronic, nationwide public health situational awareness capability will help support achievement of many of the core principles for response and recovery as well as activities outlined in certain support functions, and is integral to many of the factors that ensure a successful response and recovery. In addition, both documents

¹ 113th United States Congress *PUBLIC LAW 113-5, Pandemic and All-Hazards Preparedness Reauthorization Act of 2013, amending section 319D of the Public Health Service Act, 42 U.S.C. 247d-4.* March 2013.

² U.S. Department of Health and Human Services Assistant Secretary for Preparedness and Response. *Public Health & Medical Situational Awareness Strategy* May 2014.

outline the need for participation and partnership of federal and nonfederal government as well as nongovernmental stakeholders in order to achieve goals.

Definitions

To clarify the intent and scope of this IP, the Department of Health and Human Services (HHS) uses the definitions below for biosurveillance and PH&M SA.

Biosurveillance: 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 SA of the health aspects of an incident, and to enable better decision making at all levels.³

Public Health and Medical Situational Awareness: 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.⁴

Syndromic Surveillance: Syndromic surveillance is public health surveillance that emphasizes the use of near real-time pre-diagnostic data and statistical tools to detect and characterize unusual activity for further public health investigation.

PH&M SA and biosurveillance are integrally related, though not synonymous. Biosurveillance is a key information-gathering activity that encompasses human disease surveillance, animal disease surveillance, environmental monitoring, and gathering of intelligence and other information for early warning and SA. PH&M SA encompasses biosurveillance information-gathering activities and data as well as data related to the assets available for response and recovery operations to mitigate the adverse impact on human health including human services and public health and healthcare system assets, resources, and infrastructure.

Syndromic surveillance is distinguished from other public health surveillance by the methodology employed that involves automated collection of pre-diagnostic health-related data

³ This definition is taken from the National Strategy for Biosurveillance, White House, July 2012. It is modified from the definition found in the Homeland Security Presidential Directive-21, Public Health and Medical Preparedness, White House, October 2007. PAHPRA defines the term biosurveillance as “the process of gathering near real-time biological data that relates to human and zoonotic disease activity and threats to human or animal health, in order to achieve early warning and identification of such health threats, early detection, and prompt ongoing tracking of health events, and overall situational awareness of disease activity.” 42 U.S.C. § 247d-4(g). The definition of biosurveillance for the purposes of this Implementation Plan is consistent with the PAHPRA definition.

⁴ As defined in the *Public Health and Medical Situational Awareness Strategy*, Department of Health and Human Services, May, 2014. The *National Health Security Strategy 2015-2018*, Department of Health and Human Services, December 2014 uses this same definition for the term health situational awareness.

from clinical information systems and sorting of the data by computer programs into syndromes or condition specific targets. Alerts can be triggered when the number of reports for a particular syndrome statistically exceeds what is normally expected in the population or when condition specific targeted queries exceed a set threshold. Syndromic surveillance is an important tool used by federal, state, and local governmental public health agencies to enhance SA and detect and characterize disease outbreaks or other hazardous events or conditions in order to respond quickly to local threats. Syndromic surveillance systems may be utilized for outbreak-specific SA to further characterize an outbreak beyond initial detection and notification processes, to monitor the spread of an outbreak, and/or to monitor the effectiveness of outbreak response and intervention strategies.

Document Structure

This PH&M SA IP details specific actions to support each and all strategies to meet those objectives identified in the Strategy. The actions have been crafted to enable federal, state, local, tribal, and territorial (SLTT) D/As, along with private sector entities to focus their efforts on measurable, achievable actions that contribute to the advancement of an electronic PH&M SA capability. Lead and participating entities have been identified along with deadlines (calendar years) for implementing each activity. Given the budgetary restrictions that exist in the current climate, leveraging existing capacities will be encouraged wherever possible and execution of actions will occur only if resources allow. The federal lead entity will ultimately be responsible for reporting progress to a Collaborative Coordinating Authority (CCA) consisting of representatives from the federal health agencies⁵ and coordinating with participating entities to review progress on actions. In all efforts, D/As, as well as other organizations, need to ensure that appropriate security measures are in place to protect patient privacy.

Objectives, Strategies, and Actions for Enhancing Public Health and Medical Situational Awareness

In accordance with the “Objectives” and “Strategies” stated in the Strategy, inter-related specific actions are identified and will be the focus that federal D/As, SLTT governments, nongovernmental organizations (NGO), health systems, and other private sector entities can do to enhance the nation’s PH&M SA. Each objective herein is followed by specific strategies necessary to reach the objectives and actions that can be carried out and tracked by relevant entities. These actions can be divided into two categories: federal and nonfederal. In the case of federal actions, the IP dictates what HHS will do by the deadline. Other United States Government D/As will, to the extent possible, and as resources and their respective missions permit, support HHS in these IP actions by the deadline. In the case of nonfederal actions, there is no practical way that HHS can hold these entities accountable for progress or achievement and therefore the actions detail what they can/may do. Thus, nonfederal leads can/may report progress to a CCA.

⁵ The term ‘federal health agencies’ refers to HHS, the Department of Homeland Security, the Department of Defense, the Department of Veterans Affairs, and the Department of Justice.

Strategic Objectives

- 1. Foster development of a Collaborative Coordinating Authority and management structure to build capacity and operationalize a national PH&M SA capability.**
- 2. Ensure timely, relevant, and accurate information is available to inform decisions at all levels and across all sectors.**
- 3. Evaluate existing network capacity ensuring it is leveraged where appropriate and that new capacity is promoted where needed.**
- 4. Support implementation of Presidential Policy Directive 21, critical infrastructure security, and resilience.**
- 5. Ensure continual improvement and innovation of critical PH&M SA functions.**

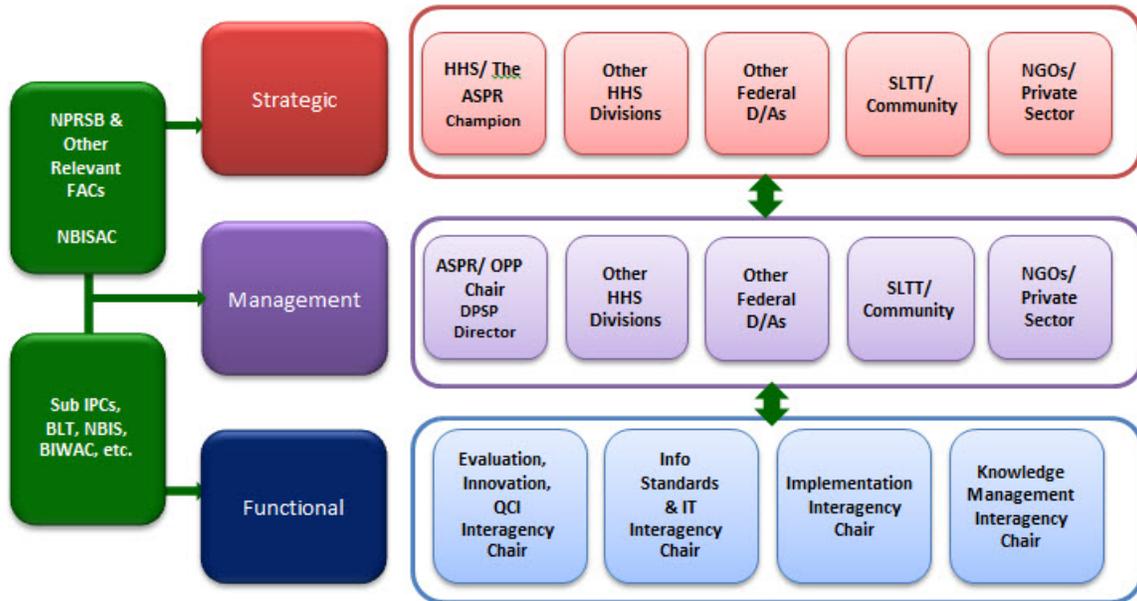
Objective 1: Foster development of a Collaborative Coordinating Authority (CCA) and management structure to build capacity and operationalize a national PH&M SA capability.

This objective outlines the structure under which all participants—federal D/As, SLTT governments, NGOs, health system entities and other private sector entities both domestically and internationally—can contribute to SA through a voluntary, collaborative effort. These partners represent contributors as well as users of PH&M SA information and should provide their respective decision makers with the information needed to make informed decisions.

Strategy 1.1: Create a CCA and management structure for promoting an expanded PH&M SA capability.

HHS will lead the creation of a PH&M SA CCA that will leverage existing entities and processes; utilize existing datasets from various organizations; encourage cooperating entities to allow access to and analysis of surveillance data; and draw upon successes and lessons learned. Once the CCA is formed, a charter will be developed. The process described in this charter will be grounded in an oversight model (Figure 1) that comprises of: 1) a strategic-level steering committee; 2) management teams; and, 3) functional workgroups. Specific roles and responsibilities will be defined so that processes, products, and interactions are understood clearly by all participants. The two boxes to the far left are existing efforts that will inform the strategic, management and functional work. The three sets of boxes in the far right of the flowchart depict the flow of communication as they report out information. Regular communication among structural components will ensure that the strategic direction, decision making, and functional work are complementary. Routine communication will also occur within structural components to maintain methodological and content integrity and ensure timely decisions.

Figure 1: Example of a Potential Management Structure for the Public Health and Medical Situational Awareness Capability.



Please refer to Appendix A: National Public Health and Medical Situational Awareness Strategy Implementation Plan (2015-2018) Acronym Guide.

* “Champion” refers to the organization or entity that will play a leading role in supporting overall efforts to develop a PH&M SA capability. This champion will be engaged at all levels of the structure.

Actions

- 1.1.1. Survey and evaluate successful and unsuccessful national, local, and regional models of governance, including those employed by the Public Health Emergency Medical Countermeasures Enterprise⁶ and the Senior Leaders Council on Patient Movement⁷ to inform the development of a CCA.

Lead: HHS

Participating: Department of Homeland Security (DHS), Department of Veterans Affairs (VA), Department of Defense (DOD)

Due: 2015

⁶ [Public Health Emergency Medical Countermeasures Enterprise](#)

⁷ [Senior Leaders Council on Patient Movement](#)

- 1.1.2. Solicit federal agencies and recruit qualified subject matter experts to serve as members of a PH&M SA CCA that will leverage existing entities and processes through engagement with SLTT partners.
Lead: HHS
Participating: DHS, VA, DOD, United States Department of Agriculture (USDA), Department of the Interior (DOI), Environmental Protection Agency (EPA), Department of Energy (DOE)
Due: 2015
- 1.1.3. Develop a charter with an actionable plan to align with and support the National Health Security Strategy oversight structure.
Lead: CCA, HHS
Participating: DHS
Due: 2015

Strategy 1.2: Through this authority, work with existing bodies to develop collaborative oversight practices for PH&M SA.

HHS will work with relevant federal departments to identify and adopt best practices related to voluntary and collaborative oversight and coordination to ensure continual improvement and stewardship of the PH&M SA capability.

Actions

- 1.2.1. Create a working group and develop a set of measures for each action in the IP that will track progress or completion of steps towards development of the electronic PH&M SA capability.
Lead: CCA
Participating: SLTT governments
Due: 2016
- 1.2.2. Establish forums for the sharing of best practices, protocols, and lessons learned in PH&M SA.
Lead: HHS
Participating: DHS, state health departments
Due: 2015
- 1.2.3. Establish systematic and ongoing methods and mechanisms for multi-stakeholder priority setting and decision-making.
Lead: CCA
Participating: HHS, DHS, state health departments
Due: 2016 – 2018

Objective 2: Ensure timely, relevant, and accurate information is available to inform decisions at all levels and across all sectors.

Although each incident is unique, there are common information needs, including health information. Robust PH&M SA also anticipates information requirements specific to the incident, is flexible enough to identify the unique decisions that need to be made, and produces appropriate information in a timely manner. Much of this work can be done proactively (prior to an incident). This will ensure that the information and systems that support decision making are readily accessible; the information providers and users have sufficient access and time to complete requests; and the business processes required to complete the requests are in place.

Strategy 2.1: Identify critical decisions and essential information needed for decision making.

HHS, through the CCA, will establish PH&M SA collection priorities, identify the information providers, and establish processes for collecting, analyzing, interpreting, and contextualizing PH&M SA information and relevant non-health information (e.g., energy, transportation).

Actions

2.1.1. Convene a body of experts to develop a list of leading indicators of environmental health warning signs for human, animal, and plant health.

Lead: EPA

Participating: Leading scientific institutions (e.g., academic centers, professional societies, think tanks, etc.)

Due: 2015

2.1.2. Determine information-sharing needs across all levels of government⁸ and among all sectors, including but not limited to: Regional Health Information Organizations (RHIO) and Health Information Exchanges (HIE), schools, healthcare providers, businesses, and other healthcare organizations to enhance multi-directional situational awareness.

Lead: CCA, HHS, SLTT health departments

⁸ [Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap Draft Version 1.0](#)

Participating: DHS, VA, RHIOs, HIEs, schools, healthcare providers, businesses, and other healthcare organizations
Due: 2016 – 2018

- 2.1.3. Identify key decision makers, their priorities and responsibilities, and produce a decision support tool or process that: identifies the essential decisions that must be made immediately pre-incident and during response and recovery operations; determines if the information required to make the decisions is collected routinely; and examines the mechanisms in place to properly share this information.

Lead: CCA, Department of Justice (DOJ),
Participating: state health and law enforcement departments; local health and law enforcement departments
Due: 2016 – 2018

- 2.1.4 Develop and improve the business processes and protocols to optimally triage patients.

Lead: HHS
Participating: VA, DOD
Due: 2016 – 2018

Strategy 2.2: Engage federal and nonfederal PH&M SA partners at all levels and across all sectors on a regular and ongoing basis to ensure the availability of required information.

Recognizing that incidents have unique features and requirements, the PH&M SA capability will need flexibility to provide decision makers with incident-relevant information. Different decision makers may require different information. As such, regular and ongoing engagements with potential partners will help ensure that systems used for the exchange of information are interoperable, comprehensive, and allow for the continual flow of information to inform timely decision making.

Actions

- 2.2.1. Identify the types of information that could be shared and develop a strategy to encourage information sharing among federal, nonfederal, and international partners (e.g., partner country governments, intergovernmental organizations, international nongovernmental organizations).

Lead: CCA, DHS
Participating: HHS
Due: 2016 – 2018

- 2.2.2. Expand sharing of human and animal surveillance and outbreak information across states, counties, and other sectors, especially for zoonotic, environmental, and food- and water-borne illnesses.

Lead: USDA, EPA, DOE
Participating: SLTT departments of health, agriculture, and environment
Due: 2016 – 2018

- 2.2.3. Implement mechanisms for routine inter-disciplinary and inter-agency health information sharing with other entities, such as hospitals, while leveraging existing RHIOs and HIEs and maintaining privacy and security of health information.
Lead: HHS, state departments of health, environment, and agriculture
Participating: DHS, VA, RHIOs, HIEs
Due: 2016 – 2018
- 2.2.4. Increase public reporting and alerts on the incidence and prevalence of disease in animals intended for human consumption.
Lead: USDA
Participating: HHS, DOI, state agricultural agencies, private sector partners
Due: 2016 – 2018
- 2.2.5. Develop multi-sectoral policy frameworks and advance regulatory oversight for managing material to support diagnostic research and biosurveillance activities.
Lead: HHS
Participating: DHS, DOD, Department of Transportation (DOT), SLTT governments
Due: 2016 – 2018
- 2.2.6. Work together with individuals and their caregivers to share health information and empower them to become more active participants in health as related to PH&M SA.
Lead: HHS, SLTT health departments
Participating: Health Care Providers, Health Care Institutions; Patient Care Organizations
Due: 2016 – 2018
- 2.2.7. Harmonize situational awareness preparedness performance metrics across programs.
Lead: DHS
Participating: DOD, HHS, USDA, DOT, SLTT health departments
Due: 2016 – 2018

Strategy 2.3: Enhance rapid emergency communication and information sharing with international partners.

Having a global perspective and ensuring the timely and accurate flow of information with international partners is essential for a robust PH&M SA capability. The World Health Organization International Health Regulations (WHO IHR) 2005, along with The Global Health Security Initiative,⁹ the Global Health Strategy,¹⁰ the Global Health Security Agenda,¹¹ and the North American Plan for Animal and Pandemic Influenza,¹² are examples

⁹ [The Global Health Security Initiative](#)

¹⁰ [The Global Health Strategy](#)

¹¹ [The Global Health Security Agenda](#)

¹² [North American Plan for Animal and Pandemic Influenza](#)

of partnerships that contribute to PH&M SA and global health security by providing support to emergency communications and information sharing.

Actions

- 2.3.1. Participate with WHO to work with international organizations, partner countries, academia, and NGOs to build upon existing response networks and also promote establishment of and linkage among international Emergency Operations Centers to enhance real-time communication during public health emergencies.

Lead: HHS

Participating: DHS, DOD, Department of State (DOS)

Due: 2016 – 2018

- 2.3.2. Work with international organizations and partner countries to establish and train multi-sectoral rapid response teams, with access to near real-time information systems and real-time communication, and the capacity to help identify the likely source of a disease outbreak or agent release.

Lead: DOS, HHS

Participating: DHS, DOD, US Agency for International Development

Due: 2016 – 2018

- 2.3.3. Work with partner countries to support development of multi-sectoral policy frameworks and oversight for managing material to support diagnostic research and biosurveillance activities.

Lead: DOS

Participating: HHS, DHS, DOD, DOT

Due: 2016 – 2018

Objective 3: Evaluate existing network capacity, ensuring it is leveraged where appropriate and that new capacity is promoted where needed.

There are a multitude of existing networks that contribute to PH&M SA: functional (e.g., public health laboratory reporting), professional (e.g., clinical and subject matter experts), and technological (e.g., health information technology). During an incident some of these networks provide more value for PH&M SA than others. Whenever possible, innovation should be encouraged to promote new capacity. The strengths and weaknesses of each network that contributes to PH&M SA need to be understood to determine which of these networks should be leveraged and identify gaps where new capacity is needed.

Strategy 3.1: Enhance existing functional networks in support of PH&M SA.

PH&M SA information collection and exchange occurs through multiple channels and may include a variety of information requirements and information sources. Understanding the existing networks and the contributions each can make to PH&M SA will allow us to better leverage existing capacity, set information collection priorities, and improve resource allocation. Where interoperability between existing networks is not practical or possible, an integration function must be performed to ensure that all relevant information from these disparate networks is considered.

Actions

- 3.1.1. Conduct a review of state policies, laws, and standards regarding functional compatibility and data use for RHIOs/HIEs that may act as barriers to data consolidation, aggregation, and sharing and develop potential concrete, feasible solutions.

Lead: HHS

Participating: DHS, VA, SLTT governments, RHIOs/HIEs, national health information exchange or governance-like organizations

Due: 2016

- 3.1.2. Develop and disseminate data use and data sharing agreement templates that address the proprietary, privacy, security, ethical constraints, data ownership, stewardship, and liability protection issues that may arise with sharing various types of data.

Lead: HHS

Participating: nonfederal stakeholders

Due: 2016 – 2018

3.1.3. Improve HIEs to support patient healthcare needs as well as community level population-oriented uses in near real-time outlined by the ONC Interoperability Roadmap¹³.

Lead: HHS

Participating: DHS, VA, nonfederal stakeholders

Due: 2016 – 2018

3.1.4 Where possible and as resources allow, innovate and improve functional compatibility of health information systems across all sectors and among all levels of government as outlined by the ONC Interoperability Roadmap.

Lead: HHS, SLTT stakeholders

Participating: DHS, DOD, VA

Due: 2016 – 2018

Strategy 3.2: Leverage existing and promote new human clinical and subject matter expertise networks.

Networks of clinicians and other subject matter experts can provide essential information to decision makers during an incident. While health IT can provide an infrastructure for data collection and information sharing for the PH&M SA network, robust domestic and global clinical networks are necessary to organize and mobilize the human components of the PH&M SA network.

Actions

3.2.1. Develop partnerships, curricula, and cross-degree programs (e.g., joint public health and veterinary medicine degrees) to aid in developing a workforce that has increased understanding and knowledge of the linkages between human, animal, and environmental health.

Lead: Department of Education (DOED)

Participating: higher education centers

Due: 2016 – 2018

3.2.2. Encourage and facilitate engagement with skilled experts across government, academia, and private sector, which can analyze and interpret data vital to comprehensive PH&M SA.

Lead: HHS

Participating: DHS, DOD, VA, USDA, EPA, DOE

Due: 2016 – 2018

¹³ [ONC Interoperability Roadmap](#)

Strategy 3.3: Leverage health IT networks and HIE in support of PH&M SA.

A robust health IT infrastructure encompasses the hardware, software, and nationally recognized standards to support electronic HIE among organizations—such as a physician practice and a hospital, laboratory, or health department. Where appropriate, this infrastructure should have standards that support interoperability and information exchange.

Actions

- 3.3.1. Conduct a comprehensive multi-agency review and evaluation of existing and planned data systems and sources to build and maintain a shared inventory that could be used for PH&M SA purposes.
Lead: HHS
Participating: DHS, DOD, VA, USDA, EPA, DOE, United States Geological Survey (USGS)
Due: 2016 – 2018
- 3.3.2. Conduct an inventory of RHIOs and HIEs and determine the potential for inclusion in a national PH&M SA capability.
Lead: HHS, state health departments
Participating: DHS, VA, professional associations, SLTT governments, national health information exchange or governance-like organizations
Due: 2016 – 2018
- 3.3.3. Develop a framework and research agenda to guide efforts to build capacity to harness electronic health information for PH&M SA while maintaining patient confidentiality and ensuring adequate security.
Lead: HHS
Participating: DHS, DOD, VA, Department of Commerce (DOC), private sector, other nonfederal stakeholders
Due: 2016 – 2018
- 3.3.4. Leverage existing data standards setting efforts for health IT/health information exchange and One Health.
Lead: HHS
Participating: USDA, DHS, DOD, VA, World Organisation for Animal Health (OIE), World Health Organization (WHO)
Due: 2016 – 2018
- 3.3.5. Where possible, implement and leverage standardization of data elements to promote interoperability among disparate healthcare information, public health, and emergency management.
Lead: HHS
Due: 2016 – 2018

- 3.3.6. Develop the capability to house, share, and appropriately use information related to PH&M SA that protects proprietary interest and patient confidentiality.

Lead: HHS

Participating: DOC, SLTT government, private sector

Due: 2016 – 2018

Objective 4: Support implementation of Presidential Policy Directive 21 (PPD-21), critical infrastructure security, and resilience.

Presidential Policy Directive 21 (PPD-21) aims to strengthen the security and resilience of the nation's critical infrastructure against both physical and cyber threats by requiring the federal government to work with critical infrastructure owners and operators and SLTT entities to take proactive steps to manage risk. This national effort must include expertise and day-to-day engagement from the Sector-Specific Agencies (SSAs); specialized or support capabilities from other federal D/As; and strong collaboration with critical infrastructure owners and operators and SLTT entities. PPD-21 identifies 16 critical infrastructure sectors and designates associated federal SSAs. HHS is the designated federal SSA for the Health and Public Health Critical Infrastructure Sector, while USDA and HHS are the Co-SSAs for the Food and Agriculture Sector.

Strategy 4.1: Coordinate the PH&M SA capability and PPD-21¹⁴ efforts with the Health and Public Health Critical Infrastructure Sector.

Where appropriate, the PH&M SA capability should support PPD-21 to reduce vulnerabilities, identify and disrupt threats, minimize consequences, and hasten response and recovery efforts related to critical infrastructure. Proactive and coordinated efforts are necessary to strengthen and maintain secure, functioning, and resilient critical infrastructure—including PH&M SA assets, networks, and systems.

Actions

- 4.1.1. Identify existing standards for maintaining the security and privacy of PH&M SA data and information, determine whether gaps exist, and, if needed, develop

¹⁴ [The Presidential Policy Directive on Critical Infrastructure Security and Resilience advances a national unity of effort to strengthen and maintain secure, functioning, and resilient critical infrastructure.](#)

additional standards, within the parameters of current law (e.g., the Health Insurance Portability and Accountability Act (HIPAA)).

Lead: HHS

Participating: DOC, private sector, other nonfederal stakeholders

Due: 2015

- 4.1.2. Implement mechanisms to strengthen health security communications related to disease events across all sectors and at all levels of government, and, where appropriate, broaden key audiences to include large animal associations at national and SLTT levels, within the parameters of current law (e.g., HIPAA).

Lead: DHS

Participating: HHS, USDA, Federal Bureau of Investigation (FBI), nonfederal stakeholders

Due: 2016 – 2018

- 4.1.3. Conduct cybersecurity risk assessments of healthcare systems with the goal of developing contingency plans for continuity of operations in the event of a cyber-incident that leverage existing cybersecurity risk assessment resources.

Lead: DHS

Participating: Department of Justice (DOJ)

Due: 2016 – 2018

- 4.1.4. Improve the resiliency of cybersecurity systems by supporting and promoting the use of the National Institute of Standards and Technology Framework for Improving Critical Infrastructure Cybersecurity¹⁵ where relevant to PH&M SA.

Lead: DHS

Participating: DOC, nonfederal stakeholders

Due: 2016 – 2018

¹⁵ [National Institute of Standards and Technology Framework for Improving Critical Infrastructure Cybersecurity](#)

Objective 5: Ensure continual improvement and innovation of critical PH&M SA functions information collection and sharing; knowledge management; and modeling and forecasting are critical PH&M SA functions.

Many processes and methods are currently in place for information and data collecting, sharing, integrating, analyzing modeling and forecasting to inform decision making. In many instances, these processes and methods function adequately. However, where necessary, expansion, enhancement, continual improvement, and innovation should be encouraged. PH&M SA must be a dynamic capability in which process improvement and technological advancements are adopted; efficiencies are identified and promoted; and redundancies and duplication are reduced to ensure a state of the art electronic PH&M SA capability. The IP will reflect work that is underway to better define the requirements for these systems and undertake process improvements where needed.

Strategy 5.1: Improve data collection and information sharing.

Data collection occurs at many levels (e.g., federal, SLTT, healthcare organizations) and across sectors (e.g., public health, healthcare, law enforcement). A better understanding of which data are useful (not all data are) for the PH&M SA capability and improved methodologies, processes, technologies, and data use agreements can enhance the timeliness and accuracy of PH&M SA data.

Actions

- 5.1.1. Identify existing policies and best practices to expand electronic health information exchange usage by broader set of stakeholders to include Emergency Medical Services and public health and human services.

Lead: HHS

Participating: DOT, DHS, VA

Due: 2015

- 5.1.2. Examine and document the existing multi-directional information sharing and reporting relationships between SLTT health departments and local institutions, such as schools, clinics, hospitals, long-term care facilities, health agencies, personal care providers, correctional facilities, faith communities, and community organizations and businesses, and identify where additional information sharing may be beneficial.

Lead: HHS

Participating: SLTT health departments, SLTT governments

Due: 2015

- 5.1.3. Recruit local institutions, such as schools, clinics, hospitals, long-term care facilities, health agencies, personal care providers, correctional facilities, faith communities, and pharmacies, to actively and passively participate in the collecting of PH&M SA information and timely reporting to local health departments.

Lead: HHS

Participating: DOED

Due: 2016 – 2018

- 5.1.4. Where possible, develop secure, seamless pathways by which appropriate classified information, intelligence products, open-source information, and relevant health information can be shared across agencies.

Lead: HHS

Participating: DOD, DHS, VA, USDA, EPA, FBI, DOE

Due: 2016 – 2018

- 5.1.5. Conduct timely training for advanced and updated standards, procedures, processes, and system configurations and interoperability ensuring all stakeholders and their data collection tools and information sharing systems are updated accordingly and timely.

Lead: HHS

Participating: DHS, DOD, VA, USDA, EPA, DOE, private sector

Due: 2016 – 2018

Strategy 5.2: Enhance knowledge management capabilities.

Through data integration and analysis, knowledge management capabilities and processes enable the transformation of raw data into information and, subsequently, into actionable knowledge to produce decision support products. Improved data integration, analysis, and knowledge management tools can produce better PH&M SA decision support products for prompt and effective dissemination.

Actions

- 5.2.1. Identify opportunities for improvement in PH&M SA through reviews of after-action reports of recent national events and evaluation of PH&M SA efforts across the spectrum from preparedness to recovery.

Lead: HHS

Participating: DHS, DOD, USDA, DOT, FBI, state health departments

Due: 2016 – 2018

- 5.2.2. Identify innovative approaches to address research priorities under relevant areas identified by the 2013 National Biosurveillance Science and Technology Roadmap.¹⁶
Lead: HHS
Participating: nonfederal stakeholders
Due: 2016 – 2018
- 5.2.3. Incorporate disaster decision support, bio-informatics, modeling and simulation, information sharing, Geographic Information Systems, and data visualization into undergraduate and graduate-level emergency management curricula.
Lead: DOED
Participating: academic institutions
Due: 2016 – 2018
- 5.2.4. Develop operational procedures for ongoing information sharing during emergency events to enable decision support.
Lead: CCA
Participating: HHS, DHS, DOD, USDA, DOT, FBI, SLTT governments
Due: 2016 – 2018

Strategy 5.3: Refine modeling and forecasting tools.

The process of informing decision making requires an accurate description of the situation with comprehensive understanding of the likelihood of possible outcomes. Continual improvement of modeling and simulation capabilities can provide enhanced PH&M SA decision support.

Actions

- 5.3.1. Develop a set of criteria to identify high use or high profile models for predicting health outcomes in preparedness activities and response operations.
Lead: DHS, HHS
Participating: HHS, DOD, VA, EPA
Due: 2016
- 5.3.2. Conduct a cooperative multi-agency and multi-sector review and evaluation of existing modeling systems to identify gaps and improve coordination as it relates to PH&M SA.
Lead: DHS
Participating: DOD, HHS, VA, EPA, USDA, FBI
Due: 2016 – 2018

¹⁶ [2013 National Biosurveillance Science and Technology Roadmap](#)

Strategy 5.4: Evaluate and promote the adoption of appropriate technologies and best practices.

The adoption of new technologies and best practices is an iterative process that will enhance PH&M SA capacity both domestically and internationally. Understanding the various technologies and networks that are currently in use and how they are being applied can lead to new opportunities to collaborate, innovate, and apply technology to expand and improve capabilities.

Actions:

- 5.4.1. Review and update information management plans to align with current strategies and policies, while coordinating with other stakeholders to determine critical information exchange requirements and best practices.

Lead: HHS

Participating: DHS, DOD

Due: 2015

- 5.4.2. Develop strategies for integrating new technologies and situational awareness products, tools, and standards into routine practice.

Lead: HHS

Participating: SLTT health / emergency management departments

Due: 2016 – 2018

Path Forward

To successfully complete the IP actions, collaboration at all levels among D/As and other public and private NGOs is essential. The CCA and management structure will track deadlines, set up working group discussions and lead the development of metrics for each activity. If required, new actions may be developed or the prioritization of actions can be modified to better match the current operational and budgetary environment. Throughout the process, efforts will be made to maximize the sharing of lessons learned and best practices among all affected parties. An annual review shall be coordinated and conducted by HHS to ensure adequate preparedness. The review will report measurable, tangible progress on implementing these actions and achieving the overall goal of a near real-time, electronic nationwide PH&M SA capability.

Appendix A

National Public Health and Medical Situational Awareness Strategy Implementation Plan (2015-2018) Acronym Guide

BLT- Biosurveillance Leadership Team
BIWAC – Biological Indication and Warning Analytic Community
CCA- Collaborative Coordinating Authority
D/A- Departments and Agencies
DHS- Department of Homeland Security
DOC- Department of Commerce
DOD- Department of Defense
DOE- Department of Energy
DOED- Department of Education
DOI- Department of Interior
DOJ- Department of Justice
DOS- Department of State
DOT- Department of Transportation
DPSP- Division of Policy and Strategic Planning
EPA- US Environmental Protection Agency
FAC- Federal Advisory Committee
FBI- Federal Bureau of Investigation
HHS- Department of Health and Human Services
HIE- Health Information Exchanges
HIPAA- Health Insurance Portability and Accountability Act
IP- Implementation Plan
IPC- Interagency Policy Committee
NGO- Nongovernment Organizations
NBIS- National Biosurveillance Integration System
NBISAC- NBIS Advisory Committee
NHSS- National Health Security Strategy
NIST- National Institutes of Standards and Technology
NPRSB- National Preparedness and Response Science Board
OIE- World Organisation for Animal Health
OPP- Office of Policy and Planning, Office of the Assistant Secretary for Preparedness and Response, HHS
PAHPRA- Pandemic and All-Hazards Preparedness Reauthorization Act
PH&M SA- Public Health and Medical Situational Awareness
PPD-21- Presidential Policy Directive 21
QCI- Quality and Continuous Improvement
RHIO- Regional Health Information Organizations
SLTT- State, Local, Tribal and Territorial
SSA- Sector Specific Agencies

USDA- United States Department of Agriculture
USGS- United States Geological Survey
VA- Department of Veterans Affairs
WHO- World Health Organization
WHO IHR- World Health Organization International Health Regulations