



Contents

CHAPTER 1: INTERNATIONAL ACTIVITIES.....	25
Introduction.....	25
Role of HHS in International Activities.....	26
HHS Actions and Expectations.....	28
Pillar One: Preparedness and Communication	28
Pillar Two: Surveillance and Detection	45
Pillar Three: Response and Containment.....	58

CHAPTER 1: INTERNATIONAL ACTIVITIES

Introduction

The ongoing outbreak and global spread of highly pathogenic avian influenza A/(H5N1) have raised concerns that an influenza pandemic may be imminent.^{1, 2, 3} Between the onset of the outbreak in Asia in December 2003 and July 2006, H5N1 outbreaks in birds have been reported in more than 54 countries in Asia, Europe, the Middle East, and Africa.⁴ Spread of H5N1 into the Americas is considered likely.

As of July 14, 2006, at least 230 human H5N1 cases and 132 deaths have been reported from 10 countries.⁵ Although most human infections have resulted from direct contact with diseased birds, there is increasing concern that the H5N1 virus could evolve into an easily transmissible human virus with pandemic potential.

The transcontinental spread of avian influenza underscores the interrelatedness of all countries and communities. It is imperative that we help enhance low-resourced country capacity to participate in global disease surveillance and response efforts.

In May 2005, the 58th World Health Assembly adopted a new set of International Health Regulations (IHR; WHA 58.3, 2005), which require World Health Organization (WHO) Member States to report influenza and other emerging infections that were not covered by the earlier IHR. Because the 2005 Assembly recognized that the requirements of outbreak surveillance and response exceed the capabilities of many countries, it required member countries to work together to implement the new regulations by providing financial resources, technical assistance, and logistical support (article 44.1). The dedication of U.S. financial resources to pandemic preparedness in partner countries—as


¹ Chotpitayasunondh T, Ungchusak K, Hanshaoworakul W, Chunsuthiwat S, Sawanpanyalert P, Kijphati R, Lochindarat S, Srisan P, Suwan P, Osotthanakorn Y, Anantasetagoon T, Kanjanawasri S, Tanupattarachai S, Weerakul J, Chaiwirattana R, Maneerattanaporn M, Poolsavathitikoool R, Chokephaibulkit K, Apisarnthanarak A, Dowell SF. Human disease from influenza A (H5N1), Thailand, 2004. *Emerg Infect Dis.* 2005 Feb;11(2):201–9.

² Beigel JH, Farrar J, Han AM, Hayden FG, Hyer R, de Jong MD, Lochindarat S, Nguyen TK, Nguyen TH, Tran TH, Nicoll A, Touch S, Yuen KY; Writing Committee of the World Health Organization (WHO) Consultation on Human Influenza A/H5. Avian influenza A (H5N1) infection in humans. *N Engl J Med.* 2005 Sep 29;353(13):1374–85. Review.

³ Hien TT, de Jong M, Farrar J. Avian influenza--a challenge to global health care structures. *N Engl J Med.* 2004 Dec 2;351(23):2363–5.

⁴ World Organization for Animal Health (OIE) Update on Avian Influenza in Animals (Type H5) July 26, 2006. Accessed August 4, 2006 at http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm

⁵ WHO Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO, July 14, 2006. Accessed August 4, 2006 at: http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_04_21/en/index.html



well as to U.S. Government organizations that monitor infectious diseases overseas (e.g., HHS Global Disease Detection [GDD] Response Centers, DOD overseas laboratories, and the HHS Regional Emerging Diseases Intervention [REDI] Center in Singapore)—are directly responsive to this requirement of the new IHR.

The 58th World Health Assembly also adopted Resolution 58.5—*Strengthening Pandemic Influenza Preparedness and Response*. The Resolution urges WHO Member States “to develop and implement national plans for pandemic-influenza preparedness and response that focus on limiting health impact and economic and social disruption.” The United States is committed to helping implement this resolution by assisting WHO and other countries strengthen their capacities to detect and effectively respond to outbreaks of H5N1 avian influenza or other influenza viruses with pandemic potential.

Because of modern advances in virology and telecommunications—and because the lethality of H5N1 in poultry makes it relatively easy to detect and track—global disease surveillance efforts could allow the public health community to identify the earliest stages of the evolution of an H5N1 virus into a human pathogen that is capable of sustained person-to-person spread. If a pandemic virus is detected early, and there is a rapid and well-orchestrated global response (as with the Severe Acute Respiratory Syndrome [SARS] outbreak in 2003), there is a theoretical possibility of slowing, or even containing, its spread.


The extra time gained through the HHS investment in international efforts will also allow the United States time to implement domestic public health response measures that can mitigate the impact of the disease once it arrives on U.S. shores. (See Chapter 3, Public Health Interventions, and Chapter 4, Federal Medical Response.)

Early detection and isolation of an influenza virus with pandemic potential will allow prompt identification of viral characteristics (antiviral susceptibility, antigenicity, transmissibility, and virulence) that influence medical case management as well as public health response measures. It should also facilitate development of a virus-specific vaccine.

Role of HHS in International Activities

HHS views preparedness, surveillance, and containment as the overarching goals of bilateral and multilateral efforts in the fight against pandemic influenza. The objectives under these goals include but are not limited to working with Ministries of Health, WHO, and other partners and stakeholders to facilitate:

- Avian influenza and pandemic planning, and public-health capacity strengthening
- Timely and reliable global surveillance for poultry and wild birds infected with H5N1 and other highly pathogenic avian influenza viruses
- Detection of human cases of H5N1 infection or other avian influenza viruses

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- Detection and molecular characterization of H5N1 viruses and other novel influenza strains to help track their spread and monitor changes in transmission and drug susceptibilities prior to and during a pandemic
 - Rapid and effective containment of H5N1 outbreaks in poultry to prevent their spread and reduce the risk of human exposure and infection
 - Immediate and interpretable investigation of all cases or clusters of suspected human infection with H5N1, using standardized international investigation instruments
 - Rapid containment of a nascent pandemic detected anywhere in the world

The roles of HHS in support of these goals and objectives are to assist countries conduct planning and preparedness activities, including those efforts that help develop and exercise the pandemic plans of national, provincial, regional public health, medical and animal health authorities, and public- and private-sector partners. HHS goals and objectives also include capacity strengthening for detecting and responding to human cases, outbreaks, or an emerging pandemic by public health and medical personnel; risk communications, including transparent and collaborative information sharing; public health education; and epidemiological and clinical care research to optimize case and patient outcomes.

HHS actions to further surveillance include epidemiology and diagnostic laboratory capacity-building for the early detection, characterization, and reporting of cases and outbreaks of human infection with H5N1 or other avian influenza viruses. HHS assistance on containment efforts include providing training for national and regional rapid-response teams; fostering preparedness for implementation of public health interventions (e.g., quarantine, travel restrictions, workplace and school closings); promoting capacity strengthening in appropriate infection-control practices at health care facilities and in communities; and encouraging the rational use of antivirals and vaccines, if they are available.

Another HHS key role is participation in international surveillance and response activities, such as the deployment of U.S. personnel to serve on international outbreak assessment and response teams; support of mechanisms for the timely and effective sharing of surveillance information, diagnostic specimens, and virus isolates prior to and during a pandemic; and the sharing of diagnostic laboratory and outbreak response supplies, including a predetermined stock of antivirals that may be used to augment national and WHO stocks if needed.

Specific Assumptions and Planning Considerations for HHS International Activities

The following assumptions were used to develop the context for the HHS activities listed in this chapter:


- Avian influenza A/(H5N1) viruses are the current, major international influenza threat for pandemic.
- Containment of H5N1 outbreaks (animal or human) in a country or region is of primary importance for both international and domestic U.S. risk reduction.
- In any country, if ongoing local disease surveillance efforts are insufficient to reliably evaluate the effectiveness of undertaken containment efforts, U.S. as well as international public health authorities, will be called upon to support countries with their surveillance efforts.
- If sustained human-to-human transmission of H5N1 is detected in a country, the United States, as part of the global public-health community, will be called upon to provide appropriate assistance to contain or slow the spread of the outbreak to prevent pandemic.
- Because of the unique, collaborative relations between the United States, Canada, and Mexico, cross-border considerations and initiatives are assumed not to be international activities for the purposes of this Plan. They are described in Chapter 2, Domestic Surveillance, and Chapter 3, Public Health Interventions.

HHS Actions and Expectations

Pillar One: Preparedness and Communication

HHS international activities under Pillar One focus on building long-term, sustainable, national and international capacity in planning and preparing for an influenza pandemic. Emphasis is placed on encouraging countries to develop comprehensive national pandemic plans that foster preparedness in epidemiology and diagnostic laboratory capabilities (HSC 4.1.1); link public health and animal surveillance systems for achieving the timely information-sharing needed for effective alerts and risk-reduction actions (HSC 4.1.1); implement patient care and infection control practices that can accommodate anticipated surges in demand for health care delivery (HSC 4.1.2 and 4.1.5); and educate the public and the health care communities about practices that reduce the risk of human infection should a pandemic emerge (HSC 4.1.2, 4.1.3, and 4.1.4). HHS activities also focus on enhancing international capacity to detect other non-H5N1 pandemic threats, implementing prompt investigations and responses, and conducting research that characterizes influenza strains (HSC 4.1.2, 4.1.4, 4.1.6, and 4.1.8).

HHS activities also include communications initiatives aimed at raising pandemic influenza awareness among public health and health care workers, the potential first



detectors of early outbreaks (HSC 4.1.3). Initiatives that establish mechanisms for rapidly disseminating validated emergency public health information to international response partners are also discussed (HSC 4.1.8). International communications actions are further described in Chapter 7, Communications.

Pillar One actions concerned with international activities on vaccines and antivirals (HSC 4.1.5, 4.1.6, and 4.1.7) are covered in this chapter. Actions that cover vaccine and antiviral research-and-development issues and other domestic activities are found in Chapter 5, Vaccines, and Chapter 6, Antivirals.

Planning for a Pandemic

- A. Action (HSC 4.1.1.1): HHS will work in coordination with the Department of State (DOS), the U.S. Agency for International Development (USAID), the Department of Defense (DOD), the Department of Transportation (DOT), the International Partnership on Avian and Pandemic Influenza (IPAPI), the Senior United Nations (UN) System Coordinator for Avian and Human Influenza, other international organizations (e.g., WHO, World Bank, World Organization for Animal Health [OIE], United Nations Food and Agriculture Organization [FAO]), and through bilateral and multilateral initiatives to encourage countries, particularly those at highest risk, to develop and exercise national and regional avian and pandemic response plans.

Timeframe: Within 12 months.


Measure of Performance: 90 percent of targeted high-risk countries have response plans and plans to test them.

Step 1: Participate in meetings and conferences organized by DOS on avian and pandemic influenza planning and response.

Step 2: Participate in the World Health Assembly, the Asian Pacific Economic Cooperation Forum (APEC), and other international organizations, and diplomatic and international policy-making meetings that cover avian and pandemic influenza, as appropriate.

Step 3: Advocate for pandemic preparedness and response planning as part of its bilateral and multilateral discussions and negotiations with foreign governments and regional and international organizations.

Step 4: On a regular basis, brief all its current and new representatives, such as Health Attachés and other in-country field staff, to share current information on avian and pandemic planning initiatives and issues, and provide guidance to overseas staff on the U.S. Government's initiatives, programs, and policies.



Step 5: Work through Health Attachés and other HHS representatives overseas, in coordination with other U.S. Government Agencies, to promote awareness of pandemic influenza and encourage pandemic planning by their host countries.

Step 6: Initiate regular teleconferences with partners in the Ministries of Health and the WHO Secretariat offices in targeted and high-risk countries to discuss the status of their preparedness.

Step 7: Work with U.S. Government partners to develop a workshop under the auspices of the APEC that will teach APEC member economies how to test their national pandemic-preparedness plans. This workshop will help to provide planning guidance and tools on the development and exercise of national influenza response plans in Asia. HHS will recruit speakers, develop the agenda, invite appropriate attendees from the Asia-Pacific region, and host a regional meeting.

Step 8: Work with U.S. Government partners to provide planning guidance and tools, as requested, on the development and exercise of national influenza response plans.


Step 9: Coordinate U.S. Government participation in the Global Health Security Initiative (GHSI) Pandemic Influenza Working Group, whose mandate is to enhance coordination and communication regarding pandemic preparedness and response activities, and to contribute to overcoming critical barriers to an effective pandemic response, especially concerning vaccine and antiviral issues. When appropriate, work with the G8 Health Ministries to effect donor coordination.

- B. Action (HSC 4.1.1.2): HHS will work with USDA and USAID in promoting the use of epidemiological data supportive of animal disease and pandemic prevention and preparedness efforts, including through the provision of technical assistance to veterinarians and other agricultural scientists and policymakers in high-risk countries.

Timeframe: Within 12 months.

Measure of Performance: All targeted high-risk and affected countries have in place (1) national task forces that meet regularly with representation from both human and animal health sectors, government ministries, businesses, and non-governmental organizations (NGOs); and (2) national plans, based on scientifically valid information, developed, tested, and implemented for containing influenza in animals with human pandemic potential, and for responding to a human pandemic.

Step 1: As appropriate, attend international and intersectoral meetings and encourage planning and cooperation between animal and human health experts.



Step 2: Coordinate activities with USDA and USAID to promote consistent and meaningful messaging, evaluate the effectiveness and impact of these messages, and reinforce the need for intersector collaboration and communications in targeted at-risk and affected countries.

Step 3: Work with USDA and USAID to provide guidance to National Influenza Task Forces and Ministries of Health and Agriculture, as requested, on the following:

- The component of agricultural avian influenza A/(H5N1) response plans that covers surveillance for associated cases of human infection
- Linkage and epidemiologic analysis of animal and human influenza data

Step 4: Provide technical support to scientists who conduct disease and virologic surveillance in wild birds, live bird markets, and pigs in targeted affected and at-risk countries. (Also see Pillar Two, Action H [HSC 4.2.2.2], Step 1.)

- C. Action (HSC 4.1.2.1): HHS will work with DOS to ensure strong U.S. Government engagement in and follow up on bilateral and multilateral initiatives to build cooperation and capacity to fight pandemic influenza internationally, including the APEC initiatives inventory of resources and regional expertise to fight pandemic influenza; an Asian regional tabletop exercise; a Symposium on Emerging Infectious Diseases, held in Beijing in April 2006; and the REDI Center in Singapore; the U.S.–China Joint Initiative on Avian Influenza and the U.S.–Indonesia–Singapore Joint Avian Influenza Demonstration Project; and to develop a strategy to expand the number of countries that are fully cooperating with U.S. and/or international technical agencies in the fight against pandemic influenza.

Timeframe: Within 6 months.

Measure of Performance: Finalized action plans that outline goals to be achieved and timeframes in which to achieve them.

Step 1: Participate in bilateral and multilateral initiatives to build cooperation and capacity to fight pandemic influenza internationally.

Step 2: Establish GDD Response Centers in strategic locations in all WHO regions. The HHS/GDD Response Centers, which combine epidemiologic excellence with advanced laboratory capacity, will link existing Field Epidemiology Training Programs (FETPs) and International Emerging Infections Programs (IEIPs). The HHS/GDD Response Centers will accomplish the following:

- Work with Ministries of Health to strengthen national and regional disease detection and reporting in targeted high-risk countries
- Work with the WHO Global Outbreak Alert Response Network (GOARN) to develop and train national and regional rapid-response teams

Step 3: Establish a GDD Information Center at HHS/CDC to facilitate rapid identification of influenza outbreaks that require immediate investigation. The GDD Response Center will work with the Influenza Division and other appropriate subject matter experts to accomplish the following:

- Serve as a centralized clearinghouse for international outbreak data
- Rapidly identify influenza outbreaks that warrant an immediate response
- Provide validated emergency epidemiologic data and public health information to response partners during the pandemic alert and pandemic periods

- D. Action (HSC 4.1.2.2): HHS will provide financial support to staff the REDI Center in Singapore.

Timeframe: Within 3 months.


Measure of Performance: U.S. Government staff provided to REDI Center.

Step 1: Provide financial support to staff the REDI Center in Singapore with experts capable of building international training programs for surveillance and response in high-risk countries. Public health officials, researchers, clinicians, and other health professionals will attend the trainings. Emphasis will be on surveillance and rapid response to emerging infectious diseases and health security threats, as well as clinical research, laboratory techniques and safety, and regulatory practices.

- E. Action (HSC 4.1.2.5): HHS, in coordination with USAID, will increase rapid response capacity within those countries at highest risk of human exposure to animal influenza by supporting national and local government capacities for human surveillance, diagnostics, and medical care, and by supporting training and equipping of rapid-response and case investigation teams for human outbreaks. (Also see Pillar Two, Actions B, G, J, K, P, and Q [HSC 4.2.1.2, 4.2.2.1, 4.2.2.4, 4.2.3.1, 4.2.3.8, and 4.2.3.9] below.)

Timeframe: Within 9 months.

Measure of Performance: Trained, deployable rapid-response teams exist in countries with the highest risk of human exposure.




Step 1: Enhance national capacities for human influenza surveillance and diagnostics by working with WHO and U.S. Government partners to accomplish the following:

- Creating a cadre of trainers to help build laboratory and epidemiologic capacity abroad and domestically
- Providing diagnostics training to staff at local public health laboratories in targeted countries, via HHS/GDD Response Centers, the REDI Center in Singapore, and/or DOD overseas research units, in collaboration with other WHO and U.S. Government assets
- Providing epidemiologic training to staff at Ministries of Health and Agriculture who are responsible for the following:
 - Analyzing and reporting influenza surveillance data
 - Outbreak investigations
- Providing epidemiologic training in collaboration with WHO, via HHS/GDD Response Centers and Field Epidemiology and Laboratory Training Programs (FELTP)
- Providing reagents and equipment to national public health laboratories in targeted high-risk countries with bilateral and multilateral support
- Facilitating the sharing of experiences and epidemiologic methods developed in countries, such as Thailand, that have identified cases of human infection with H5N1

Step 2: Work with WHO to develop, update, and disseminate simple, uniform, standardized guidance on laboratory methods for testing and training purposes.

Step 3: Work with the WHO Global Influenza Network to strengthen global capacity for influenza reference-testing during a pandemic by accomplishing the following:

- Creating laboratory surge capacity at the HHS/CDC Influenza Laboratory.
- Training national public health laboratories in targeted countries to prepare to subtype specimens of suspected avian or pandemic influenza, or to process and ship them to regional reference laboratories by using standard biosafety procedures.
- Facilitating efforts by regional public health laboratories to have equipment, reverse transcriptase-polymerase chain reaction (RT-PCR) reagents, and laboratory protocols for identifying H5N1 and other influenza subtypes and strains. During an investigation, the regional laboratories will forward samples



to HHS, as needed, for additional confirmatory testing, antiviral resistance testing, and genetic sequencing.

- Ensuring that regional laboratories are prepared to forward samples to the CDC-based WHO influenza reference laboratory for additional confirmatory testing, antiviral resistance testing, and genetic sequencing, as needed.
- Sharing information with WHO influenza reference laboratories in Australia, Japan, and the United Kingdom as needed.

Step 4: Assist the WHO Secretariat in expanding a WHO Specimen Transport Fund that enables developing countries to transport influenza samples to regional reference laboratories.


Step 5: Work with the WHO Secretariat, Ministries of Health, USAID, DOD, and other partners to enhance global capacity to detect other (non-H5) pandemic threats, by building on (and leveraging) influenza-related capacity-building and training efforts. Activities include the following:

- Providing training in epidemiology and diagnostic methods in collaboration with WHO and U.S. Government assets, via HHS/GDD Response Centers and FELTPs, focusing on detection of:
 - Influenza A subtypes other than H5N1 that could give rise to pandemic viruses
 - Other unusual or highly dangerous respiratory pathogens
- Making laboratory reagents available for the detection of viruses with pandemic potential (in addition to H5N1), via HHS/CDC-based WHO Collaborating Center Laboratories and the Laboratory Reference Network (LRN)
- Helping DOD to prioritize research to develop, refine, and validate diagnostic methods to rapidly identify pathogens of global and regional concern (also see Pillar Two, Action P and Q [HSC 4.2.3.8 and 4.2.3.9])

- F. Action (HSC 4.1.3.1): HHS will work with USAID and USDA on conducting educational programs focused on communications and social marketing campaigns in local languages to increase public awareness of the risks of transmission of influenza between animals and humans.

Timeframe: Within 12 months.

Measure of Performance: Clear and consistent messages, tested in local languages in targeted countries, with information communicated via a variety of media reaching broad audiences, including health care providers, veterinarians and animal health workers, primary- and secondary level educators, villagers in



high-risk and affected areas, poultry industry workers, and vendors in open-air markets. (Also see chapter 7, Pillar One, Action A [HSC 4.1.3.1].)

Step 1: Assist USAID and USDA, in collaboration with WHO and other international partners, in developing materials for educational campaigns that teach people in high-risk countries how to avoid contracting influenza from infected poultry or other animals or birds. These materials will be aimed at different audiences (veterinarians, teachers, villagers, poultry industry employers, workers, and vendors) and translated, as needed.

Step 2: Assist USAID and USDA, in collaboration with WHO and other international partners, in developing materials for educational campaigns that teach health care and public health workers to be on the alert for cases or clusters of respiratory disease that may be associated with disease outbreaks in poultry. These materials will be translated, as needed.


- G. Action (HHS 4.1.3.2): HHS will work with USAID, the WHO Secretariat and other multilateral organizations, existing bilateral programs, and private-sector partners to develop community-, workplace-, and hospital-based health prevention, promotion, and education activities in priority countries. (Also see chapter 7, Pillar One, Action B [HSC 4.1.3.2].)

Timeframe: Within 12 months.

Measure of Performance: 75 percent of targeted countries are reached with local language mass-media and community outreach programs that promote avian influenza awareness and behavior change.

Step 1: Work with USAID and NGOs to prepare public health messages that ask medical and public health workers to report unusual cases of respiratory disease to local authorities, emphasizing that a cluster of severe pneumonia of unknown origin among health care workers anywhere in the world constitutes a potential international emergency. These messages will be translated and distributed, as needed. (Also see Pillar One, Action F [HSC 4.1.3.1], Step 2 above.)

Step 2: Work with USAID and appropriate partners to develop public health materials for use in community-based educational campaigns that inform people in targeted high-risk countries about infection control and public health containment (or “social distancing”) measures (e.g., quarantine, school closures, travel restrictions) that can control outbreaks of pandemic influenza. (Also see Chapter 3, Public Health Interventions.) These materials will also provide information about antiviral drugs and vaccines. (Also see Chapter 5, Vaccines, and Chapter 6, Antivirals.) These materials will be translated and distributed, as needed.



Step 3: Work with USAID and appropriate partners to develop public health materials that inform health care workers about infection control measures that can control the spread of pandemic influenza in health care facilities and in the workplace. (Also see Chapter 3, Public Health Interventions.) These materials will also provide information about antivirals. These materials will be translated and distributed, as needed.

Communicating Expectations and Responsibilities

- H. Action (HSC 4.1.4.1): HHS will work with DOS, and USAID, and in coordination with other Federal agencies and global partners, to help ensure that the top political leadership of all priority countries understands the need for clear, effective coordinated public information strategies before and during an outbreak of avian or pandemic influenza. (Also see chapter 7, Pillar One, Action E [HSC 4.1.4.1].)

Timeframe: Within 12 months.


Measure of Performance: 50 percent of priority countries develop outbreak communication strategies that are consistent with the WHO September 2004 Report detailing best practices for communicating with the public during an outbreak.

Step 1: Assist DOS and USAID in encouraging priority high-risk countries to adopt WHO-recommended outbreak communications strategies in local languages, via participation in bilateral and multilateral meetings, and via informal contacts. (Also see chapter 7, Pillar One, Action A [HSC 4.1.3.1].)

Step 2: Assist DOS and USAID in providing information on pandemic influenza to U.S. citizens, businesses, and DOD personnel overseas, via the APEC Business Advisory Council, the U.S.-Association of Southeast Asian Nations (ASEAN) Council, the American Chamber of Commerce, and other governmental and nongovernmental organizations. (Also see chapter 7, Pillar One, Action F [HSC 4.1.4.2].)

- I. Action (HSC 4.1.4.4): In coordination with USAID and USDA, HHS will work with the WHO Secretariat, FAO, OIE, and other donor countries to implement a communications program that supports government authorities and private and multilateral organizations in at-risk countries in improving their national communications systems, with the goal of promoting behaviors that will minimize human exposure and prevent further spread of influenza in animal populations. (Also see chapter 7, Pillar One, Action G [HSC 4.1.4.4].)

Timeframe: Within 12 months.



Measure of Performance: 50 percent of priority countries have improved national avian influenza communications.

Step 1: Work with USAID and USDA, in collaboration with international partners, to develop public health materials that inform individuals who come into contact with poultry (farmers, poultry vendors, poultry buyers) about infection control practices that can minimize their risk of infection with avian influenza. These materials will be translated and distributed, as needed. (Also see Pillar One, Action F [HSC 4.1.3.1], Step 1 above.)

Step 2: Participate in U.S. Government efforts to work with the WHO Secretariat and donor countries to develop a plan to support government authorities and private and multilateral organizations in at-risk countries in disseminating public health information in local languages. (Also see Chapter 7, Communications.)

- J. Action (HSC 5.2.4.3): HHS will work with DOS and in consultation with the Department of Homeland Security (DHS), DOT, and aviation and maritime stakeholders in DOS efforts to negotiate arrangements with international organizations and foreign countries to voluntarily self-limit travel, if affected by a pandemic, and implement pre-departure screening protocols for persons with influenza-like illness.

Timeframe: Within 16 months.

Measure of Performance: Arrangements for screening protocols are negotiated.

Step 1: Work with the WHO Secretariat to develop rapid response and containment protocols that include discussions on travel restrictions and screening protocols. HHS/OS will assist the WHO Secretariat in promulgating these protocols in at-risk countries and establishing their agreement to limit travel as appropriate. Activities include:

- Providing assistance in the development of rapid response and containment protocols
- Initiating negotiations to encourage voluntary compliance with screening protocols (also see Pillar Three, Action J [HSC 4.3.2.1], Step 1 below)
- Providing assistance to countries as appropriate in their voluntary compliance

- K. Action (HSC 5.2.4.4.): HHS, with DOS, and in coordination with the Department of Homeland Security (DHS), DOT, and transportation and border stakeholders, will assess and revise procedures to issue travel information and advisories related to pandemic influenza. (Also see chapter 3, Pillar Two, Action G [HSC 5.2.4.4], and chapter 7, Pillar Two, Action B [HSC 5.2.4.4].)



Timeframe: Within 12 months.

Measure of Performance: Improved interagency coordination and timely dissemination of travel information to stakeholders and travelers.

Step 1: Work with DOS, in coordination with other partners, to assess and revise procedures for issuing travel information and advisories related to pandemic influenza.

- L. Action (HSC 4.2.7.1): HHS will work with DOS and in coordination with DOT, DHS, and the U.S. Trade Representative (USTR), and in collaboration with the WHO, the International Civil Aviation Organization (ICAO), and the International Maritime Organization (IMO) to assess and revise, as necessary and feasible, existing international agreements and regulations governing the movement and shipping of potentially infectious products, in order to ensure that international agreements are both adequate and legally sufficient to prevent the spread of infectious disease.

Timeframe: Within 12 months.

Measure of Performance: International regulations reviewed and revised.


Step 1: Assist DOS, as requested, in collaborating with international partners to assess and revise existing international agreements and regulations governing the movement and shipping of potentially infectious products.

- M. Action (HSC 4.2.8.1): HHS, in support of USAID, will develop community- and hospital-based infection control and prevention, health promotion, and education activity materials in local languages in targeted countries. (Also see chapter 7, Pillar Two, Action A [HSC 4.2.8.1].)

Timeframe: Within 9 months.

Measure of Performance: Local language health promotion campaigns and improved hospital-based infection control activities established and using developed materials in all targeted South East Asian countries.

Step 1: Work with WHO, other international partners, and USAID to develop public health materials for use in health promotion campaigns that inform people in high-risk countries about infection control and public health containment (“social distancing”) measures (quarantine, school closures, travel restrictions) that can control outbreaks of pandemic influenza. Information should also be provided about the use of antiviral drugs and vaccines. Provide these materials to USAID and the WHO Secretariat for translation, as needed. (Additional material on infection control measures and public health interventions can be found in



chapter 3, Pillar Two, Action C [HSC 4.2.8.1]; and additional material on the use of vaccines and antiviral drugs can be found in Chapter 5, Vaccines, and Chapter 6, Antivirals.)

Step 2: Develop public health materials that inform health care workers and hospital administrators about infection control measures to control the spread of pandemic influenza in health care facilities and in workplace health service facilities. Information should also be provided about the use of antiviral drugs and vaccines. Provide these materials to USAID and WHO for translation, as needed.

- N. Action (HSC 4.3.1.8): HHS will collaborate with DOS and USDA, USAID, and DHS in activities with the WHO Secretariat, FAO, OIE, the World Bank and regional institutions such as APEC, ASEAN, and the European Commission (EC), on improving public affairs coordination and establishing a set of agreed upon operating principles among these international organizations and the U.S. Government that describe the actions and expectations of the public affairs strategies of these entities in the event of a pandemic. (Also see chapter 7, Pillar Three, Action A [HSC 4.3.1.8].)

Timeframe: Within 6 months.

Measure of Performance: List of key public affairs contacts developed, planning documents shared, and coordinated public affairs strategy developed.

Step 1: Disseminate recommendations developed by a Canadian workshop on risk-communications in APEC economies, held in Vietnam, May 2006.


Step 2: Ensure products from related HHS-developed activities are disseminated to APEC contacts.

Step 3: Participate as needed in U.S. delegations to bilateral and multilateral meetings that consider how best to coordinate public health communications during avian and pandemic-influenza response efforts. Partners include Ministries of Health and Agriculture, the WHO Secretariat, FAO, OIE, the World Bank, APEC, ASEAN, and EC.

Producing and Stockpiling Vaccines, Antiviral Medications, and Medical Materiel

- O. Action (HSC 4.1.5.1): HHS will work with DOS and other agencies to use the IPAPI and bilateral and multilateral diplomatic contacts on a continuing basis to encourage nations to increase international production capacity and stockpiles of safe and effective human vaccines, antiviral medications, and medical material. (Also see Chapter 5 [Vaccines] and 6 [Antivirals].)

Timeframe: Continuous.



Measure of Performance: 50 percent increase in the number of priority countries that have plans to increase production capacity and/or stockpiles.

Step 1: Develop a list of countries with the potential to increase production capacity and stockpiles of safe and effective vaccines, antiviral drugs, and medical supplies.

Step 2: Participate alongside DOS in efforts to work with IPAPI and bilateral and multilateral diplomatic contacts to reach out to identified countries and encourage them to develop plans to increase production capacity for vaccines, antiviral drugs, and medical supplies.

- P. Action (HSC 4.1.5.2): HHS will work with USAID to coordinate and set up emergency stockpiles of personal protective equipment (PPE) and essential commodities, other than vaccine and antiviral medications, for responding to animal or human outbreaks.

Timeframe: Within 9 months.

Measure of Performance: Essential commodities procured and available for deployment within 24 hours.


Step 1: Develop educational materials that provide health care and public health workers with guidance on the optimal use of PPE (e.g., gloves, gowns, and masks) and other stockpiled items (other than vaccines and antiviral drugs). These materials will be provided to USAID for translation, as needed. These materials should accompany stockpiled items distributed in response to an animal or human outbreak.

- Q. Action (HSC 4.1.5.3): HHS will provide technical expertise, information, and guidelines for the stockpiling and use of pandemic influenza vaccines. (Also see chapter 5, Pillar One, Action N [HSC 4.1.5.3].)

Timeframe: Within 6 months.

Measure of Performance: All priority countries and partner organizations have received relevant information on pandemic influenza vaccines and strategies for their applications.

Step 1: Work through Health Attachés and other in-country representatives to coordinate HHS communications about the U.S. Government's position on the stockpiling and use of pandemic-influenza vaccines. These representatives will serve as conduits of HHS information, guidance, and updates on stockpile and vaccine issues.



Step 2: Identify priority countries for provision of technical expertise, information, and guidelines for stockpiling and use of vaccines.

Step 3: Ensure that priority countries receive guidelines for stockpiling and use of pandemic influenza vaccine.

Step 4: Ensure that targeted countries receive technical assistance for prioritizing populations to receive limited quantities in influenza vaccine and antivirals, and strategies for their application.

Step 5: During a pandemic, modify recommendations on using influenza vaccine by taking into account the characteristics of the pandemic virus and the vaccine. (Also see Chapter 5, Vaccines.)

- R. Action (HSC 4.1.6.1): HHS will continue to work with DOS and other agencies through the IPAPI and other bilateral and multilateral venues to build international cooperation, and encourage countries and regional organizations to develop diagnostic, research, and vaccine manufacturing capacity. (Also see Pillar One, Action S [HSC 4.1.6.2] below, and chapter 5, Pillar One, Action C [HSC 4.1.6.2].)

Timeframe: Within 24 months.

Measure of Performance: Global diagnostic and research capacity increased significantly compared to 24 months earlier. Significant investments made to expand international vaccine manufacturing capacity.


Step 1: Work with international partners to develop initiatives that support efforts by the private sector and by public–private partnerships in countries to develop new vaccines, antivirals, and diagnostic tests, as well as animal models and reagents suitable for research use.

Step 2: Provide support for the preclinical and clinical development of vaccines and antivirals.

Step 3: Establish a multilateral network in partnership with the Wellcome Trust, Oxford University, the WHO Secretariat, and multiple universities and hospitals in Southeast Asia for the conduct of clinical trials.

Step 4: Begin a Food and Drug Administration (FDA)-reviewed, multicenter, randomized clinical trial of approved vs. higher dose of oseltamivir.

Step 5: In collaboration with WHO, provide technical assistance for targeted countries or regions to develop diagnostic, research, and vaccine manufacturing capacity.

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- S. Action (HSC 4.1.6.2): HHS, in coordination with the WHO Secretariat, will establish at least six new sites for Collaborative Clinical Research on Emerging Infectious Diseases for conducting collaborative clinical research on the diagnostics, therapeutics, and natural history of avian influenza and other human emerging infectious diseases. In addition, within 18 months HHS will provide capability for in-country support for one or more countries for clinical trials that involve countermeasures against avian influenza in humans. (Also see Pillar One, Action R [HSC 4.1.6.1] above; chapter 5, Pillar One, Action C [HSC 4.1.6.2]; and chapter 6, Pillar One, Action E [HSC 4.1.6.2].)

Timeframe: 18 months.

Measure of Performance: Cooperative programs established in six new sites, to include the initiation of research protocols and design of clinical trials.

Step 1: Work with the WHO Secretariat to establish six new sites for Collaborative Clinical Research on Emerging Infectious Diseases to conduct collaborative clinical research on the diagnostic, therapeutic, and natural history of avian influenza and other human emerging infectious diseases.

Establishing Distribution Plans for Vaccines and Antiviral Medications

- T. Action (HSC 4.1.7.1): HHS will work with DOS and USAID, in collaboration with the WHO Secretariat, to coordinate the U.S. Government contribution to an international stockpile of antiviral medications and other medical countermeasures, including the development and exercise of international countermeasure distribution plans and mechanisms, and an agreed prioritization of allocation. (Also see Chapters 5 [Vaccines] and 6 [Antivirals] on domestic stockpiles and countermeasure-distribution plans and mechanisms.)

Timeframe: Within 6 months.

Measure of Performance: Release of proposed WHO doctrine of deployment and concept of operations for an international stockpile.

Step 1: Work with DOS and USAID to develop a plan for U.S. Government participation in a WHO-coordinated international stockpile of antivirals and other medical countermeasures. It is essential to achieve a coordinated U.S. Government approach to the organization and functioning of any international stockpiles of antivirals and other medical countermeasures.

Step 2: Work with DOS and USAID to develop and test the distribution plans and priorities for allocation of stockpiled items.

Step 3: Work with U.S. Government partners to ensure that U.S. Government-designed protocols for organizing and distributing a stockpile of antivirals and

other medical countermeasures are integrated into the WHO Secretariat's protocols.

- U. Action (HSC 4.1.7.2): HHS will collaborate with the Department of Justice (DOJ) and DOS in U.S. Government consideration of whether to seek to negotiate liability-limiting treaties or arrangements covering U.S. contributions to an international stockpile of vaccine and other medical countermeasures, in order to benefit from the protections of the Defense Appropriations Act.

Timeframe: Within 6 months.

Measure of Performance: Review initiated and decision rendered.

Step 1: At the request of DOJ and DOS, initiate interdepartmental reviews of proposals to negotiate liability-limiting treaties or arrangements.

Step 2: In the case of decisions to negotiate liability-limiting treaties, participate in negotiations as appropriate, representing HHS interests.

Step 3: In the case of decisions to negotiate liability-limiting treaties, work with DOS, other donors, and international organizations as appropriate to represent these decisions in international forums.

- V. Action (HSC 6.1.13.10): HHS will work with DOJ, DHS, DOS, and DOC, in support of DOJ led efforts to develop a joint strategic plan to ensure international shipments of counterfeit vaccine and antiviral medications are detected at our borders and that domestic counterfeit drug production and distribution is thwarted through aggressive enforcement efforts. (Also see chapter 5, Pillar One, Action J [HSC 6.1.11.2], and Pillar Three, Action C [HSC 6.1.13.10]; and chapter 6, Pillar Three, Action E [HSC 6.1.13.10].)


Timeframe: As required.

Measure of Performance: Joint strategic plan developed; international and domestic counterfeit drug shipments prevented or interdicted.

Step 1: Participate and provide advice at DOJ meetings on the public health problems associated with the counterfeiting, international distribution and risk of importation into the United States of counterfeit vaccines and antivirals.

Advancing Scientific Knowledge and Accelerating Development

- W. Action (HSC 4.1.8.1): HHS will support the Los Alamos H5 Sequence Database and the Institute for Genomic Research (TIGR), for the purpose of sharing avian H5N1 influenza sequences with the scientific community. (Also see Pillar One,



Action Y [HSC 4.1.8.4] below; and chapter 2, Pillar One, Actions N and P [HSC 4.1.8.1 and 6.1.15.2].)

Timeframe: Within 24 months.

Measure of Performance: Completed H5 sequences annotated and entered into both the Los Alamos database and GenBank.

Step 1: Continue to support a contract to the Institute for Genomic Research (TIGR) to fully sequence thousands of human and animal influenza viruses and place these sequences in a publicly accessible database (GenBank).

Step 2: Require HHS/NIH-funded grantees and contractors to upload H5 sequence data for rapid sharing on GenBank. GenBank sequences may be easily transferred to other databases, including the Los Alamos Sequence Database.

Step 3: Work with the WHO Global Influenza Network to obtain virus isolates from confirmed cases of human infection with avian influenza. The HHS/CDC Influenza Laboratory characterizes and sequences human isolates of H5N1 obtained via the WHO Global Influenza Surveillance Network. The sequence data are shared with GenBank and the Los Alamos H5 Sequence Database.

- X. Action (HSC 4.1.8.2): HHS will enhance a regional influenza genome-reference laboratory in Singapore.

Timeframe: Within 9 months.


Measure of Performance: Capacity to sequence complete influenza virus genome established in Singapore. All reported novel animal influenza samples sequenced and made available on public databases.

Step 1: Provide input into a request to provide support to the Genome Institute of Singapore (GIS). The request for application will contain exact requirements for sequencing and making publicly available novel animal influenza samples.

Step 2: Upon receipt of acceptable application, participate in the review of GIS application. If deemed to meet the requirements of the request for application, issue the award, and monitor progress of the award.

Step 3: Coordinate closely with USDA to ensure that animal influenza genomic information from the GIS is shared appropriately with other international and U.S. Government bodies.

- Y. Action (HSC 4.1.8.4): HHS, in coordination with DOS and DOD, will enhance open-source information-sharing efforts with international organizations and



agencies to facilitate the characterization of genetic sequences of circulating strains of novel influenza viruses.

Timeframe: Within 12 months.

Measure of Performance: Publication of sequences of all reported novel influenza viruses.

Step 1: Continue to support a contract to TIGR to fully sequence thousands of human and animal influenza viruses and place these sequences in a publicly accessible database (GenBank). (Also see Pillar One, Action W [HSC 4.1.8.1], Step 1 above; chapter 2, Pillar One, Actions N, O and P [HSC 4.1.8.1, 6.1.15.1, and 6.1.15.2].)

Step 2: Continue to provide technical support to the WHO Global Influenza Surveillance Network, which gathers and subtypes influenza isolates from more than 110 nations, providing seasonal-vaccine data on circulating strains and identifying new strains with pandemic potential. The Network sends new or unusual strains to CDC, including isolates from human cases of infection with H5N1, for confirmatory testing, subtyping, and sequencing. (Also see Pillar One, Action W [HSC 4.1.8.1], Step 3 above.)


Step 3: Work with USDA and academic partners in using animal and human influenza virus sequence data to accomplish the following:

- Provide diagnostic sequences for use in RT-PCR testing
- Identify potential vaccine antigens
- Provide information on viral evolution, relationships, and determinants of virulence
- Provide information on viral transmission and circulation
- Provide information on the genetic determinants of drug resistance

Step 4: Invest in the development and evaluation of rapid diagnostics for influenza (including novel subtypes like H5N1) by working with DOD, academic research centers, pharmaceutical companies, and medical-device companies. (Also see Pillar Two, Action Q [HSC 4.2.3.9] below; chapter 2, Pillar One, Action A and C [HSC 6.2.3.2 and 6.1.17.3].)

Pillar Two: Surveillance and Detection

HHS international activities under Pillar Two are intended to assist countries develop their ability to achieve early-warning alerts on pandemic threats. There is a theoretical possibility that this early-warning surveillance capability could result in containment of



outbreaks by the countries, or if necessary, allow time to mount a coordinated international response that could slow the spread of disease across borders. Once a pandemic is underway, surveillance information can help guide countries in making appropriate responses.

Pillar Two actions help the United States and other countries receive timely and accurate reports of outbreak events (HSC 4.2.1, 4.2.2, and 4.2.3) and utilize surveillance information to initiate measures aimed at limiting the spread of an outbreak in its early stages (HSC 4.2.4, 4.2.5, 4.2.7, 4.2.8, and 5.2.4.)

Ensuring Rapid Reporting of Outbreaks

- A. Action (HSC 4.2.1.1): In coordination with DOS, HHS will work on a continuing basis through IPAPI, and through bilateral and multilateral diplomatic contacts, to promote transparency, scientific cooperation, and the rapid reporting of avian and human influenza cases by other nations.

Timeframe: Within 12 months.


Measure of Performance: All high-risk countries actively cooperate in improving capacity for the transparent, rapid reporting of outbreaks.

Step 1: Work with the WHO Secretariat and its Regional and Country Offices, APEC and other regional forums and through bilateral meetings and agreements with high-risk countries to promote the core principles of IPAPI (<http://www.state.gov/r/pa/prs/ps/2005/53865.htm>) and impress upon countries the importance of transparency and rapid reporting.

Step 2: Assist DOS in implementing bilateral and multilateral initiatives to build cooperation and capacity to fight pandemic influenza internationally. Venues include:

- WHO Collaborating Centers, WHO Headquarters, and WHO Regional Offices
- HHS/GDD Response Centers
- APEC Influenza Surveillance Workgroup
- U.S.–China Joint Initiative on Avian Influenza
- U.S.–Indonesia–Singapore Joint Avian Influenza Demonstration Project

Step 3: Work with GOARN, Ministries of Health and Agriculture, the WHO Secretariat and its Regional and Country Offices, and the HHS/GDD Information Center to improve the speed and accuracy of data provided by GOARN Member



States on suspected and confirmed cases of avian and pandemic influenza. (Also see Pillar Two, Action E and F [HSC 4.2.1.5 and 4.2.1.7] below.)

Step 4: Support the WHO Secretariat's efforts to enhance early-warning infectious disease capabilities by:

- Strengthening surveillance and communications infrastructure of the WHO Secretariat, to enable it to better coordinate information management and outbreak response globally.
- Strengthening GOARN's response capabilities. (Also see Step 3, above.)
- Strengthening the WHO Strategic Health Operations Center (mobilized on 27th December, 2004).
- Strengthening Emergency Operations Centers (EOCs) established in the WHO South East Asia Regional Office (SEARO) in New Delhi and in WHO offices in affected countries and field sites.
- Developing and piloting the WHO Global Event Management System (GEMS), a system for data-management and information-exchange to support standard operating procedures for the detection, verification, and coordination of response to public health emergencies. GEMS will enable the WHO Secretariat and WHO Regional and Country Offices to receive, appraise, and share critical information internally, as well as with GOARN partners, WHO Member States, and the public in an appropriate and timely fashion on a 24-hour-per-day, 7-day-per-week basis.

- B. Action (HSC 4.2.1.2): HHS, in coordination with DOS, will pursue bilateral agreements with targeted countries on health cooperation that cover transparency, the sharing of samples and data, and the development of rapid-response protocols; and develop and train in-country rapid-response teams to assess and report quickly on possible outbreaks of avian and human influenza.

Timeframe: Within 12 months.

Measure of Performance: Agreements established with Viet Nam, Cambodia, and Laos, 100 teams throughout Asia, including China, Thailand, and Indonesia, trained and available to respond to outbreaks.

Step 1: In consultation with DOS and USAID, identify target countries and begin negotiations on Agreements and Memoranda of Understanding to ensure transparency and rapid reporting.

Step 2: Negotiate bilateral agreements with Ministries of Health on all aspects of the public health response to influenza, including:

- Providing technical assistance (laboratory and epidemiologic) to strengthen local capacity to participate in the WHO Global Influenza Surveillance Network. (Also see Pillar One, Action E [HSC 4.1.2.5], Step 1 above.)
- Developing and training in-country rapid-response teams to quickly assess and report on possible outbreaks of avian and human influenza at the village level. See Step 3 below.
- Facilitating the sharing of samples and data and developing rapid-response protocols. See Step 3 below.

Step 3: Facilitate the planning for and training of rapid-response teams by accomplishing the following:

- Assisting Ministries of Health in targeted affected countries and GOARN in developing national and regional rapid-response teams deployable within 24 hours.
- Working with WHO to train response team members and staff at Ministries of Health and Agriculture, HHS/GDD Response Centers, and other venues. Training topics will include outbreak investigations, cluster investigations, case-control investigations, and case-cohort investigations.
- Developing off-the-shelf standardized investigative instruments and rapid-response protocols in collaboration with WHO and other partners, with appropriate cultural modifications, as needed.
- Encouraging Ministries of Health to conduct drills and exercises. Activities can include tabletop exercises or the use of influenza response protocols to investigate noninfluenza disease clusters (e.g., clusters of pneumonia of unknown origin).
- Ensuring travel arrangements and procedures for shipping equipment, supplies, and biological samples are in place to facilitate U.S. participation in international outbreak teams.

- C. Action (HSC 4.2.1.3): HHS will place long-term staff at key WHO offices and in targeted countries to provide coordination of HHS-sponsored activities and to serve as liaisons with HHS.

Timeframe: Within 9 months.

Measure of Performance: Placement of staff and increased coordination with the WHO Secretariat and Regional Offices.

Step 1: Review current Departmental overseas assignments to recommend changes over the next 3 to 5 years, in light of current concerns related to pandemic influenza. HHS staff may be stationed at HHS/GDD Response Centers,



U.S. Embassies, WHO Regional and Country Offices, and/or DOD overseas medical research laboratories.

Step 2: Select individuals to serve as staff at key WHO offices, U.S. Embassies, and other institutions to provide coordination of HHS-sponsored activities and to serve as liaisons with HHS.

Step 3: Work with DOS, DOD, U.S. Embassies, the WHO Secretariat and host countries to assign individuals to key locations.

- D. Action (HSC 4.2.1.4): To the extent feasible, HHS will negotiate agreements with established networks of laboratories worldwide to enhance its ability to perform the laboratory analysis of human and animal virus isolates, and to train in-country government staff on influenza-related surveillance and laboratory diagnostics. (Also see Pillar Two, Action E [HSC 4.2.1.5], Step 3 below.)

Timeframe: Within 6 months.

Measure of Performance: Agreement negotiated and completed, and financing mechanism established with at least one laboratory network outside the United States.


Step 1: Continue to support and strengthen the WHO Global Influenza Surveillance Network, which gathers and subtypes influenza isolates from more than 110 nations, provides seasonal-vaccine data on circulating strains and identifies new strains with pandemic potential. The network sends new or unusual strains to HHS/CDC and/or other WHO Collaborating Centers for subtyping and sequence analysis.

Step 2: Provide diagnostic training and reagents to national public health laboratories and/or National Influenza Centers in targeted affected and high-risk countries to enhance their participation in the WHO Global Influenza Surveillance Network.

Step 3: Assist USDA, as requested, in subtyping, sequencing, and comparing avian influenza viruses isolated from poultry by international veterinary partners.

- E. Action (HSC 4.2.1.5): HHS will support the WHO Secretariat to enhance the early detection, identification, and reporting of infectious disease outbreaks through the WHO's Influenza Network and GOARN. (Also see Pillar Two, Action A [HSC 4.2.1.1] above.)

Timeframe: Within 12 months.



Measure of Performance: Expansion of the network to regions not currently included.

Step 1: Assist with the prompt identification of the entrance of H5N1 into new countries and continents via infected wild or domestic birds. This will entail working with the WHO Global Influenza Surveillance Network, GOARN, USDA, Ministries of Health and Agriculture, and other partners for:

- Providing clear and simple guidance on disease surveillance and reporting that can be implemented in the poorest and most remote locations, by focusing on surveillance for bird die-offs, epidemiologically associated human cases, or clusters of respiratory infection
- Coordinating global efforts to detect and report suspect cases, by using standardized case definitions and reporting protocols
- Working with partners to enhance the education of public health and veterinary authorities, poultry workers, and the public in the recognition and reporting of potential cases of avian influenza
- Engaging nontraditional groups, such as bird-watching societies, the media, and civic organizations, in avian influenza surveillance activities

Step 2: Assist with prompt reporting of cases and clusters of human infection with H5N1 and other novel influenza viruses by:

- Providing technical support for local public health education and outreach efforts by ministries of health and agriculture, the WHO Secretariat, and WHO Regional and Country Offices
- Working with Ministries of Health, WHO, and GDD Response Centers to provide training for health care providers in identifying patients with risk factors for disease caused by H5N1
- Working with Ministries of Health, WHO, USAID, and other partners to support public health field staff or other allied personnel (nongovernmental organizations, village volunteers in districts and provinces) in detecting and reporting suspected cases of avian influenza

Step 3: Work with the WHO Global Influenza Surveillance Network, Ministries of Health, and other partners to enhance laboratory capacity to confirm suspected cases and clusters of human infection with avian influenza by accomplishing the following:

- Promoting the increased availability of diagnostic tests for H5N1 and other influenza strains at National Influenza Centers. (Also see Pillar Two, Action D [HSC 4.2.1.4], Step 2 above.)

- Increasing resources and training in targeted countries and their neighbors for subtyping influenza strains by using RT-PCR and/or forwarding specimens to regional reference laboratories.

Step 4: Work with GOARN to help ensure prompt assessment of outbreaks by accomplishing the following:

- Working with Ministries of Health to help develop and train national and regional response teams that will investigate outbreaks and rapidly identify nascent influenza pandemics
- Working with DOS to encourage at-risk countries to join GOARN
- Developing active linkages between GOARN and the HHS/GDD Information Center at HHS/CDC (also see Pillar Two, Action B [HSC 4.2.1.2], Step 3 above)


Step 5: Monitor changes in H5N1 and other novel influenza viruses with pandemic potential. Avian influenza A/(H5N1) could evolve into a virus strain that can be transmitted efficiently from person-to-person and differ from the parent virus in virulence and/or susceptibility to antiviral drugs. Activities include the following:

- Sequencing the genomes of avian influenza isolates from humans to detect changes that might affect human-to-human transmissibility (e.g., re-assortment or changes in receptor binding sites)
- Working with the WHO Influenza Network, Ministries of Health, GOARN, and other international partners to support activities that enhance the global sharing of data and isolates (e.g., paying the costs of shipping isolates to reference laboratories, providing sequence databases)

Step 6: Work with academic and industry partners to refine rapid methods for monitoring viral resistance to adamantanes and neuraminidase inhibitors. The HHS/CDC Influenza Laboratory will teach rapid methods for monitoring drug resistance to selected influenza reference laboratories.

- F. Action (HSC 4.2.1.7): HHS, along with USAID, USDA, and DOS, will support FAO, OIE, WHO, the Office of the Senior UN System Coordinator for Avian and Human Influenza, host governments, and appropriate NGOs to expand the scope, accuracy, and transparency of human and animal surveillance systems, and to streamline and strengthen official protocols for reporting avian influenza cases.

Timeframe: Within 6 months.



Measure of Performance: 75 percent of targeted countries have established early warning networks, adapted international case definitions, and implemented standards for laboratory diagnostics of human and animal samples.

Step 1: Work through the WHO Secretariat, APEC and other regional forums and through bilateral meetings and agreements with targeted affected high-risk countries to promote the core principles of IPAPI (<http://www.state.gov/r/pa/prs/ps/2005/53865.htm>) and emphasize the importance of transparency and rapid reporting.

Step 2: Identify target countries and begin negotiations on Agreements and Memoranda of Understanding to ensure transparency and rapid reporting.

Step 3: Strengthen early warning systems for reporting human cases of infection with influenza A (H5N1) and other novel strains of influenza by accomplishing the following:

- Supporting efforts by GOARN to improve the speed and accuracy of data provided by WHO Member States on suspected and confirmed cases of human infection with H5N1 and other novel strains of influenza (also see Pillar Two, Action A [HSC 4.2.1.1], Step 3 above.)
- Working with the WHO Secretariat to provide updated influenza case definitions and diagnostic standards to the WHO Global Influenza Surveillance Network, as needed
- Encouraging targeted countries to initiate or enhance participation in the WHO Global Influenza Surveillance Network and GOARN
- Enhancing linkages between GOARN and the HHS/GDD Information Center to ensure prompt identification of potential pandemics

- G. Action (HSC 4.2.2.1): HHS, in collaboration with one or more established networks of laboratories around the world, including the WHO Influenza Network, and in coordination with USDA, will help train staff from targeted countries' Ministries of Health and Agriculture, to conduct surveillance and perform epidemiologic analyses on influenza-susceptible species and manage and report results of findings. (Also see Pillar One, Action E [HSC 4.1.2.5] above.)

Timeframe: Within 12 months.

Measure of Performance: 75 percent of targeted countries have access to multi-year training programs in epidemiology and surveillance.



Step 1: Work with USDA to support local language epidemiologic training for Ministry of Health and Ministry of Agriculture staff with responsibility for the following:

- Analyzing and reporting influenza surveillance data
- Outbreak investigations

Step 2: Work with DOS to negotiate an HHS–WHO Cooperative Agreement to develop and implement a training course in influenza for the Outbreak Response Leaders program. The goal is to establish and maintain a cadre of highly experienced trainers and coordinators for GOARN Outbreak Response Field Missions.

- H. Action (HSC 4.2.2.2): HHS will increase support of scientists who track potential emergent influenza strains through disease and virologic surveillance in susceptible animal species in targeted countries. HHS will coordinate this activity with that of USDA.

Timeframe: Within 9 months.


Measure of Performance: Surveillance for emergent influenza strains expanded in targeted countries.

Step 1: Support disease and virologic surveillance in wild birds, live bird markets, and pigs in Asia, and bird and pig surveillance in North America, via a contract with St. Jude Children’s Research Hospital to characterize animal influenza viruses with pandemic potential and to study influenza virus transmission and pathogenicity. (Also see Pillar One, Action B [HSC 4.1.1.2] above.)

Step 2: Continue to support one or more projects to increase animal influenza surveillance capabilities in target countries.

- I. Action (HSC 4.2.2.3): HHS, in coordination with DOD, will provide support to the Naval Medical Research Unit (NAMRU-2) in Jakarta, Indonesia, and Phnom Penh, Cambodia; to the Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok, Thailand; and to NAMRU-3 in Cairo, Egypt, to expand and expedite geographic surveillance of human populations at-risk for H5N1 infections in those and neighboring countries through training, enhanced surveillance, and enhancement of the Early Warning Outbreak Recognition System (EWORS).

Timeframe: Within 12 months.



Measure of Performance: Reagents and technical assistance provided to countries in the network to improve and expand surveillance of H5N1 by increasing the number of specimens tested by real-time processing.

Step 1: Provide technical assistance to DOD–GEIS and DOD overseas medical research laboratories on influenza surveillance issues, training programs in influenza diagnostics, and enhancement of EWORS, as requested.

- J. Action (HSC 4.2.2.4): To enhance surveillance and response to high priority infectious diseases, including influenza with pandemic potential, HHS will train physicians and public health workers in disease surveillance, applied epidemiology, and outbreak response at its HHS/GDD Response Centers in Thailand, Kenya, and Egypt, and at the U.S.–China Collaborative Program on Emerging and Re-Emerging Infectious Diseases. (Also see Pillar One, Action E [HSC 4.1.2.5] above.)

Timeframe: Within 12 months.

Measure of Performance: 50 local physicians and public health workers who live in targeted countries have received training in disease surveillance, applied epidemiology, and outbreak response.


Step 1: Support training, including in local languages, in epidemiology and diagnostics for local physicians and public health workers in targeted affected and high-risk countries, at HHS/GDD Response Centers, the REDI Center and/or DOD overseas medical research laboratories. This training will also enhance global capabilities for detecting other emerging and re-emerging pathogens.

- K. Action (HSC 4.2.3.1): HHS will develop and implement training programs in laboratory diagnostics and basic laboratory techniques related to the preparation of influenza samples and diagnostics in priority countries.

Timeframe: Within 9 months.

Measure of Performance: 25 local laboratory scientists trained in the preparation of influenza samples and diagnostics.

Step 1: Provide public health laboratory staff with training in the detection of H5N1 and other viruses with pandemic potential, at the HHS/GDD Response Center in Kenya, China, Guatemala, Egypt, and Thailand, and at DOD overseas medical research laboratories. These trainees will form a cadre of trainers who can help build laboratory and epidemiologic capacity in their home countries. (Also see Pillar One, Action E [HSC 4.1.2.5] above.)

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- L. Action (HSC 4.2.3.2): HHS in collaboration with one or more established networks of laboratories, including the WHO Influenza Network, will train staff from targeted countries on influenza-related laboratory diagnostics.

Timeframe: Within 12 months.

Measure of Performance: 100 percent of targeted countries have training activities established.

Step 1: Support laboratory diagnostics training for staff from Ministries of Health and Agriculture with responsibility for:

- Analyzing and reporting influenza surveillance data
- Outbreak investigations (also see Pillar One, Action E [HSC 4.1.2.5], Step 1 above).

- M. Action (HSC 4.2.3.3): HHS, in cooperation with the WHO Secretariat and other donor countries, will expand the existing Specimen Transport Fund that enables developing countries to transport influenza samples to WHO regional reference laboratories and collaborating centers.

Timeframe: Within 6 months.

Measure of Performance: 100 percent of priority countries funded for sending influenza samples to WHO regional reference laboratories.


Step 1: Support the WHO Specimen Transport Fund that enables developing countries to transport influenza samples to regional reference laboratories.

- N. Action (HSC 4.2.3.4): HHS will enhance the ability of the global health care community to rapidly diagnose influenza by investing in the development and evaluation of more accurate rapid diagnostics for influenza. (Also see chapter 2, Pillar One, Action D [HSC 4.2.3.4].)

Timeframe: Within 18 months.

Measure of Performance: New grants and contracts issued to researchers to develop and evaluate new diagnostics.

Step 1: Facilitate the availability of diagnostic materials, such as proteins and antibodies, through its reagent repository in support of development and evaluation of point-of-care rapid diagnostic tests.



Step 2: Work with the Association of Public Health Laboratories (APHL) and the LRN to develop protocols for subtyping new strains of influenza and to provide diagnostic reagents to national and regional public health laboratories.

- O. Action (HSC 4.2.3.5): HHS will work with the WHO Secretariat and private sector partners, through existing bilateral agreements, to provide support for human health diagnostic laboratories by developing and giving assistance in implementing rapid international laboratory diagnostics protocols and standards in priority countries. This work will be coordinated with USAID.

Timeframe: Within 12 months.

Measure of Performance: 75 percent of priority countries have improved human diagnostic laboratory capacity.

Step 1: Provide support for human health diagnostic laboratories to develop more rapid testing methods for influenza and to establish objectives for rapid screening, in coordination with efforts by USAID, the WHO Secretariat, and private sector partners, and through existing bilateral agreements. (Also see Chapter 2, Domestic Surveillance, for HHS Actions in facilitating diagnostic testing.)

Step 2: Work with the WHO Global Influenza Surveillance Network, APHL, and other partners to develop simple, uniform, standardized guidance on diagnostic methods that can be used for testing and training purposes at public health and clinical laboratories. These protocols will be translated and disseminated by WHO and USAID, as needed.

Step 3: Work with APHL, LRN, and WHO to disseminate RT-PCR subtyping protocols to regional reference laboratories.

Step 4: During a pandemic, the CDC Influenza Laboratory will work with the WHO Global Influenza Surveillance Network to update and disseminate diagnostic protocols, as needed.

- P. Action (HSC 4.2.3.8): HHS will work with DOD in support of DOD development and refinement of the DOD–GEIS overseas virologic and bacteriologic surveillance infrastructure at the DOD overseas medical research laboratories. This work will include development and implementation of seasonal influenza laboratory surveillance and an animal/vector surveillance plan linked with WHO pandemic phases. (Also see Pillar One, Action E [HSC 4.1.2.5] above.)

Timeframe: Within 18 months.

Measure of Performance: Animal/vector surveillance plan and DOD overseas virologic surveillance network developed and functional.

Step 1: Assist DOD–GEIS, as requested, in enhancing regional surveillance for seasonal influenza strains.

Step 2: Assist DOD–GEIS, as requested, in developing and implementing a plan for monitoring influenza in birds and other animals.

- Q. Action (HSC 4.2.3.9): HHS will work with DOD as requested to assist DOD prioritize its international laboratory research efforts to develop, refine, and validate diagnostic methods to rapidly identify pathogens.

Timeframe: Within 18 months.

Measure of Performance: Assistance requested and provided to DOD in completing its research plan prioritization.

Step 1: Assist DOD–GEIS and its overseas medical research laboratories, as requested, in prioritizing goals for developing new diagnostic tests for the identification of infectious pathogens of regional or global concern. Rapid, sensitive, robust, cost-effective, and field-friendly diagnostic tests for influenza and other pathogens are urgently needed. (Also see Pillar One, Action E and Y [HSC 4.1.2.5 and 4.1.8.4 Step 4]; and Chapter 2, Domestic Surveillance.)

Using Surveillance To Limit Spread

- R. Action (HSC 4.2.4.1): HHS, in coordination with USAID and regional and international multi-lateral organizations, will work to develop village-based alert and response surveillance systems for human cases of influenza in priority countries.

Timeframe: Within 18 months.

Measure of Performance: 75 percent of all targeted countries have established a village alert and response system for human influenza.

Step 1: Work with the WHO Secretariat, Ministries of Health, and HHS/GDD Response Centers to enhance local influenza reporting by providing training and support for health care providers to identify patients with risk factors for disease caused by avian influenza A (H5N1). (Also see Pillar One, Action F [HSC 4.1.3.1], Step 2 above.)

Step 2: Provide technical support for outreach efforts by WHO Headquarters, WHO Regional and Country Offices, and Ministries of Health in targeted countries that increase public and professional awareness of the need to detect each and every case and cluster of human respiratory infection (family, health care, or institutional) during the pandemic alert period. (Also see Pillar One, Action F [HSC 4.1.3.1], Step 2 above.)

- S. Action (HSC 4.2.5.1): HHS, in conjunction with USAID, the WHO Secretariat, and other donor countries, will develop rapid-response protocols for use in responding quickly to credible reports of human-to-human transmission that may indicate the beginnings of an influenza pandemic.

Timeframe: Within 12 months.

Measure of Performance: Adoption of protocols by the WHO Secretariat and other stakeholders. (Also see chapter 7, Pillar Two, Action A [HSC 4.2.8.1].)

Step 1: Work with USAID, in collaboration with GOARN, FETPs, HHS/GDD Response Centers, and other partners to develop off-the-shelf standardized investigative instruments and rapid response protocols. These tools will be provided to USAID for translation into local languages, with appropriate cultural modifications.

Step 2: Encourage Ministries of Health in affected and high-risk countries to conduct drills and exercises using their National Response Plan (NRP) and the investigative instruments described in Step 1. Activities can include tabletop exercises or the use of influenza response protocols to investigate noninfluenza disease clusters (e.g., clusters of pneumonia). (Also see Pillar Two, Action B [HSC 4.2.1.2], Step 3 above.)

Pillar Three: Response and Containment

HHS international activities under Pillar Three focus on limiting the spread of H5N1 and other novel influenza viruses in poultry and humans. These actions involve U.S. support for, and international coordination of, immediate and reliable investigations of all suspected cases, clusters, or outbreaks of H5N1 in humans; and the conduct of rapid assessments of the possible occurrence of human-to-human spread. They include HHS collaborative participation in international rapid response teams; the possible use of predeployed HHS stockpiles of antivirals; HHS collaboration and coordination with other countries on the implementation of public health interventions (e.g., travel restrictions, quarantine, workplace and school closings); and HHS promotion of the stringent use of infection control measures at health care facilities and in communities affected by H5N1 (HSC 4.3.1, 4.3.2, 5.3.1, and 5.2.4).

In addition, HHS international activities include encouragement of the appropriate distribution and use of countermeasures such as antivirals and vaccines (HSC 4.3.3); U.S. interdepartmental consideration on the broader international security and economic issues stemming from the pandemic threat (HSC 4.3.5); and efforts to transparently communicate U.S. and HHS policy and HHS objectives in pandemic planning, surveillance, and response (HSC 4.3.6, 5.3.1, and 5.3.3).

Containing Outbreaks

- A. Action (HSC 4.3.1.1): HHS will work with DOS, USDA, USAID, and DOD on the coordinated development and implementation of the U.S. Government's capability to respond rapidly to assess and contain outbreaks of avian-influenza with pandemic potential abroad. U.S. Government capability development will include the training of U.S. personnel to participate in bilateral and multi-lateral rapid response teams.

Timeframe: Ongoing.

Measure of Performance: Agreed upon operating procedures and operational support for U.S. rapid response, and for U.S. participation in international rapid response efforts, are developed and function effectively.

Step 1: Maintain a roster of experts from various disciplines who can participate in international response teams, and stay in close contact with Ministries of Health in countries that experience H5N1 outbreaks in poultry.

Step 2: Maintain a roster of U.S. Government influenza experts (in the United States and stationed abroad) who can serve on international response teams. Duties will include evaluating the severity and geographic scope of outbreaks and helping to implement public health interventions and countermeasures.

Step 3: Send epidemiologists to investigate suspected cases of human infection with H5N1, as part of WHO teams and/or at the request of Ministries of Health. HHS/CDC experts have participated in onsite investigations of H5N1 infection since the first human cases were detected in humans in Hong Kong in 1997.

- B. Action (HSC 4.3.1.2): HHS, in coordination with DOS, will work with the WHO Secretariat and the international community to secure agreement (e.g., through a resolution at the World Health Assembly in May 2006) on an international containment strategy to be activated in the event of a human outbreak, including an accepted definition of a "triggering event" and an agreed doctrine for coordinated international action, the responsibilities of nations, and steps they will take.

Timeframe: Within 4 months.

Measure of Performance: International agreement on a response and containment strategy.

Step 1: Assisted DOS in working with the international community to pass a WHO resolution to endorse an international containment strategy at the World Health Assembly in May 2006. The strategy will address the following:

- Efforts to limit the spread of outbreaks of H5N1 in poultry, to prevent spread to other countries, and to reduce opportunities for human infection (also see Pillar Three, Action E [HSC 4.3.1.5], Step 4 below.)
- Immediate investigation of all cases and clusters of suspected human infection with H5N1, and rapid assessment of whether human-to-human transmission is occurring (also see Pillar Three, Action C, [HSC 4.3.1.3], Step 1 below)
- Aggressive efforts to contain a nascent pandemic that appears anywhere in the world, using all available public health tools (also see Pillar Three, Action D [HSC 4.3.1.4], Step 1 below)

Step 2: Work with DOS and other partners to encourage affected and at-risk countries in Southeast Asia and elsewhere to join GOARN, which will coordinate international containment efforts. (Also see Pillar Two, Action S [HSC 4.2.1.5], Step 4 above.)

- C. Action (HSC 4.3.1.3): HHS, in coordination with DOS and the WHO Secretariat, and USDA, USAID, and DOD, as appropriate, will rapidly deploy disease surveillance and control teams to investigate possible human outbreaks through the WHO's GOARN network.

Timeframe: As required.


Measure of Performance: Teams deployed to suspected outbreaks within 48 hours of request.

Step 1: Actively support local and regional efforts to investigate reported cases of human infection with H5N1. This will entail the following:

- Maintaining close contact with Ministries of Health in affected countries, the WHO Secretariat, and GOARN
- Providing epidemiologic and laboratory training and support, as needed, to local or regional investigative teams

Step 2: Use epidemiologic and laboratory data to rapidly determine whether a confirmed case or cluster of human infection with H5N1 signals the possible emergence of a pandemic virus.

- D. Action (HSC 4.3.1.4): HHS will work with DOS in its efforts to coordinate U.S. Government (HHS, USDA, USAID, and DOD) and WHO Secretariat participation in the implementation of the international strategy for influenza response and containment (e.g., assigning experts to the WHO outbreak teams and providing assistance and advice to Ministries of Health on local public health



interventions, ongoing disease surveillance, and the use of antiviral medications and vaccines if they are available).

Timeframe: Ongoing.

Measure of Performance: Teams deployed to suspected outbreaks within 48 hours of request.


Step 1: Actively support local efforts to contain an outbreak that might be caused by a pandemic influenza virus, wherever in the world it may arise, by:

- Maintaining close contact with Ministries of Health in affected countries and the WHO Secretariat.
- Assigning U.S. Government experts to international response teams, as needed. The teams will evaluate the severity and geographic scope of the outbreak and help implement public health interventions and countermeasures.
- Providing laboratory support to international response teams, as needed, in association with the WHO Global Influenza Surveillance Network.
- Consulting with Ministries of Health and the WHO Secretariat on all aspects of the public health response to pandemic influenza, including the following:
 - Local public health interventions (e.g., local travel restrictions, quarantines, and school and workplace closures)
 - Infection control measures in health care facilities and in communities
 - Ongoing disease surveillance
 - The distribution and appropriate use of antivirals and vaccines, if they are available
 - Ongoing evaluation of containment efforts

Step 2: Ensure that HHS and other U.S. Government experts stationed in affected areas (at HHS/GDD Response Centers, U.S. Embassies, or WHO Regional and country Offices) are available to serve on, support, or advise international outbreak teams.

Step 3: Test viral isolates for drug susceptibility to antiviral drugs.

Step 4: Conduct genomic sequencing of viruses isolated from human cases and compare them to isolates from other humans, birds, and animals. (Also see Pillar Two, Action S [HSC 4.2.1.5], Step 3 above.)



Step 5: Work with WHO and affected countries to provide public health information to people in local languages in affected countries. (Also see Chapter 7, Communications.)

- E. Action (HSC 4.3.1.5): With USDA, USAID, DOS, and DOD, and in collaboration with relevant international organizations, HHS will support a coordinated operational deployment of rapid-response teams and provide technical expertise and technology to support avian-influenza assessment and response teams in priority countries as required.

Timeframe: Ongoing.

Measure of Performance: All priority countries have rapid access to avian influenza assessment and response teams; deployment assistance provided in each instance and documented in a log of technical assistance rendered.

Step 1: Work with USDA in assisting, as requested, the WHO Secretariat and Ministries of Health and Agriculture to investigate suspected H5N1 outbreaks in poultry, and providing advice on containment measures, such as culling flocks or vaccinating chickens. Immediate action to limit the spread of avian influenza to new countries or continents will reduce the opportunities for human infection, as well as for genetic exchanges between avian and human viruses that could hasten the evolution of a pandemic strain of human influenza.

Step 2: Advise affected countries and the WHO Secretariat on the need for intensified public health surveillance for individuals with influenza-like symptoms (e.g., for associated cases of human H5N1 infection) in areas where poultry outbreaks occur.

Step 3: Assist USDA, as requested, in reference testing of poultry specimens from outbreak areas and the sequencing of viral isolates.

Step 4: Compare genomic sequences of avian influenza viruses isolated from cases of human infection with viral sequences isolated from poultry and other birds and animals. (Also see Pillar Two, Action S [HSC 4.2.1.5], Step 5; and Step 3 above.)

- F. Action (HSC 4.3.1.6): HHS will collaborate with the DOS lead on U.S. Government engagement with the international community on efforts to develop a coordinated plan for avian-influenza assistance (funds, materiel, and personnel) to streamline national assistance efforts. (Also see Pillar One, Actions A, B, C, F, G, O and T [HSC 4.1.1.1, 4.1.1.2, 4.1.2.1, 4.1.3.1, 4.1.3.2, 4.1.5.1, 4.1.7.1, 4.2.1.1, 4.2.1.2, 4.2.1.5, and 4.2.1.7]; Pillar Two, Actions M and S [HSC 4.2.3.3 and 4.2.5.1]; and Pillar Three, Actions B and C [HSC 4.3.1.2 and 4.3.1.3] above.)



Timeframe: Within 12 months.

Measure of Performance: Commitments from countries on funds, personnel, and materiel they will contribute to an integrated and prioritized international prevention, preparedness, and response effort.

Step 1: Assist DOS, as requested, in working with the WHO Secretariat, GOARN, and Ministries of Health to develop an integrated and prioritized pandemic influenza plan for the provision of emergency response assistance from donor countries. Coordination of international outbreak assistance is essential for efficient response to an influenza pandemic.

Step 2: Share information with other donor countries on U.S. Government's plans for avian influenza assistance, and will stress the need for coordination.

Step 3: As necessary, establish agreements with donor countries to ensure funds, personnel, and materiel are available and there is no duplication.

- G. Action (HSC 4.3.1.7): HHS will assist with DOS, DOD, and USAID work with the international community to develop a coordinated, integrated and prioritized distribution plan for pandemic-influenza assistance that details a strategy for: (1) strategic lift of WHO response teams and stockpiles of medical countermeasures; (2) theater distribution to affected countries; (3) in-country coordination to key distribution areas; and (4) establishment of internal mechanisms within each country for distribution to urban, rural, and remote populations.

Timeframe: Within 12 months.


Measure of Performance: Commitments by countries that specify their ability to support distribution, personnel and material for such support.

Step 1: Assist DOS and DOD in working with affected and high-risk countries to develop coordinated, integrated, and prioritized in-country distribution plans for the following:

- Transport and distribution of stockpiled items
- Transport of international response teams

Step 2: Participate in internal U.S. Government discussions to develop a plan for in-country deployment of stockpiled material, including antivirals.

- H. Action (HSC 5.3.1.1): HHS will work with DOS and DHS and in coordination with DOT, DOC, Treasury, and USDA, and with foreign counterparts, to limit or restrict travel from affected regions to the United States, as appropriate, and notify



host government(s) and the traveling public. (Also see chapter 3, Pillar Three, Action C [HSC 5.3.1.1].)

Timeframe: As required.

Measure of Performance: Measures imposed within 24 hours of the decision to do so, after appropriate notifications made.

Step 1: Work with WHO and U.S. Government partners to develop protocols that include determinations as to when to restrict travel to the United States. Ensure that at-risk countries are aware of these protocols as appropriate. Activities include:

- Remaining in close communication with the WHO Secretariat and other international organizations to stay current on the extent of outbreaks
- Consulting with appropriate HHS Operational Divisions (OPDIVs)
- Communicating the best advice to DOS and other U.S. Government agencies

- I. Action (HSC 5.3.1.3): HHS will collaborate with DOS, DHS, and DOT as requested, concerning U.S. Government offers of transportation-related technical assistance to countries with outbreaks.

Timeframe: As appropriate.

Measure of Performance: Countries with outbreaks receive U.S. offer of technical support within 36 hours of an outbreak.

Step 1: Assist DOS, as requested, in offering transportation-related technical assistance to countries with outbreaks.

- J. Action (HSC 4.3.2.1): HHS, in coordination with DOS, DHS, DOD, and DOT, and in collaboration with foreign counterparts, will support the implementation of pre-existing passenger screening protocols in the event of an outbreak of pandemic influenza. (Also see Pillar One, Action J [HSC 5.2.4.3] above; chapter 3, Pillar Three, Action A [HSC 4.3.2.1].)

Timeframe: Ongoing.

Measure of Performance: Protocols implemented within 48 hours of notification of an outbreak of pandemic influenza.

Step 1: Assist DOS in working with other countries and travel-industry partners during the pre-pandemic period to develop international travel agreements and standards for the following:

- Limiting international travel to and from affected areas, which might include mandatory measures and/or negotiated arrangements to self-limit exit travel in return for technical assistance and other support
- Implementing predeparture screening protocols for persons with influenza-like illness
- Preventing the spread of avian and pandemic strains of influenza via shipments of potentially infectious products

Step 2: Work with DOS to establish procedures for pandemic-related overseas screening of U.S. bound immigrants and refugees, who receive predeparture medical checkups as part of their visa requirements.

Step 3: Advise DOS, as needed, on when to activate international and bilateral travel agreements on the following:

- Limiting international travel
- Predeparture screening of persons with influenza-like illness
- Preventing disease spread via shipments of contaminated products (see Step 1 above)

Leveraging International Medical and Health Surge Capacity


- K. Action (HSC 4.3.3.1): In coordination with DOS, USAID, USDA, and DOD, HHS will work with IPAPI to assist in the prompt and effective delivery of countermeasures to affected countries, consistent with U.S. law and regulation and the agreed upon doctrine for international action, to respond to and contain an outbreak of influenza with pandemic potential.

Timeframe: Ongoing.

Measure of Performance: Necessary countermeasures delivered to an affected area within 48 hours of agreement to meet request.

Step 1: Assist DOS and USAID, as requested, in the delivery and distribution of countermeasures to affected countries, consistent with a preestablished international containment strategy. Countermeasures can include PPE, medical supplies, antivirals, and vaccines (if available).

Step 2: Consult with Ministries of Health and the WHO Secretariat, as requested, on the use of medical countermeasures, including antivirals and vaccines, if available. (Also see Chapter 5, Vaccines, and Chapter 6, Antivirals.)



Step 3: Consult with Ministries of Health and the WHO Secretariat, as requested, on the use of nonmedical countermeasures, including:

- Local health care and infection control issues, including use of PPE
- Local containment measures, such as closings of schools or workplaces, local travel restrictions
- Dissemination of public health messages in local languages on infection control and public health containment measures (see Chapter 7, Communications)

- L. Action (HSC 5.3.3.1): With USDA, and in coordination with DHS, DOT, DOS, and the Department of Interior (DOI), HHS will provide emergency notifications of potential cases and/or outbreaks to key international, federal, State, local, and tribal transportation and border stakeholders through existing networks. (Also see chapter 2, Pillar Three, Action A [HSC 5.3.3.1]; chapter 3, Pillar Three, Action P [HSC 5.3.3.1]; and chapter 7, Pillar Three, Action H [HSC 5.3.3.1].)

Timeframe: Ongoing.

Measure of Performance: Emergency notifications occur within 24 hours or less of events of probable or confirmed cases or outbreaks.

Step 1: Maintain regular communication with key partners at Ministries of Health in targeted and at-risk countries, through Health Attachés and other in-country staff. HHS will notify DOS and other partners when news of outbreaks is received and facilitate information exchange with partners. Activities include:


- Remaining in close communication with Ministries of Health and the WHO Secretariat to stay abreast on news of potential or actual outbreaks
- Conducting inter-HHS OPDIV consultations to determine validity of such news
- Communicating the best advice to DOS and other U.S. Government agencies

Sustaining Infrastructure, Essential Services, and the Economy

- M. Action (HSC 4.3.5.1): HHS will participate in a DOS-organized interagency group to analyze the potential economic and social impact of a pandemic on the stability and security of the international community.

Timeframe: Within 3 months.

Measure of Performance: Issues identified and policy recommendations prepared.



Step 1: Participate in a DOS-led interagency group, the aim of which is to analyze the potential effects of a pandemic on international stability and security, and recommend strategies to mitigate them.

Ensuring Effective Risk Communication

- N. Action (HSC 4.3.6.1): HHS will participate in a DOS-coordinated interagency public diplomacy group, along with USAID, USDA, DOD, and DHS, to develop a coordinated, integrated, and prioritized plan to communicate U.S. foreign policy objectives relating to our international engagement on avian and pandemic influenza to key stakeholders (e.g., the American people, the foreign public, NGOs, international businesses). (Also see chapter 7, Pillar Three, Action I [HSC 4.3.6.1].)

Timeframe: Within 3 months.

Measure of Performance: Number and range of target audiences reached with core public affairs and public diplomacy messages, and the impact of these messages on public responses to avian and pandemic influenza.

Step 1: Participate on interagency steering committee that works with the WHO Secretariat, Canada, UK and other selected countries on a coordinated risk communication strategy.


Step 2: Participate, as needed, in DOS-led efforts to develop a coordinated, integrated, and prioritized plan to communicate U.S. foreign policy and public health objectives related to U.S. Government engagement in avian and pandemic influenza response.

- O. Action (HSC 4.3.6.2): HHS will assist DOS in providing at least monthly updates to DOS foreign counterparts, through diplomatic channels and U.S. Government websites, regarding changes to national policy or regulations that could result from an outbreak, and will work with DOS to achieve coordinated posting of such information to U.S. Government websites (e.g., <http://www.pandemicflu.gov>). (Also see chapter 7, Pillar Three, Action J [HSC 4.3.6.2].)

Timeframe: Ongoing.

Measure of Performance: Foreign governments and key stakeholders receive authoritative and regular information on U.S. Government avian influenza policy.

Step 1: Maintain regular contact with officials at U.S. Embassies, Ministries of Health, and the WHO Regional and Country Offices to inform and update partners on changes to national policy or regulations that could result from an outbreak:

- 
- Hosting weekly phone calls with HHS Health Attachés and other in-country representatives to inform U.S. Government personnel of changes in policies or regulations
 - Hosting monthly phone calls with public health officials in other countries, including staff from Ministries of Health and WHO Regional and Country Offices, to discuss changes in policy or regulations

P. Action (HSC 5.3.1.2): HHS, in coordination with DOT, DOC, Department of Treasury, and USDA, will assist DOS and DHS in their working with foreign countries to implement agreed upon pre-departure screening based on disease characteristics and availability of rapid detection methods and equipment. (Also see chapter 3, Pillar Three, Action D [HSC 5.3.1.2].)

Timeframe: As required.

Measure of Performance: Screening protocols agreed upon and put in place in countries within 24 hours of an outbreak.

Step 1: Work with the WHO Secretariat and U.S. Government partners to develop protocols that include determinations as to when to restrict travel to the United States. Ensure that at-risk countries are aware of these protocols, as appropriate. Activities include the following:

- Remaining in close communication with the WHO Secretariat and other international organizations to stay current on the extent of outbreaks
- Conducting intra-HHS OPDIV consultations and discussions
- Communicating the best advice to DOS and other U.S. Government agencies