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CHAPTER 3: PUBLIC HEALTH INTERVENTIONS

Introduction

The optimal strategies for prevention and control of pandemic influenza are the same as for seasonal influenza: vaccination, early detection and treatment with antiviral medications, and the use of infection-control measures to prevent infection spread during patient care. However, when a pandemic emerges, a vaccine may not be available, and the supply of antiviral drugs may be limited. Therefore, non-pharmaceutical public health interventions will be an important strategy to contain infection, delay spread, and reduce the impact of pandemic disease. In health care settings, infection-control measures will be essential. Non-pharmaceutical interventions will also be important to help limit virus transmission and therefore reduce an individual's risk for infection. Pharmaceutical interventions, including vaccination and the use of antiviral medications, are principally covered in Chapter 5, Vaccines, and in Chapter 6, Antiviral Drugs.

Current guidance from HHS on infection control for influenza is based on our knowledge of routes of influenza transmission, pathogenesis, and the effects of influenza-control measures used during past pandemics and between pandemics**.** Infection-control precautions primarily involve the application of standard precautions and precautions against droplets during patient care in health care settings (e.g., hospitals, nursing homes, outpatient offices, emergency transport vehicles). These practices also apply to health care personnel's going into the homes of patients. Preplanned public education campaigns regarding cough etiquette, hand hygiene, personal social-distancing measures (e.g., avoiding public places/meetings), and infection-control measures when caring for ill persons at home will be key non-pharmaceutical public health interventions during a pandemic. (For more information, please see the **HHS Pandemic Plan** at http://www.pandemicflu.gov).

Due to potential limitations in pharmaceutical interventions, non-pharmaceutical domestic community-containment measures will likely play an important role in slowing and limiting the spread of pandemic influenza. These measures include isolation at home of persons who are ill, home and facility quarantine of persons who are exposed, and community social-distancing measures (e.g., closure of public places, specific worksites, and schools; and stoppage of public transportation). These measures have not been applied recently for influenza, and we have at present neither the science nor the experience to create firm guidelines for their use during a pandemic. Therefore, extensive collaboration among Federal, State, local, and tribal agencies and academic institutions will be required to create practical and useful guidelines for evaluating the trigger points and logistical steps for implementing domestic community-containment measures.

This chapter considers public health interventions in community and health care settings as they relate to the seven U.S. Response Stages defined in the **HHS Pandemic Influenza Plan:**

0: New Domestic Animal Outbreak in At-Risk Country
1: Suspected Human Outbreak Overseas
2: Confirmed Human Outbreak Overseas
3: Widespread Human Outbreaks in Multiple Locations Overseas
4: First Human Case in North America
5: Spread throughout the United States
6: Recovery and Preparation for Subsequent Waves

Table 2 in the Introduction of this document indicates how these U.S. Response Stages 1–6 correspond to the WHO Pandemic Periods and Phases. The WHO phases reflect the expected progression of a pandemic worldwide and provide a framework for evaluating the global situation. The U.S. Response Stages are useful for planning domestic disease containment strategies and activities. (See page 20 of this document.)

Non-Pharmaceutical Public Health Interventions

Responding effectively to an influenza pandemic—especially given limited supplies of antiviral drugs and the initial absence of pandemic vaccines—will depend on public health interventions that prevent virus transmission by separating persons who are ill and potentially exposed persons from the rest of their community. Interventions may include infection-control measures, travel-related interventions, and non-pharmaceutical strategies for disease control. These public health interventions are the focus of this chapter.

Infection-Control Measures

Infection-control measures will be critical throughout all stages of a pandemic, but especially during U.S. Response Stages 4 and 5 when a pandemic virus is circulating in the United States. Infection-control measures in health care facilities and in homes will decrease the spread of infection from patient to health care worker and from patient to patient, thus helping States, cities, and counties sustain local health care capacity. Throughout a pandemic, health authorities will also promote communitywide infection-control measures, including hand hygiene and respiratory/cough etiquette.

Travel-Related Interventions

Efforts to delay the entry of a novel, pandemic influenza virus into the United States will require careful planning and preparation. Planning and preparation activities at ports of entry include investigating reports of travelers with influenza-like illness (ILI) to identify and evaluate individuals with a high likelihood of being infected with an avian influenza virus. Cargo inspectors at ports of entry will also identify and destroy potentially infected

animals or animal products to prevent transmission of avian influenza to birds or humans within the United States.

An increased frequency in overseas clusters of human disease caused by a virus capable of greater human-to-human transmission will signal that prevention and control activities at ports of entry should be intensified. Entry screening will shift from passive reporting of ill passengers to active screening of travelers arriving from affected areas. Public health authorities may consider quarantine and antiviral prophylaxis of potentially exposed travelers.

Other travel-related public health interventions that may be considered include:

- Restricting the number of U.S. airports that receive international arrivals
- Restricting the number of international ports from which travelers may embark for the United States
- Predeparture screening
- Enhanced medical surveillance en route
- Restricting travel to affected areas

Once pandemic influenza has been reported in the United States, Federal agencies will work closely with WHO and with individual countries to reduce the likelihood of spreading the pandemic virus internationally.

Non-Pharmaceutical Disease Control Strategies

The implementation of containment measures can help slow the spread of infection within and between communities. Non-pharmaceutical strategies include disease-control measures that affect individuals (e.g., isolation of patients and monitoring their contacts; and personal hygiene measures, such as hand hygiene and cough etiquette), as well as measures that affect groups or entire communities (e.g., quarantine of exposed persons, cancellation of public gatherings, school closures, and shelter in place [“snow days”]). Guided by epidemiologic data, local authorities will choose those measures that provide maximum impact in preventing influenza transmission and with minimum impact on individual freedom of movement. HHS will provide assistance to States and communities as the pandemic threat evolves.

Role of HHS in Non-Pharmaceutical Public Health Interventions

Responsibilities of HHS related to non-pharmaceutical public health interventions include but are not limited to:

- Non-pharmaceutical disease-control measures related to international travel
- Non-pharmaceutical disease-control measures in U.S. communities

- Infection-control practices for individuals
- Infection-control practices in health care settings

Specific Assumptions and Planning Considerations Related to Non-Pharmaceutical Public Health Interventions

- Completely preventing the importation of a novel, highly transmissible pandemic influenza virus by interception of asymptomatic persons who will later become ill, at air- and seaports and at land border crossings for long periods of time will not be possible. However, if a novel, pandemic influenza virus originates outside the United States, reducing the number of infected persons entering the country and delaying introduction of the pandemic into the United States for weeks might be possible.
- Delayed entry and reducing the number of cases entering the country can result in a delayed surge in U.S. cases and a greater lead time for developing and distributing a pandemic vaccine, greater time to move antiviral medications into areas where they are most needed, and more time to prepare for an impending entry of the virus into the community. These actions will result in a decreased mortality from a pandemic.
- Prior to the occurrence of recognized cases in the United States, the appearance of a novel, pandemic influenza virus may be multifocal (i.e., simultaneous presentation at multiple ports of entry receiving international travelers). However, some ports of entry are more likely to be the site of importation and will require staff augmentation.
- If the decision is made to screen every arriving and/or exiting international traveler when pandemic influenza is circulating globally, but is not yet present in the United States, the current number of U.S. Quarantine Station staff will be inadequate to perform this task. Local and State health department staff will not be a resource for the surge-capacity of needed personnel. Additional Federal Quarantine Station staff will be required.
- When a novel, influenza pandemic virus first begins to spread in the United States, in the absence of an effective vaccine or sufficient quantities of effective antiviral agents, personal disease control measures (e.g., hand hygiene, cough etiquette) and community containment measures (e.g., social distancing, health communications, isolation of ill persons, quarantine of exposed persons) will constitute the primary strategies for preventing the spread of pandemic influenza.
- When pandemic influenza transmission starts in the United States, the necessity of continuing activities to exclude entry of pandemic influenza through our ports and borders will be reexamined.

HHS Actions and Expectations

Pillar One: Preparedness and Communication

Preparedness and communication are critical elements to the implementation of successful public health interventions and medical responses. Activities that should be undertaken before a pandemic emerges to ensure preparedness and to communicate expectations and responsibilities to all levels of government and society are described below.

Planning for a Pandemic

A. Action (HSC 5.1.1.1): HHS will serve as a core member, along with DOS, USDA, DOD, DOL, and DOC, in a DHS and DOT established interagency transportation and border preparedness working group that will develop planning assumptions for the transportation and border sectors, coordinate preparedness activities by mode, review products and their distribution, and develop a coordinated outreach plan for stakeholders.

Timeframe: Within 6 months.

Measure of Performance: Interagency working group established, planning assumptions developed, preparedness priorities and timelines established by mode, and outreach plan for stakeholders in place.

Step 1: Provide technical assistance to DHS and DOT for the transportation and border interagency working group by providing personnel; input into planning assumptions, outreach, and priorities; and timeframes for preparedness.

B. Action (HSC 5.1.1.2): HHS will work closely with DHS and in coordination with the National Economic Council (NEC), DOD, DOC, USTR, DOT, DOS, USDA, Treasury, and key transportation and border stakeholders, to establish an interagency modeling group to examine the effects of transportation and border decisions on delaying spread of a pandemic, and the associated health benefits, the societal and economic consequences, and the international implications.

Timeframe: Within 6 months.

Measure of Performance: Interagency working group established, planning assumptions developed, priorities established, and recommendations made on which models are best suited to address priorities.

Step 1: Work with DHS to develop an interagency working group that will routinely meet to gather subject matter expertise on non-pharmaceutical public health interventions for pandemic influenza. The purpose will be to provide

guidance on non-pharmaceutical public health interventions. The working group will develop this guidance through literature review, internal discussion, input of partners, and the conduct of targeted research.

Step 2: Identify interagency mathematical modelers (e.g., NIH collaboration with Models of Infectious Disease Study [MIDAS]) to work on modeling the effects of transportation and border decisions made by the U.S. Government. Government decisions supported by this modeling might include: screening of international travelers, quarantine of exposed passengers, diversion of flights, international travel restrictions, domestic travel restrictions, etc.

Step 3: Discuss with modelers the issues that are highest priority and the elements that would be important to include in constructing models; also, provide assumptions for data elements to be included in models being developed.

Step 4: Provide technical assistance as models are constructed, analysis is conducted, data are interpreted, and recommendations are made.

C. Action (HSC 5.1.1.3): HHS will work with DHS and in coordination with DOT, USDA, DOJ, and DOS to assess their ability to maintain critical federal transportation and border services (e.g., sustain national air space, secure the borders) during a pandemic, revise contingency plans, and conduct exercises.

Timeframe: Within 12 months.

Measure of Performance: Revised contingency plans in place at specified Federal agencies that respond to both international and domestic outbreaks; at least two interagency exercises carried out to test the plans.

Step 1: Support DHS and other agencies in their assessment and planning to maintain critical Federal transportation and border services through provision of guidance for Continuity of Operations Plan (COOP). (Also see Pillar One, Action K [HSC 9.1.1.1] below.)

Step 2: Provide technical advice and input during interagency exercises.

Step 3: Assess critical infrastructure for COOP and make contingency plans to obtain assistance to maintain needed operations during a pandemic. This effort would include the preevent training of USPHS Commissioned Corps (CC) Officers and Medical Reserve Corps (MRC) personnel to perform Quarantine Station activities.

D. Action (HSC 5.1.1.4): HHS will support DHS and DOT, in their effort to develop detailed operational plans and protocols to respond to potential pandemic-related scenarios, including in-bound aircraft/vessel/land border traffic with a suspected

case of pandemic influenza, international outbreak, multiple domestic outbreaks, and potential mass migration. (Also see Pillar Two, Actions I and K [HSC 5.2.4.6 and 5.2.4.8] below.)

Timeframe: Within 12 months.

Measure of Performance: Coordinated Federal operational plans that identify actions, authorities, and trigger points for decisionmaking and are validated by interagency exercises.

Step 1: Work with Federal partners; international airports; international airlines; State, local and tribal health departments; referral hospitals; and others in the development of plans/protocols for responding to an inbound aircraft with a suspect case of pandemic influenza at major ports of entry.

Step 2: Conduct tabletops at a minimum of the 18 major international ports of entry where Quarantine Stations are located (these ports currently serve approximately 85 percent of international travelers). The tabletops address pandemic scenarios which require joint response between public health, port agencies, first responders, health care systems, airlines, cruise lines, and other emergency response agencies that provide lodging, meals, health care, and other necessary support to persons in quarantine. These exercises will address coordination of efforts and identify gaps/physical needs to respond to and should include participation from the Governments of Canada and Mexico in accordance with the Security and Prosperity Partnership of North America.

Step 3: Expand development of plans/protocols for responding to an inbound aircraft with a suspected case of pandemic influenza at major ports of entry to maritime ports of entry and land border crossings (seen as lower risk than international airports).

Step 4: Conduct interagency exercises at priority maritime ports of entry and land border crossings.

Step 5: In support of DHS and DOT, HHS will continue to be engaged in the Homeland Security Council/National Security Council (HSC/NSC) Policy Coordination Committee process to provide technical information on response to an international outbreak of pandemic influenza that has not spread to the United States (U.S. Response Stages 1 through 3). Options for response include the following: (1) assisting affected nations that request assistance with technical advice on containment measures and exit screening; (2) instituting en route and entry screening of airline passengers from affected nations (also see Pillar Two, Action J [HSC 5.2.4.7] below); (3) isolating passengers from affected regions who are ill and quarantining exposed passengers and crew; (4) instituting travel restrictions for nonessential travel/entry into the United States (also see Pillar

Two, Action F [HSC 5.2.4.2] below); (5) reducing the number of ports that would manage inbound and outbound international flights; and (6) diverting flights carrying large numbers of passengers likely to require isolation or quarantine to airports that have adequate facilities.

Step 6: Provide technical assistance to DHS and DOT in the development of detailed operational response plans and protocols to respond to an international outbreak of pandemic influenza that has not spread to the United States (U.S. Response Stages 1–3) in accordance with the options laid out by the HSC/NSC Policy Coordination Committee.

Step 7: Develop guidance for non-pharmaceutical interventions including: (1) clarify existing legal authorities for quarantine; (2) home isolation and quarantine; (3) facility quarantine; (4) work quarantine, and measures to increase social distance (e.g., cancellation of large gatherings, school closure, closure of other public places, reduction of public transportation, workplace policies such as reduced operations and liberal leave, sheltering in place). (Also see Pillar Three, Actions H and I [HSC 6.3.2.1 and 6.3.2.2] below.)

Step 8: Share guidance with Federal partners and with State, local, and tribal health departments to comment, identify operational details (for potential implementation), and facilitate in writing plans/protocols.

E. Action (HSC 5.1.1.6): HHS will work with DOT and in coordination with DHS, DOD, DOJ, DOL and USDA to assess the Federal Government's ability to provide emergency transportation support during a pandemic under NRP Emergency Support Function (ESF) #1 (Transportation Annex; http://www.dhs.gov/xlibrary/assets/NRP_FullText.pdf) and develop a contingency plan.

Timeframe: Within 18 months.

Measure of Performance: Completed contingency plan that includes options for increasing transportation capacity, the potential need for military support, improved shipment tracking, and potential need for security and/or waivers for critical shipments, incorporation of decontamination and workforce protection guidelines, and other critical issues.

Step 1: Provide to DOT and other agencies technical expertise/guidance and written documentation on decontamination procedures and workforce protection for pandemic influenza.

F. Action (HSC 5.1.2.2): Under the leadership of DOT and in coordination with DHS and transportation stakeholders, HHS will support a series of forums with governors and mayors to discuss transportation and border challenges that may

occur in a pandemic, share approaches, and develop a planning strategy to ensure a coordinated national response. (Also see chapter 8, Pillar One, Action C [HSC 5.1.2.2].)

Timeframe: Within 12 months.

Measure of Performance: Strategy for coordinated transportation and border planning is developed, and forums initiated.

Step 1: Work with State, local, and tribal partners (e.g., public health, port agencies, first responders, health care systems, airlines, cruise lines, and other emergency response agencies) on developing response plans for pandemic influenza at airports, maritime ports, and land borders. (Also see Pillar One, Action D [HSC 5.1.1.4] above.)

Step 2: Provide technical expertise to DOT and DHS—on public health interventions that potentially would be used to slow pandemic influenza—in support of discussions on challenges that pandemic influenza will likely pose on the transportation and border sectors.

G. Action (HSC 5.1.2.3): In coordination with USDA and transportation stakeholders, HHS will assist DOT and DHS, develop planning guidance and materials for State, local, and tribal governments, including scenarios that highlight transportation and border challenges and responses to overcome those challenges, and an overview of transportation roles and responsibilities under the NRP. (Also see chapter 8, Pillar One, Action D [HSC 5.1.2.3].)

Timeframe: Within 12 months.

Measure of Performance: State, local, and tribal governments have received access to tailored guidance and planning materials.

Step 1: Continue to work with Federal, State, local, and tribal partners on developing response plans for pandemic influenza at airports, maritime ports, and land borders. (Also see Pillar One, Action D [HSC 5.1.1.4] above.)

Step 2: Support DOT and DHS in producing planning guidance and materials highlighting the challenges pandemic influenza would likely impose on the transportation and border sector; provision technical expertise on public health interventions that would potentially be used to slow pandemic influenza.

H. Action (HSC 5.1.3.1): In coordination with DOT and USDA, HHS will support DHS in conducting tabletop discussions and other outreach with private sector transportation and border entities to provide background on the scope of a

pandemic, to assess current preparedness, and jointly develop a planning guide. (Also see chapter 8, Pillar One, Action E [HSC 5.1.3.1].)

Timeframe: Within 8 months.

Measure of Performance: Private sector transportation and border entities have coordinated Federal guidance to support pandemic planning, including a planning guide that addresses unique border and transportation challenges by mode.

Step 1: Support DHS in outreach efforts to private sector transportation and border partners. (Also see Pillar One, Action F [HSC 5.1.2.2]; Step 1, above.)

Step 2: Provide technical assistance for tabletop exercises to give sector participants a sense of logistical challenges likely to be experienced in a pandemic, help identify gaps in preparedness, and assist partners (e.g., public health, port agencies, first responders, health care systems, airlines, cruise lines, and other emergency response) in developing plans for response and recovery.

I. Action (HSC 8.1.2.1): In coordination with DOL and DHS, HHS will provide technical assistance to DOJ as it convenes a forum for selected Federal, State, local, and tribal law enforcement/public safety personnel to discuss the issues they will face in a pandemic influenza outbreak and then publish the results in the form of best practices and model protocols within 4 months.

Timeframe: Within 4 months.

Measure of Performance: Best practices and model protocols published and distributed.

Step 1: Provide technical assistance to DOJ through guidance on potential non-pharmaceutical pandemic prevention and control measures (e.g., dealing with the effects of and enforcing quarantine; and social-distancing measures such as cancellation of large gatherings, closure of public places [such as shopping malls], closure of schools). These measures could adversely affect the work of law enforcement personnel, reduce public transportation, and affect workplace policies (such as reduced operations and liberal leave, sheltering in place). Other groups will provide technical assistance regarding the impact of securing vaccines and antiviral stockpiles.

Step 2: Support DOJ with expertise regarding non-pharmaceutical public health initiatives, as they may affect law enforcement and public safety personnel.

J. Action (HSC 8.1.2.4): In conjunction with DOJ, HHS will ensure consistency of the CDC Public Health Emergency Law Course with the National Strategy for Pandemic Influenza (Strategy), this Plan, and other Federal pandemic documents

and then disseminate the CDC Public Health Emergency Law Course across the U.S.

Timeframe: Within 6 months.

Measure of Performance: Distribution of presentations of reviewed public health emergency law course to all States.

Step 1: Update the CDC Public Health Law Program PowerPoint course to ensure consistency with current pandemic influenza planning guidance documents.

Step 2: Work with DOJ to distribute revised course units to participating States.

K. Action (HSC 9.1.1.1): In coordination with DOD and DOL, HHS will support DHS in providing pandemic influenza COOP guidance to the Federal departments and agencies.

Timeframe: Within 6 months.

Measure of Performance: COOP planning and personnel protection guidance provided to all departments for use, as necessary, in updating departmental pandemic influenza response plans.

Step 1: Provide written, risk-stratified guidance for management and workers in Government who provide either essential or nonessential services as a part of the foundation for COOP decisionmaking. This guidance may include information on prevention and control measures such as hand hygiene, cough etiquette, self-isolation due to illness, use of personal protective equipment (PPE; e.g., mask use, gloves, face shields, gowns), and social-distancing measures (e.g., avoidance of large gatherings, telecommuting, office closure, liberal leave policies, and work quarantine) and address the secondary effects of community mitigation measures, such as school closures.

Step 2: Provide technical assistance regarding intervention measures and share with Federal partners guidance on pandemic influenza virus prevention and control.

L. Action (HSC 9.1.1.2): HHS will assist the Office of Personnel Management (OPM), and in coordination with DHS, DOD, and DOL, provide guidance to the Federal departments and agencies on human capital management and COOP planning criteria related to pandemic influenza.

Timeframe: Within 3 months.

Measure of Performance: Guidance provided to all departments for use, as necessary, in adjusting departmental COOP plans related to pandemic influenza.

Step 1: Provide input to OPM regarding non-pharmaceutical prevention and control measures related to pandemic influenza to assist in COOP planning. (Also see Pillar One, Action K [HSC 9.1.1.1] above.)

M. Action (HSC 9.1.1.3): In coordination with DHS, DOD, and DOL, HHS will provide assistance to OPM to update the guides *Telework: A Management Priority, A Guide for Managers, Supervisors, and Telework Coordinators*; *Telework 101 for Managers: Making Telework Work for You*; and *Telework 101 for Employees: Making Telework Work for You*, to provide guidance to Federal Departments regarding workplace options during a pandemic. (Also see chapter 7, Pillar One, Action D [HSC 9.1.1.3].)

Timeframe: Within 3 months.

Measure of Performance: Updated telework guidance provided to all departments for use, as necessary, in updating departmental COOP plans related to pandemic influenza.

Step 1: Provide to OPM written, risk-stratified guidance for management and workers in Government who provide either essential or nonessential services. This guidance will include information on telework during a pandemic. (Please see Telework Annex of the HHS Pandemic Influenza Plan at http://www.pandemicflu.gov.)

Step 2: Provide technical assistance regarding non-pharmaceutical public health interventions as they relate to telework and Government organizations through OMB.

N. Action (HSC 9.1.2.1): As a Sector-Specific Agency, HHS, in coordination with DHS, will develop health care- and public health-specific planning guidelines focused on sector-specific requirements and cross-sector dependencies.

Timeframe: Within 6 months.

Measure of Performance: Planning guidelines developed for the health care and public health sector.

Step 1: Provide technical assistance through the Government Coordinating Councils (GCC) and the Sector Coordinating Councils (SCC) to support the development of planning guidelines focused on health care- and public health sector-specific requirements and cross-sector dependencies.

Step 2: Achieve approval from the GCC concerning the planning guidance.

O. Action (HSC 9.1.2.2): HHS will work with DHS in DHS' support of private-sector preparedness with education, exercise, training, and information sharing outreach programs.

Timeframe: Within 6 months.

Measure of performance: Planning guidelines developed for each sector.

Step 1: Identify HHS personnel to work with DHS.

Step 2: Meet with DHS to review DHS strategy and program for developing outreach programs.

Step 3: Provide subject matter expertise in developing the planning guidelines for each sector.

Communicating Expectations and Responsibilities

P. Action (HSC 4.1.4.3): HHS will work with DOS to ensure that adequate guidance is provided to Federal, State, tribal and local authorities regarding the inviolability of diplomatic personnel and facilities and will work with such authorities and DOS to develop methods of obtaining voluntary cooperation from the foreign diplomatic community within the U.S. consistent with U.S. Government treaty obligations. (Also see chapter 8, Pillar One, Action A [HSC 4.1.4.3].)

Timeframe: Within 6 months.

Measure of Performance: Briefing materials and an action plan in place for engaging with relevant Federal, State, tribal and local authorities.

Step 1: Provide broad guidance regarding public health interventions for pandemic influenza (e.g., quarantine, travel restrictions) that would pertain to foreign nationals.

Step 2: Provide technical assistance to DOS regarding this guidance for diplomatic personnel and facilities, as DOS works with State, local, and tribal authorities to obtain voluntary cooperation from the foreign diplomatic community.

Q. Action (HSC 5.1.4.1): HHS, in coordination with DHS, DOT, and DOL, will establish workforce protection guidelines and develop targeted educational materials addressing the risk contracting pandemic influenza. (Also see chapter 7, Pillar One, Action I [HSC 5.1.4.1].)

Timeframe: Within 6 months.

Measure of Performance: Guidelines and materials developed that meet the diverse needs of border and transportation workers (e.g., customs officers or agents, air traffic controllers, train conductors, dock workers, flight attendants, transit workers, ship crews, and interstate truckers).

Step 1: Consult with other Government agencies (e.g., NIOSH at HHS/CDC, DHS, OSHA at DOL), travel organizations (Air Transportation Association of America, Inc. [ATA], International Air Transport Association [IATA]), and representatives from relevant occupation sectors to identify job-specific activities that may place workers at risk for occupational exposure to pandemic influenza virus.

Step 2: Consult with the aforementioned entities to determine appropriate job-related behaviors and personal protective measures to reduce risk of exposure to pandemic influenza virus, in consultation with the aforementioned entities.

Step 3: Develop workforce protection guidelines that are relevant to each of the U.S. Response Stages (1–5) for influenza pandemics, and disseminate educational materials that include job-specific guidelines to minimize risk of exposure.

Step 4: Identify points of contact in each of the above-mentioned agencies for clearance and feedback on recommendations and reports.

Step 5: Post recommendations and reports on the HHS Web site (http://www.pandemicflu.gov), and devise additional communication methods (e.g., e-mail) for just-in-time distribution to appropriate stakeholders.

Step 6: Consult with the transportation industry and Federal partners to determine other effective communications media and methods of disseminating guidance and educational materials, such as PowerPoint presentations for "train-the-trainers" programs by various work groups.

R. Action (HSC 5.1.4.3): HHS, in coordination with DHS, DOT, DOD, Environmental Protection Agency (EPA), and transportation and border stakeholders, will develop and disseminate decontamination guidelines and time frames for transportation and border assets and facilities (e.g., airframes, emergency medical services transport vehicles, trains, trucks, stations, port of entry detention facilities) specific to pandemic influenza.

Timeframe: Within 12 months.

Measure of Performance: Decontamination guidelines developed and disseminated through existing DOT and DHS channels.

Step 1: Coordinate with DHS, DOT, DOD, and EPA, as well as local, State, Federal, and private-sector transportation providers on efforts for developing guidelines and timeframes on decontamination.

Step 2: Work with experts on subject matter (influenza and infection control) to develop U.S. Response Stage-specific protocols in regard to influenza and to develop environmental as well as occupational health guidance on cleaning agents, PPE, and custodial procedures for decontamination of specific locations or items (e.g., airline seats, lavatories, baggage inspection services, airport waiting areas). Protocols are also needed for transportation vehicles (e.g., airplanes, cruise ships, cargo vessels) carrying a suspected case-patient (passenger or crew) to the United States from affected regions and for port areas or transportation stations that may have been contaminated by a suspect case or by a bird or bird products.

Step 3: Based on feedback, work with Federal agency partners (DOT and DHS) to update protocol(s).

Step 4: Work with travel industry and Federal agency partners (DOT and DHS) to disseminate cleaning protocols and environmental health information to custodial personnel at airlines, commercial shipping lines, and international ports of entry facilities.

S. Action (HSC 7.1.3.3): HHS, in coordination with USDA, DHS, and DOL, will work with the poultry and swine industries to provide information regarding strategies to prevent avian and swine influenza infection among animal workers and producers. (Also see chapter 2, Pillar Two, Action K [HSC 7.1.3.3] and chapter 7, Pillar One, Action P [HSC 7.1.3.3].)

Timeframe: Within 6 months.

Measure of Performance: Guidelines developed and disseminated to poultry and swine industries.

Step 1: Provide written, risk-stratified guidance for management and workers to prevent avian influenza. Guidance will include a description of risk factors faced by animal workers in the poultry and swine industries. This guidance will include information on sanitizing hands, cough etiquette, self-isolation due to illness, use of PPE (e.g., mask use, gloves, face shields, gowns), and social-distancing measures (e.g., work quarantine). Guidance may also include recommendations intended to decrease the risk of genetic reassortment of avian and human influenza (e.g., seasonal influenza vaccination).

Step 2: Draft guidance will be shared with USDA and DHS for discussion and finalization of guidance. Because of its existing strong relationship with the poultry and swine industries, USDA will work with representatives of those

industries to publish and disseminate the developed guidance and encourage inclusion of recommended measures into the routine practices of these industries.

Step 3: Provide further technical assistance to USDA when the written guidance does not fully address specific situations being faced or when new policy is needed.

T. Action (HSC 8.1.3.1): HHS, in coordination with DOL, will provide clear guidance to law enforcement and other emergency responders on recommended preventive measures including pre-pandemic vaccination, to be taken by law enforcement and emergency responders to minimize risk of infection from pandemic influenza. (Also see chapter 7, Pillar One, Action Q [HSC 8.1.3.1].)

Timeframe: Within 6 months.

Measure of Performance: Development and dissemination of guidance for law enforcement and other emergency responders.

Step 1: Provide written, risk-stratified guidance on prevention measures for management and workers in Government and the private sectors who provide either essential or nonessential services. This guidance will include information on sanitizing hands, cough etiquette, self-isolation due to illness, use of PPE (e.g., mask use, gloves, face shields, gowns), and social-distancing measures (e.g., avoidance of large gatherings, telecommuting, reduced business operations, liberal leave policies, work quarantine) and address the secondary effects of community mitigation measures such as school closures.

Step 2: Publish the risk-stratified guidance on http://www.pandemicflu.gov and in other appropriate publications serving this work sector.

Step 3: An interagency non-pharmaceutical interventions working group will provide technical assistance to law enforcement and emergency response organizations when written guidance does not adequately cover specific situations being faced or when new policy is needed.

U. Action (HSC 9.1.3.1): As a Sector-Specific Agency, HHS will support DHS as it conducts forums, conferences and exercises with key critical infrastructure private sector entities and international partners to identify essential functions and critical planning, response and mitigation needs within and across sectors, and validate planning guidelines. (Also see chapter 7, Pillar One, Action R [HSC 9.1.3.2].)

Timeframe: Within 6 months.

Measure of Performance: Planning guidelines, validated by collaborative exercises which test essential functions and critical planning, response, and mitigation needs.

Step 1: Provide technical assistance to DHS as that department conducts forums, conferences, and exercises with key infrastructure private-sector entities to identify essential functions and critical planning.

Step 2: Provide technical assistance to DHS as that department works with major industry and professional organizations to educate them on the effects pandemic influenza may have on critical infrastructure.

V. Action (HSC 9.1.3.2): As a Sector-Specific Agency, HHS will provide assistance to DHS in its effort to develop and coordinate guidance regarding business continuity planning and preparedness with the owners/operators of critical infrastructure and develop a Critical Infrastructure Influenza Pandemic Preparedness, Response and Recovery Guide tailored to national goals and capabilities and to the specific needs identified by the private sector. (Also see chapter 7, Pillar One, Action R [HSC 9.1.3.2].)

Timeframe: Within 6 months.

Measure of Performance: Critical Infrastructure Influenza Preparedness, Response, and Recovery Guide developed and published on http://www.pandemicflu.gov.

Step 1: Provide technical assistance to DHS through coordination with the SCC. The occupational health and educational materials Sub-Council has begun development of seminars on pandemic influenza preparedness. Part 1 of the seminars will address issues for occupational health professionals; Part 2 will focus on issues that corporations, medical centers, small- and medium-sized companies, and community-based occupational health clinics face in developing a response plan surrounding pandemic influenza.

Step 2: These DHS seminars for the occupational health sector will be followed by further HHS technical assistance to DHS as it reaches out to the other subsectors within the public health and health care communities to develop equivalent seminars.

W. Action (HSC 9.1.4.1): HHS, in coordination with DHS, DOL, OPM, Department of Education, VA and DOD, will develop sector-specific infection control guidance to inform personnel, governmental and public entities, private sector businesses, and community-based organizations (CBO), and faith-based organizations (FBO). (Also see chapter 7, Pillar One, Action S [HSC 9.1.4.1].)

Timeframe: Within 6 months.

Measure of Performance: Sector-specific guidance and checklists developed and published on http://www.pandemicflu.gov.

Step 1: Provide written, risk-stratified guidance on infection control for persons working or taking part in Government, private, voluntary, or FBO and CBO activities that provide both essential and nonessential services. This guidance will include information on sanitizing hands, cough etiquette, self-isolation due to illness, use of PPE (e.g., mask use, gloves, eye protection, gowns), and social-distancing measures (e.g., avoidance of large gatherings, telecommuting, reduced business operations, liberal leave policies, work quarantine) and address the secondary effects of community mitigation measures such as school closures.

Step 2: Publish this general risk-stratified guidance and checklists on http://www.pandemicflu.gov and in other appropriate publications serving many sectors of society, in accordance with HHS/CDC's National Center for Health Marketing.

Step 3: Provide technical assistance to organizations and sector-specific publications to assure that appropriate guidance is communicated with their constituents. Technical assistance also will be provided when written guidance does not adequately cover specific situations being faced or when new policy is needed.

X. Action (HSC 9.1.4.2): HHS, in coordination with DHS, DOL, EPA, Department of Education, VA and DOD, will develop interim guidance regarding environmental management and cleaning practices including the handling of potentially contaminated waste material and will revise as additional data becomes available. (Also see chapter 7, Pillar One, Action T [HSC 9.1.4.2].)

Timeframe: 3 months for development of initial guidance, then ongoing.

Measure of Performance: Development and publication of guidance and checklists developed and published on http://www.pandemicflu.gov and through other channels.

Step 1: Consult with DHS, DOL, EPA, ED, VA, and DOD to identify environmental management and cleaning activities that may place employees at risk for exposure to a pandemic influenza virus.

Step 2: In consultation with the aforementioned entities, determine appropriate job-related behaviors and personal protective measures to reduce risk of exposure to pandemic influenza virus.

Step 3: Develop guidance for environmental management and cleaning practices to prevent exposure.

Step 4: Develop workforce protection guidelines that are relevant to each U.S. Response Stage, and disseminate educational materials on pandemic influenza that include job-specific guidelines to minimize risk of exposure.

Step 5: Identify points of contact in each of the aforementioned agencies for clearance of recommendations and reports.

Step 6: Post recommendations and reports on http://www.pandemicflu.gov, and devise additional communication methods (e.g., e-mail, etc.) for just-in-time distribution to appropriate stakeholders.

Step 7: Consult with the involved partners to determine other effective communication media and methods of disseminating the guidance and educational materials, such as PowerPoint presentations to "train the trainers" for the various work groups.

Y. Action (HSC 5.2.4.10): HHS will work closely with DHS, DOT, and in coordination with DOS, State, community, and tribal entities, and the private sector to develop a public education campaign on pandemic influenza for travelers, which raises awareness prior to a pandemic and includes messages for use during an outbreak. (Also see chapter 7, Pillar Two, Action D [HSC 5.2.4.10].)

Timeframe: Within 15 months.

Measure of Performance: Public education campaign developed on how a pandemic could affect travel, the importance of reducing nonessential travel, and potential screening measures and transportation and border messages developed based on pandemic stages.

Step 1: Develop and evaluate content of public education campaign.

Step 2: Assess the most effective ways of disseminating information to travelers.

Step 3: Ensure that State health departments, Customs and Border Protection (CBP), and other port partners are aware of the educational tools and methods of dissemination.

Z. Action (HSC 5.2.5.1): HHS will work with DHS, and in coordination with DOS, DOT, DOD, and international and domestic stakeholders, to develop vessel, aircraft, and truck cargo protocols to support safe loading and unloading of cargo while preventing transmission of influenza to crew or shoreside personnel.

Timeframe: Within 12 months.

Measure of Performance: Protocols disseminated to minimize influenza spread between vessel, aircraft, and truck operators/crews and shoreside personnel.

Step 1: Consult with other Government agencies (e.g., DHS, OSHA) and representatives from the relevant private-sector partners to identify job-specific activities that may place crew or shoreside workers at risk for exposure to pandemic influenza virus.

Step 2: Determine job-related behaviors and personal protective measures to reduce risk of occupational exposure to pandemic influenza virus.

Step 3: Develop workforce protection guidelines that are relevant to each U.S. Response Stage and disseminate educational materials on pandemic influenza that include job-specific guidelines to minimize risk of exposure.

Step 4: Identify points of contact in each of the aforementioned agencies for clearance of recommendations and reports.

Step 5: Post recommendations and reports on http://www.pandemicflu.gov, and devise additional communication methods (e.g., e-mail) for timely distribution to appropriate stakeholders.

Step 6: Consult with cargo industry and other partners to determine other effective communication media and methods of disseminating the guidance and educational materials, such as PowerPoint presentations for train-the-trainers programs for various work groups.

Advancing Scientific Knowledge and Accelerating Development

AA. Action (HSC 6.1.17.3): HHS, in coordination with DHS, will develop and test new point-of-care and laboratory-based rapid influenza diagnostics for screening and surveillance. (Also see chapter 2, Pillar One, Action C [HSC 6.1.17.3].)

Timeframe: Within 18 months.

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

Step 1: Plan for a point-of-entry screening program for pandemic influenza (in collaboration with DHS) at priority sites, and implement such a program in the event of U.S. Response Stage 2 being reached.

Step 2: Deploy new, rapid, influenza diagnostic screening tests to be used at priority ports of entry into the United States if the new tests are found sufficiently sensitive and specific for screening use in border and port-of-entry settings.

Pillar Two: Surveillance and Detection

Surveillance and detection are critical elements in the implementation of successful public health interventions. In many cases, the impact of non-pharmaceutical interventions on the spread of a pandemic depends on the swift identification of an outbreak and the efficacy of public health interventions. This impact may only be known through the generation and analysis of accurate surveillance data. The activities described below should be undertaken before a pandemic emerges and during a pandemic to ensure outbreaks are detected and their spread is limited.

Ensuring Rapid Reporting of Outbreaks

A. Action (HSC 5.2.1.1): HHS, with USDA, and in coordination with DHS, DOT, DOS, DOD, DOI, and State, local, and international stakeholders, will review existing transportation and border notification protocols to ensure timely information sharing in cases of quarantineable disease. (Also see chapter 2, Pillar Three, Action A [HSC 5.3.3.1].)

Timeframe: Within 6 months.

Measure of Performance: Coordinated, clear, interagency notification protocols disseminated and available for transportation and border stakeholders.

Step 1: Identify and contact key partners in transportation and border sectors (e.g., port agencies, airlines, cruise lines, conveyance owner/operators, and other emergency response agencies that serve the ports/borders).

Step 2: Review and update suggested protocols.

Step 3: Establish and communicate criteria for activating notification protocols (e.g., call-down lists).

Step 4: Establish and test call-down lists and notification trees.

B. Action (HSC 5.2.2.1): HHS will work in coordination with DOD to support DHS deployment of human influenza rapid diagnostic tests with greater sensitivity and specificity at borders and ports of entry to allow real-time health screening. (Also see Pillar Three, Action F [HSC 5.3.1.6] below; and chapter 2, Pillar Two, Action A [HSC 5.2.2.1].)

Timeframe: Within 12 months of development of tests.

Measure of Performance: Diagnostic tests, if found to be useful, are deployed; testing is integrated into screening protocols to improve screening at the 20–30 most critical ports of entry.

Step 1: Plan for a point-of-entry screening program for pandemic influenza at priority ports of entry, and implement the program in the event of reaching U.S. Response Stage 2. (Also see Pillar Three, Action F [HSC 5.3.1.6] below.)

Step 2: Evaluate the sensitivity and specificity of new, rapid, influenza diagnostic screening tests in compliance with Federal Food, Drug and Cosmetic Act (FDCA). (Also see chapter 1, Pillar One, Action Y [HSC 4.1.8.4] Step 4, and Pillar Two, Action Q [HSC 4.2.3.9]; and chapter 2, Pillar One, Actions A, F, and C [HSC 6.2.3.2, 6.1.17.2 and 6.1.17.3].)

Step 3: Deploy new, rapid, influenza diagnostic-screening tests, if they are found to have sufficient sensitivity and specificity to be useful screening tools in border and ports-of-entry settings. These tests are to be used at U. S. points-of-entry chosen on the basis of the number of travelers entering through these ports. (Note: Ports at which Quarantine Stations are located serve 85 percent of international travelers and would be the highest priority sites for deployment of new screening tools.)

C. Action (HSC 4.2.8.1): HHS, in coordination with USAID, will develop community- and hospital-based infection control and prevention, health promotion, and education activities in local languages in priority countries. (Also see chapter 1, Pillar One, Action M [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 in all Southeast Asian priority countries.

Steps During U.S. Response Stage 0

Step 1: Create a work group and develop partnerships among offices and divisions within HHS, quarantine field stations, health educators, risk-communication specialists, WHO Regional Offices, and USAID missions.

Step 2: Begin planning and strategy development to determine priority countries for the campaign, evaluate public health infrastructure in these countries, and identify needs.

Step 3: Identify elements to prevent transmission of infectious agents in health care settings and in the community, including the following:

- Determine optimal infection-control precautions to limit the person-to-person spread of infection in health care settings
- Determine environmental infection-control recommendations for appropriate decontamination of the health care environment to reduce exposure via contaminated equipment, surfaces, etc.

Step 4: Develop recommendations for community containment and outbreak mitigation, including isolation of cases, quarantine of contacts, social-distancing measures, and personal hygiene measures.

Step 5: Provide content and support the development of infection-control training material.

Step 6: Initiate a preevent messaging project to provide information to hospital-infection-control programs and communities.

Steps During U.S. Response Stages 1–2

Step 7: Pilot test materials/activities with representatives and members of target audiences.

Step 8: Revise communication and education activities, using feedback from the pilot test to make revisions and finalize materials/activities.

Step 9: Implement the program through continuous shifting toward crisis communication, evaluation, and changes, as necessary.

Step 10: Monitor the educational program.

Steps During U.S. Response Stages 3–5

Step 11: Shift from risk-communication to crisis-communication model.

Using Surveillance to Limit Spread

D. Action (HSC 5.2.3.1): In coordination with DOT, DOS and DOD, HHS will support DHS in its efforts to closely work with domestic and international air carriers and cruise lines to develop and implement protocols (in accordance with U.S. privacy law) to retrieve and rapidly share information on travelers who may be carrying or may have been exposed to a pandemic strain of influenza. (Also see chapter 2, Pillar Two, Actions M, N and O [HSC 5.2.4.8, 5.3.1.5, and 5.3.1.6].)

Timeframe: Within 6 months.

Measure of Performance: Aviation and maritime protocols implemented and information on potentially infected travelers available to appropriate authorities.

Step 1: Support DHS education efforts for airlines and cruise lines regarding the reporting of illnesses having public health significance.

Step 2: Support the development of protocols to retrieve and rapidly share information on travelers for purposes of public health investigation, including the sharing of information collected through Customs Form 6059B (Customs Declaration), the Advance Passenger Information System (APIS), and Passenger Name Record (PNR) data.

Step 3: Work with States to utilize existing means (e.g., EPI-X Forum) for timely sharing of traveler information between HHS and States for public health investigation in accordance with applicable privacy requirements and international agreements on passenger privacy.

E. Action (HSC 5.2.4.1): HHS, in coordination with DHS, DOT, DOS, DOC, and DOJ, will develop policy recommendations for aviation, land border, and maritime entry and exit protocols and/or screening and review the need for domestic response protocols or screening.

Timeframe: Within 6 months.

Measure of Performance: Policy recommendations for response protocols and/or screening.

Step 1: Gather best evidence (from international partners and science) regarding effective exit- and entry-screening measures.

Step 2: Review existing screening and response protocols with CBP, USCG, and other Federal partners at ports of entry and other domestic transportation hubs; identify gaps.

Step 3: Update protocols to include more advanced screening and detection of public health threats (e.g., health declarations), and identify gaps in existing domestic policy to implement such protocols.

Step 4: Update response protocols to public health threats (to include control measures such as isolation/quarantine of travelers at airports, border crossings, and maritime ports isolation); identify gaps in existing policy for implementing such protocols.

Step 5: Based on identified gaps, develop policy recommendations that facilitate exit- and entry-screening measures at ports and borders for public health threats. To inform further policy development, include real-time evaluation of the measures when implemented.

F. Action (HSC 5.2.4.2): HHS, working collaboratively with DHS and DOT and in coordination with DOS, DOC, Treasury, and USDA, will develop policy guidelines for international and domestic travel restrictions during a pandemic, based on the ability to delay the spread of disease and the resulting health benefits, associated economic impacts, international implications, and operational feasibility. (Also see Pillar One, Action D [HSC 5.1.1.4] above.)

Timeframe: Within 8 months.

Measure of Performance: Interagency travel curtailment policy guidelines developed that address both voluntary and mandatory travel restrictions.

Step 1: Coordinate with DHS, DOT, DOS, DOC, Treasury, and USDA on assessment of the impact of international and domestic travel restrictions on public health, the economy, diplomatic relations, and travel industry.

Step 2: Based on the above assessment, develop criteria and policy guidelines on voluntary versus mandatory international and domestic travel restrictions for use during a pandemic.

Step 3: Determine effective methods of implementing travel restrictions, such as through limitation of entry of persons into the United States, imposition of requirements for exit screening from countries experiencing an influenza pandemic, the closure of certain modes of domestic public transportation, or the closure of international ports of entry.

G. Action (HSC 5.2.4.4): HHS, working with DOS and in coordination with 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 1, Pillar One, Action K [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.

Steps During U.S. Response Stages 0–2

Step 1: Work with domestic and international partners to define appropriate trigger points for issuing Travel Health Advisories.

Step 2: Develop and maintain up-to-date Travel Health Advisories on the CDC Travelers' Health Web site through all pandemic U.S. Response Stages.

Step 3: Identify steps and methods for rapidly obtaining clearance and publicly posting Travel Health Advisories (within 24 hours).

Step 4: Identify domestic and international response partners who should be notified in advance regarding new Travel Health Advisories (e.g., DOT, DOS, DHS, FAA, ATA.WHO, GHSI, International Partnership on Avian and Pandemic Influenza (IPAPI), consular officials, Ministries of Health in affected countries, and IATA).

Step 5: Confirm an appropriate point of contact for each of these partners, and develop and implement a means for timely communication to these points of contact regarding new Travel Health Advisories.

Steps During U.S. Response Stages 1–5

Step 6: Continue activities initiated in Stage 0.

Step 7: Work with travel industry partners, Federal agency partners, and port facilities managers to ensure rapid distribution of key Travel Health Advisories to travelers at international ports of entry.

H. Action (HSC 5.2.4.5): HHS will provide technical assistance to DOT and DHS, which will in turn work in coordination with DOD, DOS, airlines/air space users, the cruise line industry, and appropriate State and local health authorities to develop protocols to manage and/or divert inbound international flights and vessels with suspected cases of pandemic influenza that identify roles, actions, relevant authorities, and events that trigger response.

Timeframe: Within 12 months.

Measure of Performance: Interagency response protocols for inbound flights completed and disseminated to appropriate entities.

Step 1: Provide technical assistance to DOT and DHS regarding potential triggers for dynamic management/diversion of inbound international flights/vessels having passengers with suspected pandemic influenza and sites to which vessels could be diverted. Possible circumstances requiring diversion of flights/vessels

would include high-risk situations en route (e.g., occurrence of multiple cases, suspected outbreak, or conditions for high probability of transmission of confirmed pandemic influenza). Additionally, diversion may be warranted for situations such as a destination airport/port that is overwhelmed by a concurrent quarantine situation or is otherwise unable to implement adequate control measures.

Step 2: Work with airlines and airports; State, local and tribal health departments; and Federal partners on developing or refining protocols for standard management of flights with passengers who have suspected cases of pandemic influenza.

Step 3: Work with the North American cruise industry, maritime ports, the USCG, DHS, and other Federal partners to develop standard protocols for management of vessels carrying persons who have suspected cases of pandemic influenza.

I. Action (HSC 5.2.4.6): HHS, in coordination with DHS, DOT, DOS, DOD, air carriers/air space users, the cruise line industry, and appropriate State, local, and tribal health authorities, shall develop en route protocols for crew members onboard aircraft and vessels to identify and respond to travelers who become ill en route and to make timely notification to Federal agencies, health care providers, and other relevant authorities. (Also see Pillar One, Action D [HSC 5.1.1.4] above, and Pillar Two, Actions K and B [HSC 5.2.4.8 (below) and 5.2.2.1 (above)]; and chapter 2, Pillar Two, Action A [HSC 5.2.2.1].)

Timeframe: Within 12 months.

Measure of Performance: Protocols developed and disseminated to air carriers/airspace users and cruise line industry.

Step 1: Establish criteria and case definitions (based on symptoms and high-risk exposures, e.g., travel, activity) for case reporting.

Step 2: Develop protocol, including use of appropriate infection-control practices, for management of passengers with suspected influenza identified en route.

Step 3: Develop and implement training for international conveyance crews and operations staff for recognition of, response to, and reporting of cases.

Step 4: Update surveillance and response protocols based on refined case definitions—as well as the potential availability of new, rapid, virologic screening tests and updated infection-control practices—as new knowledge is gained regarding a pandemic influenza strain.

J. Action (HSC 5.2.4.7): HHS, working closely with DHS and DOT, and in coordination with transportation and border stakeholders and appropriate State and local health authorities will develop aviation, land border, and maritime entry and exit protocols and/or screening protocols (Protocols will be revised as new rapid diagnostic tests become available) and education materials for non-medical, frontline screeners and officers to identify potentially infected persons or cargo. (Also see Pillar One, Action D [HSC 5.1.1.4] Step 5, above.)

Timeframe: Within 10 months.

Measure of Performance: Protocols and training materials developed and disseminated.

Steps During U.S. Response Stages 0–1

Step 1: Gather the best scientific evidence for effective port entry/exit screening (e.g., thermal scanners, health declarations, x rays) and response measures (isolation, quarantine) for persons and goods, and the best response at U.S. ports of entry.

Step 2: Use knowledge from Step 1 above, and engage port agencies (e.g., CBP, Transportation Security Administration [TSA], USCG) in the design of a surveillance system for inbound and outbound travelers and goods (directly or indirectly) from/to target areas at U.S. ports of entry.

Step 3: Identify and design data collection tools for information gathering (e.g., the airline, airport, flight number, symptoms, exposure history, immediate actions taken, and followup actions taken).

Step 4: Establish response protocols and criteria for identifying a person for further medical evaluation or public health action (e.g., isolation, quarantine, medical surveillance).

Step 5: Establish response protocols for cargo posing a public health threat.

Step 6: Develop training materials for nonmedical, frontline screeners and officers who will conduct surveillance and response.

Step 7: Train nonmedical, frontline screeners to conduct surveillance and response at port of entry.

Steps During U.S. Response Stages 2–3

Step 8: Initiate active surveillance measures—entry and/or exit screening, using updated case definitions for pandemic influenza.

Step 9: Update education of all frontline staff at ports of entry in surveillance and response as well as in personal protection measures.

Steps During U.S. Response Stages 4–5

Step 10: Discontinue entry-screening efforts and implement exit-screening efforts.

Step 11: Update education of all frontline staff at ports of entry in exit-screening measures.

K. Action (HSC 5.2.4.8): With DHS, and in coordination with DOT, DOJ, and appropriate State, local, and tribal health authorities, HHS will work to develop detection, diagnosis, quarantine, isolation, EMS transport, reporting and enforcement protocols and education materials for travelers, and undocumented aliens apprehended at and between ports of entry, who have signs or symptoms of pandemic influenza or who may have been exposed to influenza. (Also see Pillar One, Action D [HSC 5.1.1.4] above, and Pillar Two, Actions B and I [HSC 5.2.2.1 and 5.2.4.6] above; and chapter 2, Pillar Two, Action A [HSC 5.2.2.1].)

Timeframe: Within 10 months.

Measure of Performance: Protocols developed and distributed to all ports of entry.

Step 1: Develop U.S. Response Stage-specific response protocols for travelers and undocumented aliens with signs and symptoms of influenza or with significant history of exposure. These protocols will be based on U.S. Response Stage-specific case definitions for detection, as well as on criteria for isolation, quarantine, and transport to medical facility for further treatment and evaluation.

Step 2: Identify stakeholders required for implementing the above protocols.

Step 3: Develop Memoranda of Understanding (MOUs) with appropriate stakeholders.

Step 4: Develop and distribute protocols to stakeholders.

Step 5: Develop and distribute to all ports of entry, educational materials (based on above protocols) for potential travelers and undocumented aliens apprehended between ports of entry.

L. Action (HSC 5.2.4.9): HHS will provide technical assistance to DHS, and work in coordination with DOS, Treasury, and the travel and trade industry, to assist DHS tailor existing automated screening programs and extended border programs to increase scrutiny of travelers and cargo based on potential risk factors (e.g., shipment from or traveling through areas with pandemic outbreaks).

Timeframe: Within 6 months.

Measure of Performance: Enhanced risk-based screening protocols implemented.

Step 1: Study existing traveler- and cargo-screening programs, e.g., Automated Manifest System (AMS).

Step 2: Identify gaps in existing programs and appropriate stakeholders.

Step 3: Assess current techniques of interviewing travelers, and identify as well as develop enhanced techniques to identify as rapidly as possible persons who are ill.

Step 4: Determine potential triggers for the interruption of refugee/immigrant travel to the United States.

Step 5: Define potential risk factors to be included in screening/response protocols.

Step 6: Develop, with appropriate partners, risk-based protocols to increase scrutiny of potentially infected persons and goods (with criteria for seizing and destroying cargo, when necessary).

M. Action (HSC 5.2.5.2): HHS will provide technical assistance to USDA and coordinate with DHS and DOI as USDA reviews the process for withdrawing permits for importation of live avian species or products and identify ways to increase timeliness, improve detection of high-risk importers, and increase outreach to importers and their distributors.

Timeframe: Within 6 months.

Measure of Performance: Revised process for withdrawing permits of high-risk importers.

Step 1: Review, revise, and if necessary develop regulations (such as 9 CFR 94.6) that are adequate to prohibit entry of high-risk birds and bird byproducts from countries affected by H5N1.

Step 2: Obtain access to CBP's AMS to allow identification of shipments with birds or bird products.

Step 3: Assess the volume of shipments containing birds and bird products entering the United States during a 1-month period.

Step 4: Increase staffing at ports of entry to accommodate increased inspections of shipments.

Step 5: Ensure each Quarantine Station has the means to safely dispose of birds or bird products that are denied entry.

Step 6: Promote better communication between HHS, USDA, CBP, and U.S. Fish and Wildlife Service (FWS) through regular conference calls and e-mail distribution lists.

Step 7: Work with USDA as it reviews its process for identifying high-risk shipments and/or importers and for withdrawing permits.

N. Action (HSC 6.2.4.2): HHS will work with DHS, and in coordination with Sector-Specific Agencies, DOD, DOJ, and VA, and in collaboration with the private sector, to prepare to track the integrity of critical infrastructure function, including the health care sector, to determine whether ongoing strategies of ensuring workplace safety and continuity of operations need to be altered as a pandemic evolves. The collection of personal information, if and where necessary, will be performed in accordance with U.S. privacy law. (Also see chapter 2, Pillar Two, Action J [HSC 6.2.4.2].)

Timeframe: Within 6 months.

Measure of Performance: Tracking system in place to monitor integrity of critical infrastructure function and continuity of operations in nearly real time.

Step 1: In collaboration with DHS, convene a panel of subject matter experts to identify the types and forms of data to establish operational status of the critical infrastructure sectors of health care and public health.

Step 2: Analyze the feedback and update the HHS Critical Infrastructure Data System to address more accurately the infrastructure tracking needs.

Step 3: Work with OMB to have the Critical Infrastructure Data System revised to accept the necessary technical edits.

Pillar Three: Response and Containment

In approaching the problem of pandemic influenza, HHS supports a layered strategy of response and containment. In the event of sustained and efficient human-to-human transmission of an influenza virus with pandemic potential, HHS will first leverage available resources and interventions to contain the outbreak at its source and to delay or limit its introduction to the United States If such efforts fail, HHS resources and recommended interventions will be directed to limiting or otherwise delaying the spread of pandemic within the United States; minimizing suffering and death; sustaining critical infrastructure and a Constitutional form of Government; and reducing the economic and social effects of the pandemic. Currently, HHS is basing its response and containment

protocols and policy discussions on scientifically sound modeling assumptions. As more experience with pandemic influenza is gained, HHS will use evidence-based decisionmaking to further revisit and refine its response protocols, strategies, and policies.

Containing Outbreaks

A. Action (HSC 4.3.2.1): HHS, in coordination with DHS, DOD and DOT, and in collaboration with foreign counterparts, will assist DOS in DOS support of the implementation of pre-existing passenger screening protocols in the event of an outbreak of pandemic influenza. (Also see chapter 1, Pillar Three, Action J [HSC 4.3.2.1].)

Timeframe: Ongoing.

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

Steps During U.S. Response Stage 0

Step 1: Develop standards and procedures for conducting and evaluating exit screening for all travelers (U.S. and non-U.S. citizens) for pandemic influenza, and travel exclusion for persons who are ill at international points of embarkation, including land borders, in collaboration with the WHO Secretariat and Ministries of Health of other countries.

Step 2: Develop binational and multinational arrangements regarding exit screening and travel exclusion for persons who are ill; these arrangements include standards, procedures, oversight, and assessment.

Step 3: Develop logistical and operational plans with the WHO Secretariat and other countries for conducting medical exit screening and travel exclusion for persons who are ill in affected countries.

Step 4: Work with the WHO Secretariat and IATA to develop predeparture screening/exclusion guidelines on ILI for transport organizations, including international passenger airlines and cargo carriers (for crew).

Step 5: Develop system for collection of data on number of persons screened, number of persons with travel restrictions, criteria for restriction and disposition.

Steps During U.S. Response Stage 1

Step 6: As part of the HHS and DOS process to issue Travel Advisories, inform the public that affected countries may begin predeparture screening.

Step 7: In collaboration with the WHO Secretariat and affected countries, assist in the institution, oversight, and assessment of predeparture exit-screening in affected countries, according to predetermined standards and arrangements.

Step 8: Assess the adequacy of affected countries' predeparture exit screening and exclusion of persons who are ill, and provide feedback.

Steps During U.S. Response Stages 2–3

Step 9: Potentially limit international ports of embarkation to the United States to ensure adequate screening.

Step 10: Reevaluate existing exit-screening and exclusion measures in affected countries, and provide feedback.

Step 11: Apply criteria for conducting exit screening of U.S.-bound persons coming from affected areas.

Step 12: Implement enhanced medical exit-screening measures and protocols.

Step 13: Conduct ongoing evaluation of the effectiveness of screening efforts.

B. Action (HSC 4.3.2.2): HHS will support DOD efforts, in coordination with DOS, DOT, and DHS to limit DOD military travel between affected areas and the U.S.

Timeframe: Within 6 months.

Measure of Performance: DOD identifies military facilities in the U.S. and outside continental U.S. (OCONUS) that will serve as the points of entry for all official travelers from affected areas.

Step 1: Provide technical assistance to DOD regarding travel restrictions to affected areas and entry screening of official travelers coming from affected areas.

C. Action (HSC 5.3.1.1): HHS will assist DOS and DHS, in coordination with DOT, DOC, Treasury, and USDA in their work with foreign counterparts to limit or restrict travel from affected regions to the U.S. as appropriate, and notify host government(s) and the traveling public. (Also see chapter 1, Pillar Three, Action H [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: Support DHS and DOS in limiting travel from affected regions by providing technical advice regarding voluntary and mandatory travel-restriction options and overseas exit screening in affected countries.

D. Action (HSC 5.3.1.2): HHS will assist DOS, in coordination with DOT, DHS, DOD, air carriers and cruise lines, as DOS works with host countries to implement predeparture screening based on disease characteristics and the availability of rapid-detection methods and equipment. (Also see chapter 1, Pillar Three, Action P [HSC 5.3.1.2].)

Timeframe: As required.

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

Steps During U.S. Response Stage 0

Step 1: Develop standards and procedures for conducting and evaluating exit screening for all travelers (U.S. and non-U.S. citizens) for pandemic influenza and travel exclusion for persons who are ill at international points of embarkation, including land borders, in collaboration with the WHO Secretariat and Ministries of Health.

Step 2: Develop binational and multinational arrangements regarding exit screening and travel exclusion for persons who are ill; these arrangements include standards, procedures, oversight, and assessment.

Step 3: Develop logistical and operational plans with the WHO Secretariat and other countries for conducting medical exit screening and travel exclusion for persons who are ill in affected countries.

Step 4: Work with the WHO Secretariat and travel organizations (e.g., IATA and International Council of Cruise Lines [ICCL]) to develop predeparture screening/exclusion guidelines for ILI for transport organizations, including international passenger airlines and cargo carriers (for crew).

Step 5: Develop a system for collection of data on the number of persons screened, number of persons with travel restrictions, criteria for restriction and disposition.

Step 6: Develop prevention and containment measures for cases and contacts in affected countries.

Steps During U.S. Response Stage 1

Step 7: Inform the public that affected countries may begin predeparture screening as part of the HHS and DOS process to issue Travel Advisories.

Step 8: In collaboration with the WHO Secretariat and affected countries, assist in the institution, oversight, and assessment of predeparture exit screening in affected countries, according to predetermined standards and arrangements, in collaboration with WHO and other affected countries.

Step 9: Assess the adequacy of predeparture exit screening and exclusion by affected countries of persons who are ill, and provide feedback.

Steps During U.S. Response Stages 2–3

Step 10: Potentially limit international ports of embarkation to the United States to those with enhanced predeparture exit screening.

Step 11: Re-evaluate existing exit-screening and exclusion measures in affected countries, and provide feedback.

Step 12: Implement enhanced medical exit-screening measures and protocols.

Step 13: Potentially implement more restrictive visa requirements for all non-U.S. citizens.

E. Action (HSC 5.3.1.5): HHS will work closely with DHS and in coordination with DOT, DOS, DOD, USDA, appropriate State, and local, authorities, air carriers/air space users, airports, cruise lines, and seaports to implement screening protocols at U.S. ports of entry based on disease characteristics and availability of rapid detection methods and equipment. (Also see chapter 2, Pillar Two, Action N [HSC 5.3.1.5].)

Timeframe: As required.

Measure of Performance: Screening implemented within 48 hours upon notification of an outbreak.

Steps During U.S. Response Stage 0

Step 1: Design, in collaboration with frontline port agencies (e.g., CBP, TSA, and USCG), a new surveillance system for inbound travel at U.S. international airports and seaports that receive passengers (directly or indirectly) from target areas.

Step 2: Specify entry data to be collected for each traveler or crew member (e.g., the airline, airport, flight number, cruise line, vessel, symptoms, exposure history, immediate actions taken, and followup actions taken).

Step 3: Design a data collection form.

Step 4: Evaluate the usefulness of thermal scanning.

Step 5: If thermal scanning is deemed useful, install thermal scanners at international ports of entry, and train personnel how to use them.

Step 6: Establish criteria for identifying a person for further medical evaluation.

Step 7: Develop training materials for frontline officers who will conduct surveillance.

Step 8: Train port agencies (e.g., CBP, TSA, USCG officers) to conduct surveillance.

Step 9: Develop a mechanism for data transmission to HHS on a daily basis (e.g., via Web-based reporting).

Step 10: Develop a mechanism for merging data from multiple sources.

Steps During U.S. Response Stage 1

Step 11: Pilot test a surveillance system at several ports of entry, and identify issues.

Step 12: Find solutions to issues, and update system/training.

Steps During U.S. Response Stages 2–3

Active surveillance (entry screening) for pandemic influenza (not yet in the United States):

Step 13: Implement entry-screening measures, by using updated case definitions for pandemic influenza.

Step 14: Potentially restrict arrivals to a limited number of U.S. ports of entry.

Step 15: Establish criteria for identifying a screened person for further medical evaluation.

Step 16: Detail previously identified staff (e.g., CBP, TSA) to support enhanced surveillance activities.

Step 17: Meet all flights with travelers on board who have symptoms suggestive of influenza, and do the following:

- Evaluate travelers who are ill; isolate them and arrange for treatment, if needed
- Collect specimens for virologic testing, as appropriate

Step 18: Meet all flights from affected areas to accomplish the following:

- Distribute Travel Health Advisories and Warnings to all travelers
- Collect contact information from all travelers
- Collect epidemiologic information from all travelers (via questionnaire) to evaluate likelihood of overseas exposure
- Evaluate travelers for evidence of fever and other ILI symptoms

Step 19: If a traveler who is ill with suspected pandemic influenza is identified:

- Quarantine exposed travelers (e.g., fellow passengers or crew) onsite or at home
- Consider antiviral prophylactic therapy for exposed travelers (this would apply to travelers exposed on the airplane due to contact with a traveler who is ill on the same plane)
- Implement contact tracing and followup if the traveler who is ill is determined to have a pandemic strain

Steps During U.S. Response Stages 4–5

Step 1: As instructed by HHS, discontinue entry-screening efforts and return to U.S. Response Stage 0 level of passive surveillance of all travelers.

F. Action (HSC 5.3.1.6): HHS will work closely with DHS, in coordination with DOT, HHS, USDA, DOD, appropriate State, and local authorities, air carriers, and airports, in DHS consideration of implementing response or screening protocols at domestic airports and other transport modes, as appropriate, based on disease characteristics and availability of rapid-detection methods and equipment. (Also see chapter 2, Pillar Two, Action O [HSC 5.3.1.6].)

Timeframe: Ongoing.

Measure of Performance: Screening protocols in place within 24 hours of directive to do so.

Step 1: Evaluate utility of screening at domestic airports, if appropriate; assess resources needed to implement screening and develop trigger points for such implementation.

Step 2: Investigate potential screening measures/technology (e.g., thermal scanning) and, if appropriate, procurement, availability of equipment, probable location in individual domestic airports for both entry and exit screening, and staffing and training requirements; develop protocols for implementation and evaluation.

Step 3: If deemed appropriate, develop protocols, staffing and training requirements, and evaluation/data collection plan for medical screening at entry and exit, to include evaluation for fever and of symptoms.

Step 4: If deemed appropriate, develop epidemiologic questionnaires for entry and exit screening, and plan for distribution to travelers as well as collection, interpretation, and data collection/evaluation.

Step 5: Investigate resource requirements for the collection and laboratory testing of medical specimens for virus isolation; develop protocols for use (including data management and evaluation) as well as a staffing and training plan.

Step 6: Update protocols and training as new, rapid-screening tests become available.

G. Action (HSC Action 5.3.2.1): HHS will, in coordination with DHS, DOS, DOT, and USDA, issue travel advisories/public announcements for areas where outbreaks have occurred, and ensure adequate coordination with appropriate transportation and border stakeholders. (Also see chapter 7, Pillar Three, Action B [HSC 5.3.2.1].)

Timeframe: Ongoing.

Measure of Performance: Coordinated announcements and warnings developed within 24 hours of becoming aware of an outbreak, and timely updates provided, as required.

Steps During U.S. Response Stage 0

Step 1: Work with domestic and international partners to define trigger points for issuing Travelers' Health Advisories during the Pandemic Alert and Pandemic Periods.

Step 2: Develop and maintain up-to-date Travel Health Advisories on the HHS/CDC Travelers' Health Web site through all pandemic stages. Identify steps for rapid clearance and posting (within 24 hours).

Step 3: Identify domestic and international response partners who should be notified in advance about new Travel Health Advisories (e.g., DOT, DOS, DHS, FAA, IATA, the WHO Secretariat, consular officials, Ministries of Health in affected countries, the IATA).

Step 4: Confirm a point of contact for each of these partners, and develop and test a means for rapid communication to these points of contact (e.g., e-mail blast, mass fax) regarding new Travel Health Advisories.

Steps During U.S. Response Stages 1–5

Step 5: Continue activities from Stage 0.

Step 6: Work with travel industry partners, Federal agency partners, and managers of port facilities to ensure the rapid distribution of Travel Health Advisories to travelers at ports of entry.

Step 7: Ensure that appropriate Federal, international, and private partners are notified in advance of all Travel Health Advisories.

H. Action (HSC 6.3.2.1): HHS, in coordination with DHS, DOT, Education, DOC, DOD, and Treasury, will provide State, local, and tribal entities with guidance on the combination, timing, evaluation, and sequencing of community containment strategies (including travel restrictions, school closings, "snow days", and quarantine during a pandemic) based on currently available data, and update this guidance as additional data becomes available. (Also see Pillar One, Action D [HSC 5.1.1.4] Step 7 above.)

Timeframe: Within 6 months.

Measure of Performance: Guidance provided on community influenza containment measures.

Step 1: Explore data on effective sequencing and combination of various community-containment strategies from modeling, past outbreak response, and scientific studies.

Step 2: Share above findings with State, local, and tribal entities to assess feasibility of implementation.

Step 3: Work with State, local, and tribal entities to agree on authorities and triggers for implementing community-containment measures consistently across jurisdictions.

Step 4: Develop guidance regarding each containment strategy: the steps required to complete this action item are numerous, and the required work cannot be adequately reflected in the three brief, consolidated steps above. Because few data exist for most of these containment strategies, the steps below outline the requirements for providing guidance on 10 community-containment strategies being considered.

1. Strategy: Home Isolation and Quarantine

Steps During U.S. Response Stages 0–3

Step 1: Develop guidance for State, local, and tribal health departments for monitoring contacts of persons infected with suspected or confirmed pandemic influenza, including procedures for passive monitoring, active monitoring without activity restrictions, and active monitoring with activity restrictions (quarantine). (See **HHS Pandemic Influenza Plan**, Supplement 8, Appendix 1.) This guidance includes the following:

- Recommendations for implementing home isolation
- Training for individuals assessing home quarantine feasibility
- Security/enforcement issues relating to home quarantine
- Infection control recommendations to fit the specific needs of patients receiving care in the home setting as well as the infection-control needs of other persons in the household

Steps During U.S. Response Stages 4–5

Step 2: HHS, through consultation, will assist State, local, and tribal health departments in the implementation of home isolation and quarantine.

Step 3: Evaluate the effectiveness of home isolation and quarantine in decreasing transmission, and address logistical problems.

Step 4: Provide updated guidance on home-quarantine infection-control practices, as needed.

2. Strategy: Facility Quarantine

Steps During U.S. Response Stages 0–3

Step 1: Determine definition of facility quarantine.

Step 2: Develop Federal guidance document for quarantine facilities that describes the needs of particular population groups (e.g., international travelers, the elderly, special needs populations, the homeless, students at colleges and universities) and addresses issues related to staffing, supplies, transportation, infection control, and security.

Step 3: Local health departments are to develop plans and facilities for quarantine.

Step 4: Work with States, localities, and tribes to further encourage local governments to identify facilities for housing individuals not qualified for home quarantine.

Steps During U.S. Response Stages 4–5

Step 5: Local and State authorities are to implement facility quarantine as needed.

Step 6: Evaluate the effectiveness of facility isolation and logistical problems. Update recommendations based upon findings.

3. Strategy: Work Quarantine

Steps During U.S. Response Stages 0–3

Step 1: Develop and disseminate guidance documents and materials for work quarantine, addressing issues related to transportation, symptom monitoring, PPE, and psychological support.

Steps During U.S. Response Stages 4–5

Step 2: State, local, and tribal governments are to implement work quarantine as needed.

Step 3: Evaluate the effectiveness of work quarantine.

4. Strategy: Cancellation of Public Events

Steps During U.S. Response Stages 0–3

Step 1: Develop guidelines that identify key public events that might facilitate the spread of influenza, and identify trigger points for restriction of public events by local authorities.

Step 2: Encourage State, local, and tribal authorities to identify large public events scheduled during upcoming months that have a high potential for facilitating the spread of influenza, and obtain contact information for organizers of these events.

Steps During U.S. Response Stages 4–5

Step 3: Advise State, local, and tribal health departments on implementation of public event cancellations, as needed.

5. Strategy: Closure of Schools

Steps During U.S. Response Stages 0–3

Step 1: Identify trigger points for school closure.

Step 2: Contact the Department of Education and State education departments to determine that plans exist to deal with school closures in the event of an influenza pandemic.

Step 3: Encourage education departments to establish/enhance ways of communicating with staff and students during school closures (e.g., e-mail, phone trees, local media).

Step 4: Encourage State, local, and tribal education departments to consider the development of home curricula/distance-based learning for use during school closure. Consideration may be given to working with home schooling authorities.

Step 5: Work with State, local, and tribal entities, including the educational sector, to agree on authorities and triggers for implementing school closures consistently across jurisdictions.

Step 6: Determine the Federal role in determining timing and coordination of school closures.

Steps During U.S. Response Stages 4–5

Step 7: Provide technical assistance to State, local, and tribal partners as they implement school closure and home education, as needed.

6. Strategy: Closure of Other Public Places

Steps During U.S. Response Stages 0–2

Step 1: Develop guidelines for closing public places, including shopping malls and recreation facilities, during a pandemic.

Step 2: Work with State, local, and tribal public health staff, as well as the private sector, to develop guidelines for closing public places.

Steps During U.S. Response Stages 3–5

Step 3: Provide technical assistance to State, local, and tribal partners as they implement closures of public places.

7. Strategy: Closure of Public Transportation

Steps During U.S. Response Stages 0–2

Step 1: Develop options for reducing local public transportation in the event of a pandemic, and assess the potential impact on functioning of essential services.

Steps During U.S. Response Stages 3–5

Step 2: Provide technical assistance to State, local, and tribal partners as they implement closure of public transportation systems.

8. Strategy: Closure of Specific Worksites

Steps During U.S. Response Stages 0–2

Step 1: Provide guidance to State, local, and tribal governments as well as businesses regarding the potential role of worksite closure in the containment of pandemic influenza.

Step 2: Provide technical assistance to State, local, and tribal health departments in identifying employers and worksites in local jurisdictions that deliver nonessential services.

Steps During U.S. Response Stages 3–5

Step 3: Local governments are to work with large local employers to discuss the role of worksite closures in their State/local pandemic plans and to educate workers on means of preventing influenza transmission and on the necessity of staying home from work while they are ill.

Step 4: Provide technical assistance to State, local, and tribal authorities as they implement worksite closures as needed.

9. Strategy: Sheltering in Place ("Snow Days") Restrictions

Steps During U.S. Response Stages 0–2

Step 1: Develop guidelines that describe the role of sheltering in place in the control of pandemic influenza and steps in implementation.

Step 2: Provide technical assistance to State, local, and tribal partners in their decisions regarding which services are necessary and which employees should be exempt from sheltering in place.

Step 3: State, local, and tribal governments are to work with businesses and education sectors (including colleges and universities, daycare/preschool) on the role of sheltering in place in their respective pandemic plans.

Steps During U.S. Response Stages 3–5

Step 4: Provide technical assistance to State, local, and tribal health departments as they implement sheltering in place in response to pandemic influenza, as needed.

Step 5: State, local, and tribal governments to work with businesses and the education sector (e.g., colleges and universities, daycare/preschool) on the role of sheltering in place in their respective pandemic plans.

10. Strategy: Thermal Scanning in Public Places

Steps During U.S. Response Stages 0–1

Step 1: Review data on the effectiveness and cost-effectiveness of thermal scanning in prevention of disease transmission, and make recommendations on potential use of thermal scanning during influenza pandemic. If thermal scanning is recommended:

- Determine whether there are legal considerations that need to be addressed regarding thermal scanning in public places
- Develop options for using thermal scanning, such as using thermal scanning to discourage febrile people from attending large public gatherings
- Research the availability of thermal-scanning equipment

- If this technology, upon evaluation, is found to be feasible, effective, cost-effective, and appropriate, consider the purchase and the stockpiling of thermal-scanning equipment

Steps During U.S. Response Stages 2–5

Step 2: Consider the installation and use of thermal-scanning equipment in key public areas, if recommended.

I. Action (HSC 6.3.2.2): HHS will provide guidance on the role and evaluation of the efficacy of geographic quarantine in efforts to contain an outbreak of influenza with pandemic potential at its source, within 3 months. (Also see Pillar One, Action D [HSC 5.1.1.4] Step 7, above.)

Timeframe: Within 3 months.

Measure of Performance: Guidance available within 72 hours of initial outbreak.

Steps During U.S. Response Stages 0–2

Step 1: Evaluate efficacy of geographic quarantine (from modeling, past international experience, and other scientific means).

Step 2: Develop and disseminate guidance materials on the use of *cordon sanitaire* (enforcement, maintenance of basic infrastructure, transportation, medical monitoring, and communication mechanisms).

Steps During U.S. Response Stages 3–5

Step 3: Work with State and local governments to determine if *cordon sanitaire* should be implemented in specific situations.

J. Action (HSC 6.3.2.3): HHS, in coordination with DHS and DOD and in collaboration with mathematical modelers, will complete research identifying optimal strategies for using voluntary home quarantine, school closure, snow-day restrictions, and other community infection-control measures.

Timeframe: Within 12 months.

Measure of Performance: Guidance developed and disseminated on the use of community control.

Steps During U.S. Response Stages 0–2

Step 1: Review existing research on community-containment methods, and work with partners to fill the gaps in present knowledge (e.g., sensitivity and specificity

of thermal scanning, effect of holiday school closure on seasonal influenza rates, rates of compliance for recommended home isolation and quarantine.)

Step 2: Work with the MIDAS network and/or other groups of mathematical modelers to evaluate the potential effectiveness of specific community-containment methods.

Step 3: Act as a liaison between State, local, and tribal health departments and mathematical modelers to interpret and distribute findings and to issue guidance.

Steps During U.S. Response Stage 3

Step 4: Work with international partners to help evaluate the impact of community-containment methods in affected nations and to disseminate findings/ recommendations.

Steps During U.S. Response Stages 4–5

Step 5: Evaluate the impact of containment methods in the United States.

K. Action (HSC 6.3.2.5): All HHS- (as well as all DOD-, and VA-) funded hospitals and health facilities will develop, test, and be prepared to implement infection control campaigns for pandemic influenza. (Also see chapter 7, Pillar Three, Action C [HSC 6.3.2.5].)

Timeframe: Within 3 months.

Measure of Performance: Guidance materials on infection control developed and disseminated on http://www.pandemicflu.gov and through other channels.

Step 1: Review existing guidelines, recommendations, and factsheets; identify gaps.

Step 2: Develop and/or update as needed, recommendations and factsheets for health care settings, including:

- Inpatient and acute-care hospitals
- Nursing homes and long-term-care facilities
- Outpatient and community health facilities
- Dialysis centers
- Prehospital care (EMS)
- Factsheets on home care during an influenza pandemic

Step 3: Disseminate recommendations and factsheets by publishing them on http://www.pandemicflu.gov. Additional dissemination mechanisms that may be considered include the following:

- HHS public health outreach systems, including the HAN, Epi-X, and the National Healthcare Safety Network (NHSN)
- HHS' influenza- and health care-related Web sites (e.g., CDC, HRSA, and CMS)
- HHS' Emergency Communications System (ECS) including the Clinician Outreach and Communication Activity (COCA)
- HHS' National Center for Health Marketing, Division of Public Private Partnerships
- Conference calls with health care partners and organizations such as the Association for Professionals in Infection Control and Epidemiology (APIC), the Society for Healthcare Epidemiology of America (SHEA), the American Hospital Association (AHA), the Infectious Disease Society of America (IDSA), the American Medical Association (AMA), the American College of Physicians (ACP), the American College of Emergency Physicians (ACEP), the American Medical Directors Association (AMDA), the American Nurses Association, the American Public Health Association (APHA), the American Academy of Physician Assistants (AAPA), the American Osteopathic Association, and schools of public health

L. Action (HSC 6.3.2.7): HHS, in coordination with DHS, DOC, DOL, and Sector-Specific Agencies, and in collaboration with medical professional and specialty societies, will develop and disseminate infection control guidance for the private sector. (Also see chapter 7, Pillar Three, Action E [HSC 6.3.2.7].)

Timeframe: Within 12 months.

Measure of Performance: Validated, focus group-tested guidance developed and published on http://www.pandemicflu.gov and in other forums.

Step 1: Discuss with HHS partners and provide written, risk-stratified guidance for management and workers in Government and the private sectors that provide both essential and nonessential services. This guidance may include information on sanitizing hands, cough etiquette, self-isolation due to illness, use of PPE (e.g., mask use, gloves, face shields, gowns), and social distancing measures (e.g., telecommuting, office closure, work quarantine).

Step 2: Share the draft on risk-stratified guidance, produced by the interagency non-pharmaceutical interventions working group, with medical professional and specialty societies for comment and improvement.

Step 3: Give the updated infection-control guidance to CDC's National Center for Health Marketing for development of communication materials that will be focus-group tested.

Step 4: Publish the infection-control guidance on http://www.pandemicflu.gov.

M. Action (HSC 6.3.3.1): HHS, in coordination with DHS, VA and DOD, will develop and disseminate guidance that explains steps individuals can take to decrease their risk of acquiring or transmitting influenza infection during a pandemic.

Timeframe: Within 3 months.

Measure of Performance: Guidance published on http://www.pandemicflu.gov and through VA and DOD channels.

Step 1: Develop general guidance for individuals regarding measures they can take to decrease their risk and others' risk for infection with influenza. This guidance will include information on hand hygiene, cough etiquette, self-isolation due to illness, indications for use of PPE (e.g., masks, gloves, eye protection), and social-distancing measures (e.g., avoiding public gatherings, telecommuting, work quarantine).

Step 2: Publish the risk-stratified guidance on http://www.pandemicflu.gov and in other broadly distributed publications.

N. Action (HSC 6.3.3.2): HHS, in coordination with DHS, DOD, VA, and DOT and in collaboration with State, local, and tribal partners, shall develop and disseminate lists of social distancing behaviors that individuals may adopt, and update guidance as additional data becomes available. (Also see chapter 7, Pillar Three, Action F [HSC 6.3.3.2].)

Timeframe: Within 6 months.

Measure of Performance: Guidance disseminated on http://www.pandemicflu.gov and through other channels.

Step 1: Gather information on possible effective social-distancing behaviors.

Step 2: Develop guidance on social-distancing methods.

Step 3: Develop guidance on avoidance of public places.

Step 4: Develop guidance for curtailing nonessential travel.

Step 5: Develop guidance for limiting nonessential visits to physicians.

Step 6: Create a list of social-distancing behaviors for individuals, and determine the best way to communicate these behaviors to the public.

Step 7: Share communication materials and guidance with stated partners, and publish these items on http://www.pandemicflu.gov.

Step 8: Update guidance and materials as new information becomes available.

O. Action (HSC 8.3.1.1): HHS, in coordination with DOJ, DOS and DHS, will determine when and how it will assist States in enforcing their quarantines and how it will enforce a Federal quarantine.

Timeframe: Within 9 months.

Measure of Performance: Guidelines on quarantine enforcement available to all States.

Step 1: Define roles of Federal agencies in the enforcement of Federal quarantine, both on and off Federal property.

Step 2: Clarify roles and responsibilities for enforcement authority at Federal and State level.

Step 3: Communicate the role of Federal agencies in the enforcement of quarantine with States.

Sustaining Infrastructure, Essential Services, and the Economy

P. Action (HSC 5.3.3.1): HHS with USDA, and in coordination with DHS, DOT, DOS, and DOI will provide emergency notifications of probable or confirmed cases and /or outbreaks to key international, Federal, State, local and tribal transportation and border stakeholders through existing networks. (Also see chapter 1, Pillar Three, Action L [HSC 5.3.3.1]; chapter 2, Pillar Three, Action A [HSC 5.3.3.1]; and chapter 7, Pillar Three, Action H [HSC 5.3.3.1].)

Timeframe: Ongoing.

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

Step 1: Work with domestic and international partners to define trigger points for issuing emergency notifications of probable or confirmed cases and/or outbreaks.

Step 2: Identify domestic and international response partners who should be notified.

Step 3: Confirm a point of contact for each of these partners, and develop and test a means for rapid communication (e.g., e-mail blast, mass fax) regarding notifications to these points of contact.

Step 4: Ensure that appropriate Federal, international, and private partners are notified of probable or confirmed cases and/or outbreaks.

Q. Action (HSC 5.3.5.6): HHS will provide support to DOT and DHS, and work in coordination with NEC, Treasury, DOC, and DOS and the interagency modeling group, in a DOT and DHS assessment of the economic, safety, and security related effects of the pandemic on the transportation sector, including movement restrictions, closures, and quarantine, and develop strategies to support long-term recovery of the sector.

Timeframe: Within 6 months of the end of a pandemic.

Measure of Performance: Economic and other assessments completed and strategies implemented to support long-term recovery of the sector.

Step 1: Support DOT and DHS by providing information to facilitate modeling, including expertise in selection of data elements to be used in models and assumptions chosen in construction of models (e.g., the expected length of time measures would be in place).

Step 2: Review model results and provide comment on the interpretation of the results.