

## CHAPTER 9 — INSTITUTIONS: PROTECTING PERSONNEL AND ENSURING CONTINUITY OF OPERATIONS

### Introduction

It is the policy of the United States to have in place a comprehensive and effective program to ensure survival of our constitutional form of government, the uninterrupted continuation of national-level essential functions under all circumstances, and the resumption of all government functions and activities quickly following any disruption. This policy is in effect for all hazards but will require specialized planning in the event of an influenza pandemic.

Continuity of operations (COOP) is defined as the activities of individual Federal departments and agencies and their sub-components to ensure that the capability exists to continue essential agency functions across a wide range of potential emergencies. The Federal Executive Branch provides guidance on effective continuity planning in *Federal Preparedness Circular — 65, Federal Executive Branch Continuity of Operations* (FPC-65) and for State and local continuity planners in *Interim Guidance on Continuity of Operations Planning for State and Local Governments*. COOP planning at the State and local government level mirrors Federal guidance to ensure the continuation of services to each level of government's communities and constituents. Similarly, most businesses engage in business continuity planning, which outlines a set of procedures that define how a business will sustain or recover its critical functions in the event of an unplanned disruption to normal business operations. Such planning for an influenza pandemic must recognize that the next pandemic may come in waves, each lasting weeks or months, and pass through communities of all sizes across the United States and around the world.

Unlike many other catastrophic events, an influenza pandemic will not directly affect the physical infrastructure of an organization. While a pandemic will not damage power lines, banks, or computer networks, it will ultimately threaten all critical infrastructure by its impact on an organization's human resources by removing essential personnel from the workplace for weeks or months. Employers should include considerations for protecting the health and safety of employees during a pandemic in their business continuity planning.

The Federal Government recommends that government entities and the private sector plan with the assumption that up to 40 percent of their staff may be absent for periods of about 2 weeks at the height of a pandemic wave with lower levels of staff absent for a few weeks on either side of the peak. These absences may be due to employees who: care for the ill; are under voluntary home quarantine due to an ill household member; care for children dismissed from school; feel safer at home; or are ill or incapacitated by the virus. Because the movement of essential personnel, goods and services, and the maintenance of critical infrastructure are necessary during an event that spans weeks to months in any given community, effective continuity planning including protection of personnel during an influenza pandemic is a "good business practice" that must become part of the fundamental mission of all Federal, State, local, and tribal governmental departments and agencies, private sector businesses and institutions, and schools and universities.

The private sector will play an integral role in a community response to pandemic influenza by protecting employees' and customers' health and safety, and mitigating impact to the economy and the functioning of society. Because the private sector also owns and maintains approximately 85 percent of the U.S. critical infrastructure, it is imperative that business continuity plans include procedures to mitigate the potential disruptions caused by an influenza pandemic.

Numerous activities can be conducted now to plan for the potential of a pandemic, while other activities will require a plan for action when more information is available. This chapter provides guidance for organizations engaged in developing and improving plans to prepare for and respond to an influenza pandemic. All governmental departments and agencies at the Federal, State, local, and tribal levels, private sector businesses, and academic institutions must ensure that the capability exists to continue essential functions in the event of a disruption to normal operations. A checklist of key planning activities to supplement existing all-hazards business continuity plans for public and private organizations and businesses, schools and universities, and faith-based and community organizations is provided in Appendix A. Further guidance and references for these activities can be found at [www.pandemicflu.gov](http://www.pandemicflu.gov).

## **Key Considerations**

### **Planning Requirements for Pandemic Influenza Continuity of Operations**

FPC-65 provides guidance on elements recognized across the Executive Branch as supportive of effective continuity planning. While the guidance in FPC-65 applies solely to the Federal Executive Branch, the planning elements that FPC-65 describes apply across all levels of government as well as the private sector and can be used to develop pandemic specific planning resources. Highlighted below are the 11 COOP program elements relevant to pandemic influenza planning.

#### *1. Plans and Procedures*

The foundation of a viable COOP program is the development and documentation of a COOP plan that, when implemented, will provide for the continued performance of an organization's essential functions under all circumstances. In order to reduce the pandemic threat, a portion of the COOP plan's objective should be to minimize the health, social, and economic impact of a pandemic on the United States.

#### *2. Essential Functions*

Essential functions are those functions that enable organizations to provide vital services, exercise civil authority, maintain the safety and well being of the general populace, and sustain the industrial/economic base in an emergency. During a pandemic, or any other emergency, these essential functions must be continued in order to facilitate emergency management and overall national recovery. Within the private sector, essential functions can be regarded as those core functions, services, and capabilities required to sustain business operations.

#### *3. Delegations of Authority*

Clearly pre-established delegations of authority are vital to ensuring that all organizational personnel know who has the authority to make key decisions in a COOP situation. Because absenteeism may reach a peak of 40 percent at the height of a pandemic wave, delegations of authority are critical.

#### *4. Orders of Succession*

An order of succession is essential to an organization's COOP plan to ensure personnel know who has authority and responsibility if the leadership is incapacitated or unavailable in a COOP situation. Since an influenza pandemic may affect regions of the United States differently in terms of timing, severity, and duration, businesses with geographically dispersed assets and personnel should consider dispersing their order of succession.

#### *5. Alternate Operating Facilities*

The identification and preparation of alternate operating facilities and the preparation of personnel for the possibility of an unannounced relocation of essential functions and COOP personnel to these facilities is part of COOP planning. Because a pandemic presents essentially simultaneous risk everywhere, the use of alternative operating facilities must be considered in a non-traditional way. COOP planning for pandemic influenza will involve alternatives to staff relocation/co-location such as social distancing in the workplace through telecommuting, or other means. In addition, relocation and redistribution of staff among alternative facilities may reduce the chance of infection impacting centralized critical operations staff simultaneously.

#### *6. Interoperable and Effective Communications*

The success of a viable COOP capability is dependent upon the identification, availability, and redundancy of critical communication systems to support connectivity of internal organizations, external partners, critical customers, and the public. Systems that facilitate communication in the absence of person-to-person contact can be used to minimize workplace risk for essential employees and can potentially be used to restrict workplace entry of people with influenza symptoms.

#### *7. Critical Business Records and Databases*

Businesses should identify, protect, and ensure the ready availability of electronic and hardcopy documents, references, records, and information systems needed to support essential functions. Pandemic influenza COOP planning must also identify and ensure the integrity of vital systems that require periodic maintenance or other direct physical intervention by employees.

#### *8. Human Capital*

Each organization must develop, update, exercise, and be able to implement comprehensive plans to protect its workforce. Although an influenza pandemic will not directly affect the physical infrastructure of an organization, a pandemic will ultimately threaten all operations by its impact on an organization's human resources. The health threat to personnel is the primary threat to continuity of operations during a pandemic.

#### *9. Testing, Training and Exercises*

Testing, training, and exercising of COOP capabilities are essential to assessing, demonstrating, and improving the ability of organizations to execute their COOP plans and programs during an emergency. Pandemic influenza COOP plans should test, train, and exercise sustainable social distancing techniques that reduce person-to-person interactions within the workplace.

### 10. Devolution of Control and Direction

Devolution is the capability to transfer authority and responsibility for essential functions from an organization's primary operating staff and facilities, to other employees and facilities, and to sustain operational capability under devolved authority for an extended period. Because local outbreaks will occur at different times, have variable durations, and may vary in their severity, devolution planning may need to consider rotating operations between regional/field offices as a pandemic wave moves throughout the United States.

### 11. Reconstitution

Reconstitution is the process by which an organization resumes normal operations. The objective during recovery and reconstitution after a pandemic is to expedite the return of normal services and operations as quickly as possible. Since a pandemic will not harm the physical infrastructure or facilities of an organization, and because long-term contamination of facilities is not a concern, the primary challenge for organizations after a pandemic will be the return to normal and bringing their systems back to full capacity. The mortality rate of a pandemic will depend on characteristics of the causative virus that cannot be predicted in advance, but for planning purposes it may be helpful to consider historical examples. The mortality rate of the 1918 pandemic in the United States — the worst influenza pandemic of the 20th century — is estimated to have been about 2 percent of those infected (about 0.5 percent of the total population). Using this historical information and current models of disease transmission, it is projected that a modern pandemic of equivalent lethality could lead to the deaths of 2 million people in the United States alone.

## Continuity and Critical Infrastructure Protection

Public and private sector entities depend on certain critical infrastructure for their continued operations. Homeland Security Presidential Directive 7 (HSPD-7) identifies 17 critical infrastructure and key resources vital to national functioning.<sup>19</sup> Recognizing that more than 85 percent of the critical infrastructure is owned and operated by the private sector, the development of public-private partnership is paramount to securing our Nation's assets.<sup>20</sup>

Critical infrastructure protection (CIP) entails all the activities directed at safeguarding indispensable people, systems (especially communications), and physical infrastructure associated with the operations of the 17 critical infrastructure sectors. However, sustaining the operations of critical infrastructure under conditions of pandemic influenza will depend largely on individual organizations' development and implementation of (1) plans for business continuity under conditions of staffing shortages; and (2) plans to protect the health of their workforces. This is also true for maintaining economic activity generally, above and beyond the question of critical infrastructure. General recommendations for both of

---

<sup>19</sup> HSPD-7 defines critical infrastructure to include the following sectors: agriculture and food; public health and health care; drinking water and water treatment systems; energy (including the production, refining, storage, and distribution of oil and gas, and electric power except for nuclear facilities); banking and finance; national monuments and icons; defense industrial base; information technology; telecommunications; chemical; transportation systems (including mass transit, aviation, maritime, ground/surface, and rail and pipeline systems); emergency services; and postal and shipping. HSPD-7 defines key resources to include: dams; government facilities; commercial facilities; and nuclear reactors, material, and waste.

---

<sup>20</sup> HSPD-7 and the Interim National Infrastructure Protection Plan define an architecture for the Federal Government to coordinate with representatives of these critical infrastructure and key resource sectors. The Federal Government will use this structure to develop sector-specific guidance and share information. Private sector-led Sector Coordinating Councils are being established to work with their appropriate Sector-Specific Agencies via Government Coordinating Councils, which represent the government agencies that have a role in protecting the respective sectors. Currently, the Department of Homeland Security's (DHS) Office of Infrastructure Protection is finalizing the National Infrastructure Protection Plan. This finalized document will refine the public-private partnership model and a process for protecting critical infrastructure.

these areas are provided in this chapter.

COOP is one of the basic goals of CIP. During a pandemic, all critical infrastructure sectors might not be affected to the same degree or at the same time. Although pandemic influenza would be expected to affect the workforce across all sectors, a pandemic's impact in terms of demand for services may disproportionately affect several sectors including transportation, health care, agriculture, and emergency services. Sector-specific guidance and recommendations regarding transportation systems, health care, animal health, and emergency services (including law enforcement) are provided in Chapters 5, 6, 7, and 8, respectively. Development of more refined sector-specific guidance in partnership with critical infrastructure owners and operators will require further action.

### **Business Continuity Under Conditions of Staffing Shortages**

Because an influenza pandemic would not damage physical infrastructure, the workplace would remain viable and day-to-day operations could continue based on the number of available personnel. Most organizations would not completely halt business operations because employees are ill. The organization may still need to produce products or provide services, interact with customers, and meet deadlines. A pandemic may result in an increase or decrease in demand for a business' products and/or services (e.g., effect of travel restrictions, restrictions on mass gatherings, need for hygiene supplies). Organizations should consider the potential impact of a pandemic on different product lines and/or production sites. Since essential functions are important at all times, it may be more appropriate to focus on day-to-day workload management during a pandemic. Consequently, organizations may need to rearrange priorities, rather than terminating daily operations or focusing only on essential functions as defined for a COOP situation.

Unlike other potential COOP situations that occur without warning, organizations can plan for a pandemic. Under normal conditions, if employees are on annual or sick leave, alternates are normally designated to provide back-up in the staff member's absence. To supplement the current workforce for conditions of significant absenteeism associated with a pandemic, organizations may consider cross-training and preparing ancillary workforce members (e.g., contractors, employees in other job titles/descriptions, retirees) to maintain daily functionality in the presence of anticipated staffing shortages.

#### *Essential vs. Non-critical/Non-essential Services*

Services provided by personnel may be categorized as critical or essential in light of their importance to business continuity (i.e., from the perspective of a business or organization) or in light of their contribution to maintaining critical infrastructure (i.e., from a societal or national perspective). Managers must make determinations about which employees perform essential functions at the business or organization level.

Organizations should carefully assess how a company functions, both internally and externally, to determine which staff, materials, procedures and equipment are absolutely necessary to keep the business operating by location and function during a pandemic. Operations critical to survival and recovery should be identified. Organizations should identify the suppliers, shippers, resources and other businesses they must interact with on a daily basis. Professional relationships with more than one supplier may be necessary should a primary contractor be unable to provide the required service. A disaster that shuts down a key supplier could be devastating to a business. In addition, organization-related domestic and international travel may be affected by a pandemic (e.g., quarantine, border closures). The analysis required for pandemic preparedness planning is not fundamentally different from that required for all-hazard COOP planning.

## Protecting Personnel during a Pandemic

All organizations, whether government or private sector, large or small, are supported by three primary assets: people, communications, and physical infrastructure. Unlike other catastrophic events, an influenza pandemic will not directly affect the communications or physical infrastructure of an organization, but an influenza pandemic *will* directly affect an organization's people. Therefore, it is critical that organizations anticipate the potential impact of an influenza pandemic on personnel, and consequently, the organization's ability to continue essential functions. As part of that planning, organizations will need to ensure that reasonable measures are in place to protect the health of personnel during a pandemic.

### *Characteristics of Influenza Transmission*

Understanding the characteristics of influenza transmission is important in order to assess the threat pandemic influenza poses to personnel in the workplace, as well as the efficacy and practicality of potential protective measures.

Human influenza virus is transmitted from person-to-person primarily via virus-laden large droplets (particles  $>5 \mu\text{m}$  in diameter) that are generated when infected persons cough, sneeze, or speak. These large droplets can then be directly deposited onto the mucosal surfaces of the upper respiratory tract of susceptible persons who are near (i.e., typically within 3 feet of) the droplet source. Transmission also may occur through direct and indirect contact with infectious respiratory secretions.

Patients with influenza typically become infectious after a latent period of about 1 to 1.5 days and prior to becoming symptomatic. At about 2 days, most infected persons will develop symptoms of illness although some remain asymptomatic throughout their infection. This is important because even seemingly healthy asymptomatic individuals in early stages of influenza could be infectious to others.

### *Vaccine and Antiviral Medications*

The primary strategies for preventing pandemic influenza are the same as those for seasonal influenza: (1) vaccination; (2) early detection and treatment with antiviral medications; and (3) the use of infection control measures to prevent transmission. However, when a pandemic begins, only a limited stockpile of partially matched pandemic vaccine may be available. A virus-specific vaccine to protect personnel will not be available until 4 to 6 months after isolation of the pandemic virus. Finally, the supply of antiviral drugs will be limited throughout a pandemic. Until sufficient stockpiles of antiviral drugs have been established, these medications may be available for treatment of only some symptomatic individuals. Therefore, the appropriate and thorough application of infection control measures remains the key to limiting transmission, delaying the spread of a pandemic, and protecting personnel.

### *Infection Control Measures*

A pandemic may come in waves, each lasting weeks or months. Not all susceptible individuals will be infected in the first wave of a pandemic. Therefore preventing transmission by limiting exposure during the first wave may offer several advantages. First, by limiting exposure, people who are not infected during the first wave may have an increased chance of receiving virus-specific vaccine as it becomes available. Second, limiting exposure and delaying transmission can change the shape of the epidemic curve and mitigate the social and economic impact of a pandemic by reducing the number of people who become ill at any given time.

Within the workplace, the systematic application of infection control and social distancing measures during a pandemic should reduce employee-to-employee disease transmission rates, increase employee safety and confidence, and possibly reduce absenteeism.

Given the characteristics of influenza transmission, a few simple infection control measures may be effective in reducing the transmission of infection. Persons who are potentially infectious should: stay home if they are ill; cover their nose and mouth when coughing or sneezing, and use facial tissues to contain respiratory secretions and dispose of them in a waste container (respiratory hygiene/cough etiquette); and wash their hands (with soap and water, an alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials (hand hygiene). Persons who are around individuals with influenza-like symptoms should: maintain spatial separation of at least 3 feet from that individual; turn their head away from direct coughs or sneezes; and wash their hands (with soap and water, alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.

Hand washing should be facilitated by making hand hygiene facilities and products readily available in schools and workplaces. Antibacterial handwashing products do not appear to offer an advantage over soap and water in most settings for removing influenza virus from hands, however health care facilities should continue to follow hand hygiene guidelines that recommend use of antimicrobial soaps and alcohol-based hand cleaners to protect against transmission of other microorganisms. For the duration of a pandemic, the deployment of infection control measures requires the ready availability of soap and water, hand sanitizer, tissues and waste receptacles, and environmental cleaning supplies.

Minimizing workplace exposure to pandemic influenza can be facilitated by: developing policies and strategies for isolating and excusing employees who become ill at work; allowing unscheduled and non-punitive leave for employees with ill household contacts; restricting business-related travel to affected geographic areas; and establishing guidelines for when employees who have become ill can return to work.

#### *Social Distancing Measures*

Depending on the severity of a pandemic, and its anticipated effects on health care systems and the functioning of critical infrastructure, communities may recommend general measures to promote social distancing and the disaggregation of disease transmission networks. Within the workplace, social distancing measures could take the form of: guidelines modifying the frequency and type of face-to-face encounters that occur between employees (e.g., moratoriums on hand-shaking, substitution of teleconferences for face-to-face meetings, staggered breaks, posting of infection control guidelines in prominent locations); policies establishing flexible work hours or worksite, including telecommuting; and promotion of social distancing between employees and customers.

Some social distancing measures, such as the recommendation to maintain 3 feet of spatial separation between individuals or to otherwise limit face-to-face contact, may be adaptable to certain work environments and in appropriate settings should be sustainable indefinitely at comparatively minimal cost. Other community public health interventions (e.g., closure of schools and public transit systems, implementation of “snow day” restrictions) may increase rates of absenteeism and result in disruption of workflows and productivity. Low-cost or sustainable social distancing measures should be introduced within the workplace immediately after a community outbreak begins, and businesses should prepare for the possibility of measures that have the potential to disrupt their business continuity. Decisions as to how and when to implement community measures will be made on a case-by-case basis, with the Federal Government providing support and guidance to local officials.

### *Use of Face Masks*

The benefit of wearing disposable surgical or procedure masks at school or in the workplace has not been established. Mask use by the public should be based on risk, including the frequency of exposure and closeness of contact with potentially infectious persons. Routine mask use in public should be permitted, but not required. The Federal Government will develop policies and guidance on the use and efficacy of masks. Other, more advanced respiratory protection may be indicated in certain instances, depending on the degree of exposure risk.

During a pandemic, persons who are diagnosed with influenza or who have a febrile respiratory illness should remain at home until the fever is resolved and the cough is resolving to avoid exposing others. If such symptomatic persons cannot stay home during the acute phase of their illness, consideration should be given to having them wear a surgical or procedure mask in public places when they may have close contact with other persons.

Although the use of surgical or procedure masks by asymptomatic individuals in community settings has not been demonstrated to be a public health measure to decrease infections during a community outbreak, persons may choose to wear a mask as part of individual protection strategies that include cough etiquette, hand hygiene, and avoiding public gatherings. If persons at risk for complications of influenza decide to wear masks during periods of increased respiratory illness activity in the community, it is likely they will need to wear them any time they are in a public place and when they are around other household members.

Any mask must be disposed of if it becomes moist. Individuals should wash their hands after touching or discarding a used mask. For more detailed information related to the use of face masks, the Department of Health and Human Services (HHS) has developed interim guidance on the use of masks to control influenza transmission, including the use of face masks and respirators in health care settings.

### *Cleaning of Facilities and Equipment*

Given the concern regarding the spread of influenza through contaminated objects and surfaces, additional measures may be required to minimize the transmission of the virus through environmental surfaces such as sinks, handles, railings, and counters. Transmission from contaminated hard surfaces is unlikely, but influenza viruses may live up to 2 days on such surfaces. Surfaces that are frequently touched with hands should be cleaned at least daily during community outbreaks. At a minimum, organizations should develop procedures for cleaning facilities during an outbreak and develop procedures for employees to follow to keep work areas clean (e.g., disinfecting phones, keyboards, personal items). There is no evidence to support the efficacy of widespread disinfection of the environment or air.

HHS has developed recommendations regarding cleaning procedures as well as the handling of waste, eating utensils, and laundry for health care settings including home care. HHS will develop additional guidance regarding cleaning procedures and handling of potentially contaminated waste in non-health care settings such as the workplace.

### *International Travel*

If an organization's employees or students travel outside the United States for business or educational reasons, plans should include consideration of the management of these personnel in the event of an



influenza pandemic.<sup>21</sup> Once a pandemic emerges, international travel may be disrupted. It is also possible that containment measures may be instituted affecting airline passenger movement. Organizations should anticipate that such measures might further aggravate staffing shortages.

### **Risk Management in Occupational Settings**

Organizations developing specific strategies to protect personnel should consider the factors that contribute to overall risk -- including the patterns of social contact entailed by specific positions, the health risk of employees for complications related to influenza, and other forms of social risk — and the feasibility of interventions designed to reduce social contacts or interrupt disease transmission. After completing such an assessment, organizations can tailor interventions to the particular needs of individuals, based on their personal health risk and the roles they play within the organization. To the extent possible, organizations should individualize the implementation of risk reduction strategies.

There are two basic categories of intervention: (1) *transmission interventions*, such as the use of facemasks and careful attention to cough etiquette and hand hygiene, which may reduce the likelihood that contacts with other people lead to disease transmission; and (2) *contact interventions*, such as substituting teleconferences for face-to-face meetings, telecommuting, the use of other social distancing techniques, and the implementation of liberal leave policies for persons with sick family members, which may eliminate or reduce the likelihood of contact with infected individuals. Interventions will have different costs and benefits, and be more or less appropriate or feasible, in different settings and for different individuals.

#### *Social Contacts in the Workplace*

The majority of Americans work in settings where social contacts occur. Some of these contacts, such as those between colleagues working on a joint project, may be regarded as voluntary or discretionary (i.e., face-to-face meetings are not absolutely necessary to maintain productivity), while others, such as those between sales clerks and customers, may be inherent to the nature of the position. Where feasible, voluntary or discretionary contacts may be reduced through contact interventions; where not, and in settings where social contacts are inherent to the nature of the position, risk reduction should be attempted through the implementation of transmission interventions. In theory, a contact intervention that reduces an individual's contacts by 30 percent is equivalent in terms of risk reduction to transmission interventions that reduce the probability of disease transmission by 30 percent.<sup>22</sup>

Some occupations can be classified as high risk because they will entail caring for persons with influenza (e.g., emergency medical services; police; fire and rescue; health care facility staff providers and support staff working in clinics, urgent care, and hospitals; and mortuary staff). The implementation of transmission interventions to protect personnel with such responsibilities is crucial, and organizations can additionally reduce risk by dedicating specific space and personnel for the care of patients with influenza and reducing or eliminating the connectivity of such areas and providers with the rest of the organization.

---

<sup>21</sup> All Federal Executive Branch employees abroad fall under Chief of Mission authority, regardless of their employment categories or location, except those under command of a U.S. area military commander or on the staff of an international organization. In coordination with the Department of State, each U.S. diplomatic mission abroad will prepare a mission-wide plan that will cover all mission personnel and their dependents. Individual agencies would not need to include their personnel serving abroad under Chief of Mission authority in their agency plans.

<sup>22</sup> In practice, the efficacy of contact interventions is easier to quantify than that of transmission interventions.

### *Individual Risk for Complications Related to Influenza*

Risk group classifications will be modified as necessary in light of epidemiologic data collected during a pandemic. Individuals at high risk for severe and fatal infection cannot be predicted with certainty but are likely to include:

- Pregnant women;
- Persons with compromised immune systems due to cancer, AIDS, history of organ transplant, or other medical conditions;
- Persons less than age 65 with underlying chronic conditions;
- Persons age 65 or greater.

Organizations should consider providing additional protections for employees falling into categories identified as being at high risk for severe or fatal infection. Such protections could include reassignment from positions that entailed a high degree of unavoidable social contact or likely exposure to patients with influenza, and flexibility (where appropriate) in terms of worksite or work hours.

### *Social Risk*

Some employees may be at increased personal risk during a pandemic because of limited access to health care services or other special needs not specified above. Risk reduction planning for such employees should be individualized.

## **Roles and Responsibilities**

The responsibility for ensuring business continuity, COOP, and essential services, and providing for the health, safety, and security of employees, students, visitors, and customers is shared by the Federal, State, local, and tribal governments, private sector organizations, and academic institutions concerned. Federal, State, local, and tribal governments and the private sector have important and interdependent roles in preparing for, responding to, and recovering from a pandemic and ensuring that critical infrastructure is protected and sustained.

### **The Federal Government**

The Federal Government will use all capabilities within its authority to support the private sector, State, local, and tribal entities, and schools and universities in preparedness and response activities. It will increase readiness to sustain critical infrastructure including essential Federal public health and medical functions during a pandemic and provide public health and medical support services under the *National Response Plan* (NRP). While HSPD-7 emphasizes protection of critical infrastructure from terrorism, it states that “all Federal departments and agencies shall work with the sectors relevant to their responsibilities to reduce the consequences of catastrophic failures not caused by terrorism.” HSPD-7 assigns responsibilities for CIP as noted below. Each Sector-Specific Agency is responsible for developing, implementing, and maintaining a sector-specific plan for conducting CIP activities within the sector, which include collaborating with all relevant Federal departments and agencies, State, local, and tribal governments, and the private sector.

Department of Homeland Security: DHS’s Office of National Security is the Government’s Executive Lead for COOP. The Office of National Security will develop guidance, planning procedures, and exercises for

an influenza pandemic and will monitor and report to the Executive Office of the President the readiness of departments and agencies to COOP during an influenza pandemic. DHS coordinates the overall national effort to enhance the protection of the critical infrastructure of the United States, and shall lead, integrate, and coordinate implementation of efforts among Federal departments and agencies, State, local, and tribal governments, and the private sector to protect critical infrastructure. DHS has overall coordination responsibilities for the 17 critical infrastructure sectors, and Sector-Specific Agencies, including DHS, have the lead for coordinating individual sectors. DHS coordinates protection activities for the following sectors: information technology; telecommunications; chemical; transportation systems (in collaboration with Department of Transportation), including mass transit, aviation, maritime, ground/surface, and rail and pipeline systems; emergency services; and postal and shipping. DHS coordinates with appropriate departments and agencies to ensure the protection of other key resources including dams, government facilities, and commercial facilities. DHS coordinates with the Nuclear Regulatory Commission (NRC) for the protection of nuclear power reactors, materials, and waste.

Department of Health and Human Services: HHS's primary responsibilities are those actions required to protect the health of all Americans and provide essential human services. Also, HHS in coordination with DHS will provide recommendations regarding measures Federal, State, local, and tribal agencies, private sector businesses, critical infrastructure entities, schools, and universities should employ to protect the health of personnel, customers, visitors, students, and teachers in order to aid in ensuring the continuity of essential services. HHS is the Sector-Specific Agency under HSPD-7 for public health, health care, and food (other than meat, poultry, and egg products).

Other Sector-Specific Agencies responsible under HSPD-7 for coordination with sector representatives are:

- Department of Agriculture for agriculture and food (meat, poultry, egg products);
- Environmental Protection Agency (EPA) for drinking water and water treatment systems;
- Department of Energy for energy, including the production refining, storage, and distribution of oil and gas, and electric power except for commercial nuclear power facilities (NRC);
- Department of the Treasury for banking and finance;
- Department of the Interior (DOI) for national monuments and icons; and
- Department of Defense (DOD) for the defense industrial base and defense critical infrastructure.

Other Important Federal Critical Infrastructure Responsibilities include:

- Department of State (DOS), in conjunction with DHS and other appropriate agencies, will work with foreign countries and international organizations to strengthen the protection of U.S. critical infrastructure.
- Department of Commerce (DOC), in coordination with DHS, will work with private sector, research, academic, and government organizations to promote critical infrastructure efforts, including using its authority under the Defense Production Act to ensure the timely availability of industrial products, materials, and services to meet homeland security requirements.

- Department of Education should coordinate with DHS and public and private education entities to collect and disseminate model pandemic influenza plans for adoption at the State, local, and tribal level, information on exercises and training, and monitor and share information on pandemic impacts.
- Department of Labor (DOL), in conjunction with HHS and other Sector-Specific Agencies, will work with the private sector to develop and disseminate information to promote the health and safety of personnel performing essential functions and roles.

### **State, Local, and Tribal Entities**

State, local, and tribal entities should have credible pandemic preparedness plans that address key response issues and outline strategies to mitigate the human, social, and economic consequences of a pandemic. State and local governments have received Federal Emergency Management Agency (FEMA) guidance for COOP planning (*Introduction to State and Local EOP Planning*), and should incorporate pandemic influenza specific planning. State, local, and tribal entities should work to improve communication between public health departments and private sector partners as well among various private and public entities including schools and universities. Elements of State, local, and tribal entities should be prepared to support national efforts to ensure that critical infrastructure is sustained. State, local, and tribal entities may serve as owners or operators for specific critical infrastructure sectors. In addition, State, local, and tribal entities may play a critical role for those critical infrastructure entities located within their communities. A preparedness checklist for State and local governments is available at [www.pandemicflu.gov](http://www.pandemicflu.gov).

### **The Private Sector**

Because private industry owns and operates the vast majority of the critical infrastructure in the United States, its involvement is crucial for successful implementation of CIP and the National Infrastructure Protection Plan. The private sector will play an integral role in a community response to pandemic influenza by protecting employees' and customers' health and safety, and mitigating impact to the economy and the functioning of society. Many businesses already have continuity of business operations plans that: (1) identify and ensure continued performance of essential functions, and (2) provide for continued supply of products and services at as close to normal levels as possible. Businesses should review and update these plans as appropriate given the pandemic threat and integrate and coordinate their planning with those on whom they depend for essential services and products, and with those entities that depend on them for essential services and products. Such business continuity planning should ensure that essential functions and vital services can be performed in the setting of significant absenteeism. Businesses and corporations should be prepared for public health interventions and recommendations that may increase absenteeism. Elements of the private sector should be prepared to support Federal, State, local, and tribal efforts to ensure that critical infrastructure is sustained. A preparedness checklist for organizations and businesses is provided in Appendix A and is available at [www.pandemicflu.gov](http://www.pandemicflu.gov).

### **Critical Infrastructure**

Protecting critical infrastructure is a shared responsibility requiring cooperation among all levels of government — Federal, State, local, and tribal — and the involvement of the private sector. Over 85 percent of critical infrastructure is owned and operated by the private sector. Sector-Specific Agencies should work in coordination with critical infrastructure sectors to develop guidance for individual organ-

ization plans for maintaining continuity of essential services as part of pandemic influenza planning and preparedness. Movement of essential personnel, goods and services, and maintenance of critical infrastructure are necessary during an influenza pandemic that could span months in any given community. The critical infrastructure entities must respond in a manner that allows them to maintain the essential elements of their operations for a prolonged period of time, in order to prevent severe disruption of life in our communities. Given the interdependence among critical infrastructure entities, coordination and cooperation among critical infrastructure entities and sectors with respect to identifying essential functions and engaging in critical intra- and inter-sector and cross-border planning will be essential.

### **Schools and Universities**

The roles and responsibilities of schools and universities in the area of continuity planning and protection of personnel are unique for several reasons. First, although there is no way to know the characteristics of a pandemic virus before it emerges, the planning assumptions suggest that in the absence of intervention influenza illness rates are likely to be highest among school-aged children (about 40 percent). Second, protecting and sustaining personnel in the workforce is of primary concern for effective continuity planning in public and private sector businesses and governmental entities. The focus in these sectors is on the workforce. In schools, the focus is primarily on protecting students. Third, universities must consider the potential impact of a pandemic on campus and dormitory closure, including the contingency plans for students who depend on student housing and campus food service. And fourth, schools and universities must also address continuity of instruction as part of continuity planning. Schools and universities (public and private) should review existing emergency response plans consistent with guidance provided by the Department of Education's Office of Safe and Drug-Free Schools, *Emergency Response and Crisis Management Guide*. Schools and universities should consider elements unique to pandemic influenza in their emergency response and crisis management plans to protect their faculty and students. Checklists for schools' and universities' actions for effective continuity planning are included in Appendix A and are available at [www.pandemicflu.gov](http://www.pandemicflu.gov).

### **Faith-Based Organizations and Community-Based Organizations**

Faith-based organizations (FBOs) and community-based organizations (CBOs) have a long tradition of helping Americans in need and together represent an integral part of our Nation's social service network. They help fill the needs of vulnerable populations and they help attend to the unmet needs that are not addressed by Federal disaster recovery programs. FBOs and CBOs have a long tradition of aiding victims of disasters. Communities should anticipate that in the event of multiple and widespread synchronous outbreaks during an influenza pandemic, the Federal Government may not possess sufficient resources or personnel to augment local capabilities. FBO/CBO and emergency management partnerships could be helpful in disaster mitigation, especially in a resource-constrained environment. FBOs and CBOs offer additional volunteer capacity; understanding of community needs and awareness of the most vulnerable populations; credibility with the community; access to social and population groups that may avoid interaction with government officials; and community influence. As locally based organizations with strong networks within communities, FBOs and CBOs are well situated to bring about grassroots involvement in mitigating the potential social and economic disruption associated with a pandemic. A preparedness checklist for FBOs and CBOs to ensure continuity of essential functions and protection of employees and volunteers is included in Appendix A and is available at [www.pandemicflu.gov](http://www.pandemicflu.gov).

## Individuals and Families

The critical role of individuals and families in controlling a pandemic cannot be overstated. The success or failure of infection control measures is ultimately dependent upon the acts of individuals -- practicing hand hygiene, cough etiquette, remaining home if ill or if a household member is ill, and complying with social distancing measures (see *Individual, Family, and Community Response to Pandemic Influenza* between Chapters 5 and 6). The collective response of all Americans will be crucial in mitigating the health, social, and economic impacts of a pandemic. A checklist of specific activities individuals and families can do now to prepare for a pandemic is included in Appendix A and is available at [www.pandemicflu.gov](http://www.pandemicflu.gov).

## Actions and Expectations

### 9.1. Pillar One: Preparedness and Communication

We must ensure preparedness, and the communication of roles and responsibilities for all levels of government and segments of societies including all Federal, State, local, and tribal governmental departments and agencies; private sector businesses and institutions; critical infrastructure entities; public and private schools and universities; and individuals and families.

#### *a. Planning for a Pandemic*

#### **9.1.1. Develop Federal implementation plans to include all components of the Federal Government and to address the full range of consequences of a pandemic, including human and animal health, security, transportation, economic, trade, and infrastructure considerations.**

- 9.1.1.1. DHS, in coordination with HHS, DOD, and DOL, shall provide pandemic influenza COOP guidance to the Federal departments and agencies 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.
- 9.1.1.2. The Office of Personnel Management (OPM), in coordination with DHS, HHS, DOD, and DOL, shall provide guidance to the Federal departments and agencies on human capital management and COOP planning criteria related to pandemic influenza, within 3 months. Measure of performance: guidance provided to all departments for use, as necessary, in adjusting departmental COOP plans related to pandemic influenza.
- 9.1.1.3. OPM, in coordination with DHS, HHS, DOD, and DOL, shall 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, 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.

**9.1.2. Continue to work with States, localities, and tribal entities to integrate non-health sectors, including the private sector and critical infrastructure entities, in these planning efforts.**

9.1.2.1. DHS, in coordination with Sector-Specific Agencies, critical infrastructure owners and operators, and States, localities and tribal entities, shall develop sector-specific planning guidelines focused on sector-specific requirements and cross-sector dependencies, within 6 months. Measure of performance: planning guidelines developed for each sector.

9.1.2.2. DHS, in coordination with States, localities and tribal entities, shall support private sector preparedness with education, exercise, training, and information sharing outreach programs, within 6 months. Measure of performance: preparedness exercises established with private sector partners in all States and U.S. territories.

***b. Communicating Expectations and Responsibilities***

**9.1.3. Provide guidance to the private sector and critical infrastructure entities on their role in the pandemic response, and considerations necessary to maintain essential services and operations despite significant and sustained worker absenteeism.**

9.1.3.1. DHS, in coordination with all the Sector-Specific Agencies, shall conduct 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, within 6 months. Measure of performance: planning guidelines validated by collaborative exercises that test essential functions and critical planning, response, and mitigation needs.

9.1.3.2. DHS, in coordination with all the Sector-Specific Agencies, shall 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, within 6 months. Measure of performance: Critical Infrastructure Influenza Pandemic Preparedness, Response, and Recovery Guide developed and published on [www.pandemicflu.gov](http://www.pandemicflu.gov).

**9.1.4. Provide guidance to individuals on infection control behaviors they should adopt pre-pandemic, and the specific actions they will need to take during a severe influenza season or pandemic, such as self-isolation and protection of others if they themselves contract influenza.**

9.1.4.1. 9.1.4.1. HHS, in coordination with DHS, DOL, OPM, Department of Education, VA, and DOD, shall develop sector-specific infection control guidance to protect personnel, governmental and public entities, private sector businesses, and CBOs and FBOs, within 6 months. Measure of performance: sector-specific guidance and checklists developed and disseminated on [www.pandemicflu.gov](http://www.pandemicflu.gov).

- 9.1.4.2. HHS, in coordination with DHS, DOL, EPA, Department of Education, VA, and DOD, shall develop interim guidance regarding environmental management and cleaning practices including the handling of potentially contaminated waste material, within 3 months, and revise as additional data becomes available. Measure of performance: development and publication of guidance and checklists on [www.pandemicflu.gov](http://www.pandemicflu.gov) and dissemination through other channels.

### **9.3. Pillar Three: Response and Containment**

We recognize that a virus with pandemic potential anywhere represents a risk to populations everywhere. Once health authorities signal that sustained and efficient human-to-human spread of the virus has occurred, a cascade of response mechanisms will be initiated, from the site of the documented transmission to locations around the globe. This response must ensure that critical infrastructure, essential services, and the economy are sustained.

#### ***a. Sustaining Infrastructure, Essential Services, and the Economy***

##### **9.3.1. Encourage the development of coordination mechanisms across American industries to support the above activities during a pandemic.**

- 9.3.1.1. DHS shall map and model critical infrastructure interdependencies across and within sectors to share critical information with sectors and identify national challenges during a pandemic, within 6 months. Measure of performance: critical infrastructure modeling capability established and mapping of critical infrastructure interdependencies completed.
- 9.3.1.2. DHS shall develop and operate a national-level monitoring and information-sharing system for core essential services to provide status updates to critical infrastructure dependent on these essential services, and aid in sharing real-time impact information, monitoring actions, and prioritizing national support efforts for preparedness, response, and recovery of critical infrastructure sectors within 12 months. Measure of performance: national-level critical infrastructure monitoring and information-sharing system established and operational.

##### **9.3.2. Provide guidance to activate contingency plans to ensure that personnel are protected, that the delivery of essential goods and services is maintained, and that sectors remain functional despite significant and sustained worker absenteeism.**

- 9.3.2.1. DHS shall coordinate Federal, State, local, and tribal actions/options/capability requirements (legislative and regulatory additions/changes and waivers, personnel and material resources, and financial) to develop and implement tailored support packages to address critical infrastructure systems and essential operational requirements at each phase of the pandemic: planning, preparedness, response, mitigation, and recovery. Measure of performance: support packages ensure essential functions of all critical infrastructure sectors sustained during a pandemic.