PANDEMIC INFLUENZA

Preparedness, Response, and Recovery

GUIDE FOR CRITICAL INFRASTRUCTURE AND KEY RESOURCES

Homeland Security

U.S. Department of Homeland Security

PANDEMIC INFLUENZA PREPAREDNESS, RESPONSE, AND RECOVERY GUIDE FOR CRITICAL INFRASTRUCTURE AND KEY RESOURCES

For more information including a PDF copy of the CI/KR guide, please visit www.pandemicflu.gov or email your CI/KR-related questions to dhspandemic@dhs.gov.

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NOTE: When completed and approved, the full Annex (all Sector-Specific Checklists, Roles and Responsibilities, and Pandemic Context) and the Appendix (Pandemic Scenarios, COP-E templates, and Web links) will be available in the reference Pandemic Guide.

Executive Summary

Public health experts warn pandemic influenza poses a significant risk to the United States and the world—only its timing, severity, and exact strain remain uncertain. International, Federal, State, local, and tribal government agencies are diligently planning for the public health response to this potential pandemic. The disease could be severe and could affect our critical infrastructure and our nation's economic and social security. It is important that you take action.

As part of the U.S. Government's pandemic preparedness strategy, the Department of Homeland Security (DHS) supports the efforts of the public and private sector Critical Infrastructure and Key Resources (CI/KR) community and their businesses to develop and execute their essential pandemic contingency plans and preparedness actions. The Pandemic Influenza Preparedness, Response, and Recovery Guide is one of the practical tools DHS has developed for business owner-operators and their contingency planners to enhance pandemic planning.This guide assembles the primary government and pandemic influenza-specific background material, references, and contacts all in one place. It introduces an enhanced contingency planning process for a pandemic and provides business planners with numerous sector-specific and common pandemic influenza planning variables keyed to escalating disaster phases. This Guide will complement and enhance, not replace, extensive private sector contingency planning already in place.

The primary purpose of this Guide is to stimulate the U.S. private sector business community to act now. With this Guide, DHS hopes to assist our nation's 17 CI/KR sectors, and business and industry in general, with the actions they should be taking to prepare for, respond to, and recover from a localized outbreak, as well as the broader pandemic. This Guide urges private sector business planners to expand upon their traditional notions of continuity of operations, as a pandemic promises to test the limits of their current contingency plans.

Eighty-five percent of critical infrastructure resources reside in the private sector, which generally lacks individual and system-wide business continuity plans specifically for catastrophic health emergencies such as pandemic influenza. Many businesses have extensive contingency plans in response to threats from diverse natural and manmade disasters. While useful for their intended purpose, these plans may prove ineffective given they do not account for the extreme health impact assumptions and containment strategies projected for a severe pandemic influenza.

Successful pandemic preparedness demands full participation from private sector businesses of all types and sizes. Businesses know best which activities and personnel in their operations are most critical. They know what priorities and choices they need to consider in maintaining essential levels of service and how advance planning and preparedness can help sustain their critical infrastructure. While the government continues to make progress in pandemic planning, it still has work to do to ensure all CI/KR sectors are planning, as well. Private sector planning must be well coordinated across our interdependent critical infrastructures and between all appropriate public and private entities. The Pandemic Influenza Preparedness, Response, and Recovery Guide is a positive first step toward achieving this essential outcome.

"Once again, nature has presented us with a daunting challenge: the possibility of an influenza pandemic… Together we will confront this emerging threat and together, as Americans, we will be prepared to protect our families, our communities, this great nation, and our world."

President George W. Bush
November 2005

Section 1: Introduction

1.1 Secretary Chertoff's Message to the Critical Infrastructure and Key Resource Sectors

Securing the homeland requires our constant vigilance. The Department of Homeland Security (DHS) is committed to working with State, local, and tribal governments, as well as the private sector to build formidable partnerships to secure the Nation's critical infrastructure and key resources (CI/KR). As new threats emerge, the Nation must rally together to plan and prepare for possible disasters—both natural and manmade. One of these threats is a pandemic resulting from a new influenza virus.

A severe pandemic influenza presents a tremendous challenge as it may affect the lives of millions of Americans, cause significant numbers of illnesses and fatalities, and substantially disrupt our economic and social stability. It is imperative for government officials and business leaders to work together now to develop effective pandemic-related business continuity plans and to implement successful preparedness and protective strategies.

DHS, along with its Federal partners, will work with the Nation's CI/KR owner-operators to develop and integrate effective continuity of operations plans that ensure essential services remain functional and essential goods remain available in the event of a pandemic. This ***Pandemic Influenza Preparedness, Response and Recovery Guide for Critical Infrastructure and Key Resources*** *is a major milestone in our ongoing efforts to support private sector pandemic planning. Owners and operators of our Nation's critical infrastructure facilities will be able to use this guide to facilitate and inform their continuity planning efforts.*

September 11, 2001, taught us the importance of strong public-private partnerships and information sharing. Working together, we will again reveal the value in these powerful relationships as we confront the serious threat a pandemic poses to the United States and the world. Thank you for your help in this important endeavor.

Michael Chertoff

Secretary

Section 1: Introduction

1.2 Purpose

The primary purpose of this Guide is to stimulate the U.S. private sector to act now. With this Guide, DHS hopes to assist our nation's 17 CI/KR sector businesses (large, medium, and small), and and industry in general, with the actions they should be taking to prepare and respond to, and recover from, a localized outbreak, as well as the broader pandemic. (For a list of all 17 CI/KR sectors, please see Figure A on page 7.) As additional federal pandemic guidance for non-CI/KR businesses is developed, it will be made available at www.pandemicflu.gov. This Guide urges private sector business planners to move beyond the traditional notions of continuity of operations, as a pandemic promises to test the limits of their current contingency plans.

1.3 Situation

The mounting risk of a worldwide influenza pandemic poses numerous potentially devastating consequences for critical infrastructure in the United States. A pandemic will likely reduce dramatically the number of available workers in all sectors, and significantly disrupt the movement of people and goods, which will threaten essential services and operations within and across our nation's CI/KR sectors. Industries in every sector of the critical infrastructure will experience pandemic impacts. Given today's highly mobile population, disease outbreaks may occur simultaneously throughout the country making the reallocation of human and material resources more difficult than in other disaster or emergency situations. Thus, each community and CI/KR sector and industry must be primarily reliant on its own internal resources for response, at least initially.

Preparedness for and response to a pandemic outbreak is a shared responsibility of all levels of government and the private sector. Leading the nation's critical infrastructure protection efforts, DHS must support and in partnership with business harness the vast capabilities of the private sector to respond effectively to the widespread impacts of a pandemic. Current pandemic influenza planning in the public sector does not extend to the majority of private sector industries, most of which lack contingency plans for a potentially catastrophic pandemic.

1.4 Overview of CI/KR Guide Sections

Section 1-Introduction: Providing background and a statement of purpose, this section describes the basic authorities defining the role of DHS in developing critical infrastructure and key resource frameworks. It also describes robust partnerships with the private sector to enable preparedness for both natural and manmade disasters.

Section 2-Roles and Responsibilities and Authorities-Summary: Defining and sharing information about the roles and responsibilities for all levels of government and the private sector prior to a pandemic disaster is crucial. Government and businesses need a clear understanding of the roles and responsibilities of all partners during a disaster. Section 2 provides an overview of the assigned duties and authorities of Federal agencies; State, local, and tribal governments; and the private sector with a role in pandemic preparedness. This Guide also references current pandemic plans involving those Federal agencies with responsibility for the security of the CI/KR sectors.

Section 3-Pandemic Influenza Context-Summary: Section 3 summarizes the context for pandemic preparedness actions with an overview of pandemic influenza, how it spreads, options for reducing transmissibility, international efforts to contain its spread, as well as major planning assumptions and implications for CI/KR in the United States.

Section 4-Pandemic Implications for Businesses: Section 4 introduces the need to enhance existing contingency planning while emphasizing the dual definition of "essential" operations for a pandemic. It also integrates the health

impacts and disease mitigation strategies highlighted in Section 3. Section 4 considers how the combined effects may cause a greater negative consequence for businesses and the potential implications for essential business operations during a pandemic.

Section 5-Continuity of Operations-Essential (COP-E) Guide: Section 5 serves as the Guide's core component. It provides CI/KR businesses with a practical tool to assist in their pandemic planning and response efforts. It also emphasizes the importance of a shift from conventional business continuity planning to pandemic-specific COP-E. COP-E planning scenarios assume pandemic-specific impacts and allow business contingency planners to address key actions needed to identify essential functions, people, and material within/across sectors. It proposes alternative methods to protect and sustain these at each phase, from preparation through recovery.

Section 6-Partnerships and Information Sharing: Section 6 focuses on the importance of an effective public-private partnership and efficient communications both before and during a pandemic. These trusted partnerships become vehicles for reliable, realtime, two-way information exchanges. Disease containment strategies will rely heavily on first responders and the business community to detect and notify government officials of the occurrence of a pandemic and the rapidly evolving impacts on essential operations. DHS will exercise its information-sharing networks, such as the Homeland Security Information Network (HSIN), to allow for greater communications, coordination, and information-sharing between the private sector and the government.

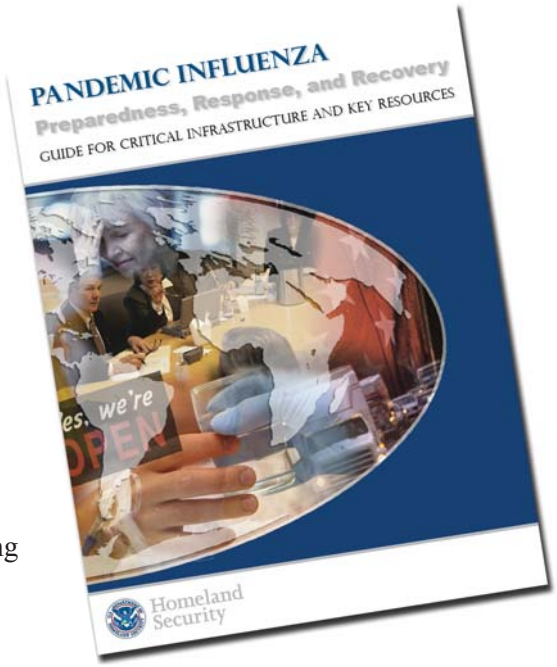
Section 7-Public and Media Relations: Section 7 presents another critical pandemic preparedness and response component—public and media relations. Practical plans must be developed and implemented to ensure streamlined, coordinated information flows for accurate and consistent messages to both the public and the media. This section outlines strategies for communicating critical and timely information to the public and the media and other information management options for each phase of a pandemic.

1.5 Guide Distribution Versions

This Guide will be distributed through a number of media (hardcopy mailing as requested, Web site download, and electronic mail) and will be available initially in two different versions.

1. The primary Pandemic Guide, an abridged version tailored to businesses with contingency planning teams, includes actionable abstracts of the reference CI/KR Guide sections, as well as detailed planning guidance, action checklists, and useful information on information-sharing and media relations

2. A full-scale reference Pandemic Guide with an expanded Section 2 (Roles and Responsibilities) and Section 3 (Pandemic Context) and all 17 CI/KR sector-specific checklists in the Annex, as well as supporting Appendices (Pandemic Planning Scenarios, COP-E Templates, Web Links, and Contact Information) for those businesses seeking more detailed planning and background information.



Section 2: Roles, Responsibilities, and Authorities-Summary

"The avian flu bears the potential for societal disruption of unprecedented proportion. Strong partnerships and smart planning will be our best protection against this threat."[1]

Secretary Michael Chertoff
Department of Homeland Security
December 5, 2005

IN THIS SECTION: Overview • What and Why Should Private Sector Businesses Know? • What are Critical Infrastructure and Key Resources or CI/KR? • Why is this Important for Businesses? • Roles and Responsibilities

Section 2: Roles, Responsibilities, and Authorities-Summary

2.1 Overview

Understanding the roles, responsibilities, and authorities of Federal, State, local, and tribal governments as well as private sector businesses is key to assisting business planners to construct effective pandemic influenza contingency plans. This section summary illustrates what the Federal government means by CI/KR, highlights the basic roles and relationships of all governmental players, and provides insights into the significance of these relationships for business. **The reference Guide's Annex** contains a more extensive discussion of these relationships.

2.2 What Should Private Sector Businesses Know, and Why?

Understanding the pandemic planning context offers business contingency planners a practical framework in which to develop and execute their plans. The context provides the nature of the threat and support variables essential to networking the business' plan within the greater operational environment. Specifically knowing government roles, responsibilities, and authorities enables planners to obtain answers rapidly for many basic planning questions, such as:

- What is the threat (e.g., spread, duration, virulence) to my business, the community, and the nation?
- Where will it appear first, and how will I know when it does?
- When will it begin affecting my business?
- How will government help to inform and support my business?
- How can my business help to support my business sector, my community and our nation?
- How will it affect my business and those that depend on me?

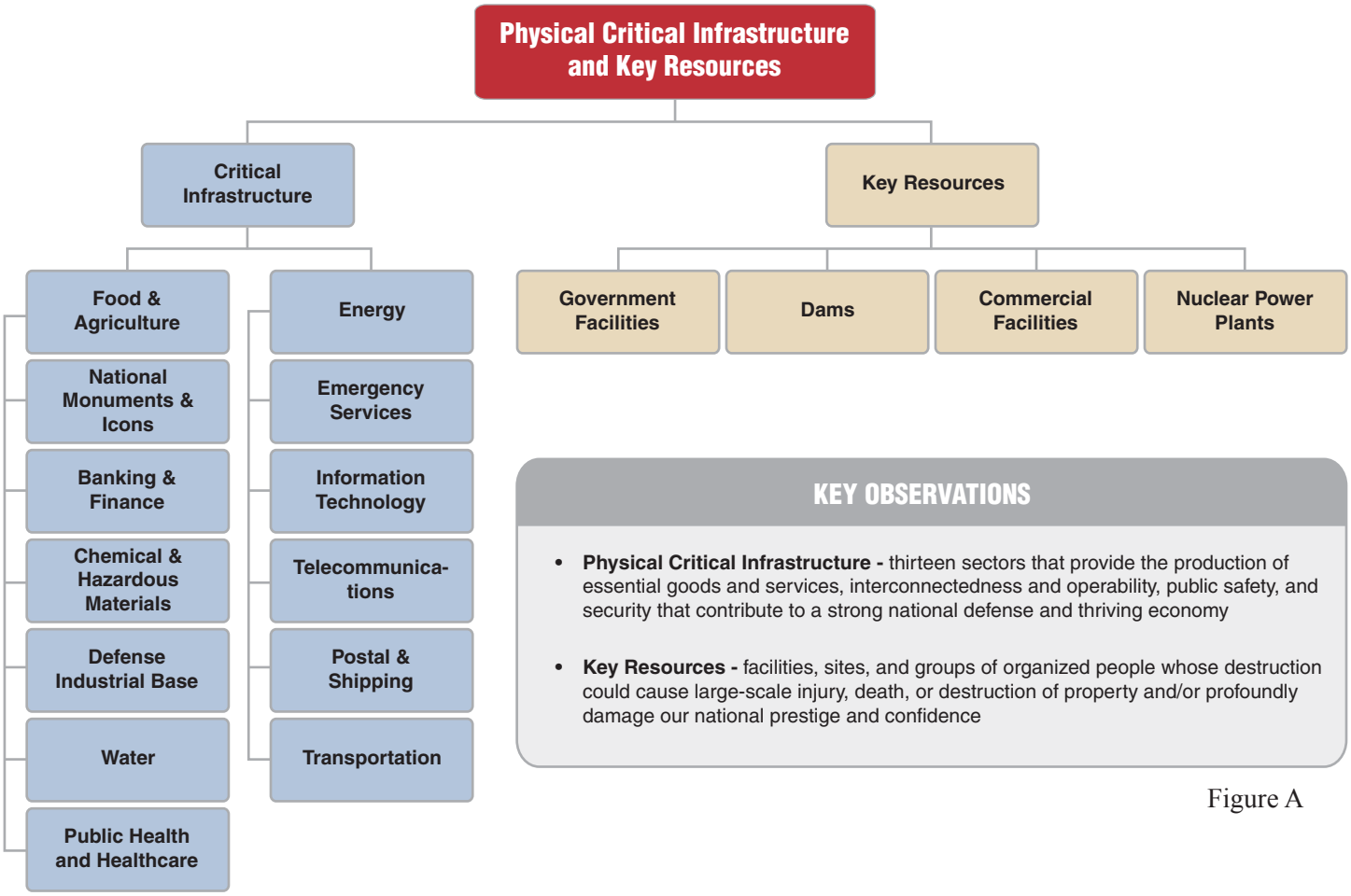
2.3 What are Critical Infrastructure and Key Resources or CI/KR?

The U.S. Government has formally identified 13 Critical Infrastructure and 4 Key Resource sectors essential to our nation's security, and economic and social stability.[2] This working partnership between the government, including CI/KR Sector-Specific Agencies, and private sector businesses allows all stakeholders to share information and develop and implement plans and actions to improve our nation's homeland security. Of note, while this Guide focuses on support of the 17 CI/KR sectors, there are numerous other non-CI/KR businesses and business subsectors that are vital to the nation's economic and social stability. The Guide also can assist these other businesses with their pandemic preparedness (Figure A).

2.4 Why is this Important for Businesses?

Health departments at all levels of government are working to protect the nation, its businesses, and citizens from an influenza outbreak. Knowing what these groups can do and are doing, and monitoring with them the evolving pandemic threat, will ensure that business has the most accurate information and maximum preparation time. Similarly, knowing what other government departments can and will do, and then collaborating with them to provide necessary support during a pandemic, helps define the external operational parameters and networks within which business must plan for during the preparedness, response, and recovery phases. **The reference CI/KR Guide's Annex** provides a detailed review of the roles, responsibilities, and authorities summarized below.

17 NATIONAL CI/KRs



KEY OBSERVATIONS

- **Physical Critical Infrastructure -** thirteen sectors that provide the production of essential goods and services, interconnectedness and operability, public safety, and security that contribute to a strong national defense and thriving economy
- **Key Resources -** facilities, sites, and groups of organized people whose destruction could cause large-scale injury, death, or destruction of property and/or profoundly damage our national prestige and confidence

Figure A

Homeland Security

Section 2: Roles, Responsibilities, and Authorities-Summary

2.5 Roles and Responsibilities

2.5.1 Federal

On November 1, 2005, President Bush announced the nation's comprehensive approach to prepare for and combat a potential pandemic influenza, emphasizing the need for proactive efforts combining the full capabilities and support of all levels of government and the private sector. The President also launched the primary Federal Web site, www.pandemicflu.gov, to provide up-to-date information and pandemic links, and he released the *National Strategy for Pandemic Influenza*.[3] On May 6, 2006, the U.S. Homeland Security Council distributed the *National Strategy for Pandemic Influenza Implementation Plan* to provide operational direction and specific implementation actions for all Federal Departments as well as guidance for State, local, and tribal governments and the private sector. The Implementation Plan complements and extends existing national disaster management documents to include the National Response Plan and National Incident Management System (see Guide Annex and www.dhs.gov/dhspublic/display?theme=14). From this guidance, government stakeholders will develop their actionable pandemic plans to support their specific areas of responsibility and authority. This CI/KR Guide incorporates the guidance provided in the Implementation Plan and specifically addresses one of the support actions directed in Chapter 9 of the Implementation Plan.

2.5.2 State, Local, and Tribal

This level of government represents the nation's front lines in the pandemic battle. They will face extreme challenges in maintaining normal operations in the face of widespread illness and increased demand on most government services. States are diligently updating their pandemic plans; these are available for review at www.pandemicflu.gov/plan/stateplans.html. As outlined in the Strategy, State, local, and tribal responsibilities include the following:

- ensuring all reasonable measures are taken to limit the spread of an outbreak within and beyond the community's borders;
- establishing comprehensive and credible preparedness and response plans that are exercised on a regular basis;
- integrating non-health entities, including law enforcement, utilities, and city services in pandemic planning;
- identifying key spokespersons for the community, ensuring that they are educated in risk communications, and having coordinated crisis communications plans;
- establishing State and community-based stockpiles and distribution systems; and
- providing public education campaigns on pandemic influenza.

2.5.3 Private Sector

The impact of all disasters is generally felt most severely at the local level. Private sector businesses should familiarize themselves with the various pandemic containment and response options including social distancing, quarantine laws, and movement restrictions, in the jurisdictions where they operate. Business planners should also assess the diverse national and international legal and regulatory authorities, issues, and restraints that could affect their business, supply chain, transportation of goods and services, priority for municipal services, and workplace safety issues. Additionally, planners should fully assess the risks, impacts, and implications of pandemic-related disruptions to international production, supply

chain, and goods and personnel movement. The majority of U.S. businesses rely on a global network of essential material and support functions. Disruptions in international trade could result in cascading impacts across U.S. private sector businesses even before pandemic disease outbreaks reach the United States.

Much as they did in the months leading up to Y2K, Federal and State government agencies will address possible temporary regulatory relief strategies to help businesses stay afloat during the pandemic. DHS is committed to reviewing legal authorities and their effects on business during a pandemic and pledges to coordinate with public and private partners to examine the efficacy of enacting emergency powers or suspending statutory frameworks and regulations.

DHS, in concert with the Federal CI/KR Sector-Specific Agencies (SSAs), will help coordinate Federal, State, local, and tribal requirements (legislative, regulatory, resource, and financial) to address critical infrastructure systems and operations requirements at each phase of the pandemic. For its part, the private sector has a significant role to play, as outlined in the Strategy, including:

- establishing a process for infection control in the workplace, including options for working offsite while ill, systems to reduce infection transmission, and worker education;
- establishing internal surveillance protocols to monitor the health of workers and business stakeholders and to keep State and local public health officials informed;
- developing pandemic specific continuity of operations plans to maintain delivery of essential goods and services despite significant and sustained worker absenteeism;
- monitoring regional/national/international pandemic threat levels for trigger-point changes that will affect the business;
- coordinating with government officials and community stakeholders to share planning, preparedness, response, and recovery information; and
- establishing partnerships with other members of the sector to provide mutual support and maintenance of essential services during a pandemic.

[1] Department of Health and Human Services News Release, "Federal Government Begins Pandemic Planning with States," 5 December 2005, www.hhs.gov/news/press/2005pres/20051205.html

[2] www.whitehouse.gov/news/releases/2003/12/20031217-5.html

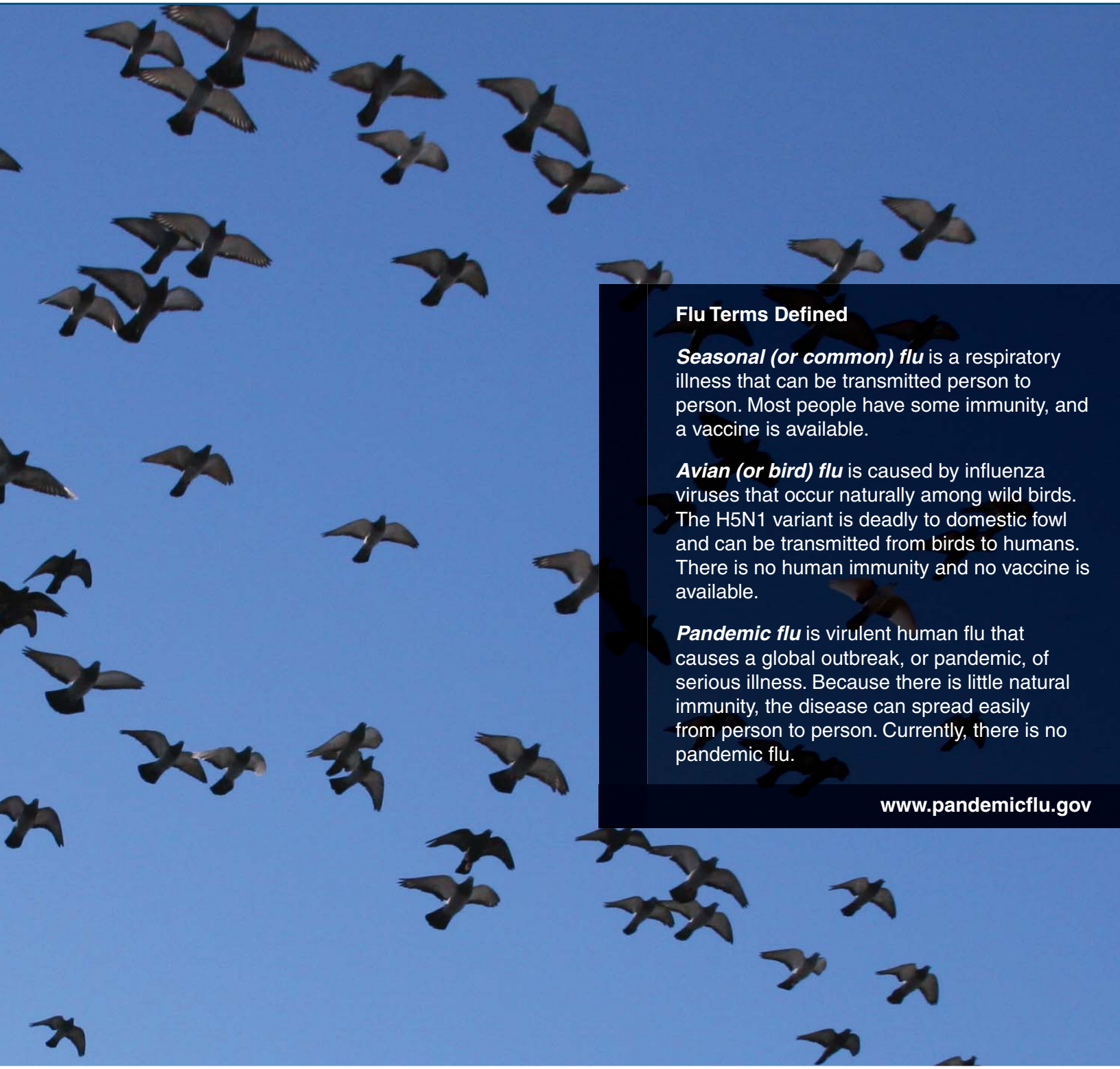
[3] www.pandemicflu.gov/plan/#strategy

Section 3: Pandemic Influenza Context-Summary

"Some will say this discussion of the Avian Flu is an overreaction. Some may say, 'Did we cry wolf?' The reality is that if the H5N1 virus does not trigger pandemic flu, there will be another virus that will."

Secretary Mike Leavitt
Department of Health and Humans Services
November 2, 2005

IN THIS SECTION: Overview • Why is this Important for Business? • National Context • International Context



Flu Terms Defined

Seasonal (or common) flu is a respiratory illness that can be transmitted person to person. Most people have some immunity, and a vaccine is available.

Avian (or bird) flu is caused by influenza viruses that occur naturally among wild birds. The H5N1 variant is deadly to domestic fowl and can be transmitted from birds to humans. There is no human immunity and no vaccine is available.

Pandemic flu is virulent human flu that causes a global outbreak, or pandemic, of serious illness. Because there is little natural immunity, the disease can spread easily from person to person. Currently, there is no pandemic flu.

www.pandemicflu.gov

Section 3: Pandemic Influenza Context-Summary

3.1 Overview

Understanding the pandemic threat allows business planners to appreciate the context within which they must build their pandemic influenza contingency plans. Section 3 summarizes what is important for businesses to know about pandemic influenza by highlighting major health planning assumptions, disease containment strategies, and economic implications. **In the reference CI/KR Guide's Annex**, there is a much more extensive discussion of the pandemic context.

3.2 Why is this Important for Business?

Business planners should integrate and network their plans given current facts and insights. Section 5, the COP-E Guide, systematically addresses the basic ways and means of accomplishing this integration. For now, assess the summaries below and consider integrating them into your own pandemic influenza contingency plan. These summaries may answer planning questions such as:

- How is pandemic influenza different from seasonal influenza?
- How great a threat does pandemic influenza potentially pose?
- Will a pandemic influenza vaccine and antiviral drugs be available?
- What is being done internationally and nationally to contain and eliminate the threat?
- What are the business implications from the threat and proposed containment strategies?

3.3 National Context

Business contingency planners must assess, prioritize, and incorporate specific health impact assumptions, strategies, and implications into their pandemic planning process. A pandemic has the potential to be a catastrophic disaster of unprecedented scale. The ability to implement effective pandemic preparedness plans, continuously monitor all business activities, and effect rapid adjustments based upon observed and anticipated impacts will be the hallmark of the business that copes most effectively during a pandemic.

3.3.1 Health Impact Assumptions

The Federal government based its pandemic preparedness planning on assumptions from the Centers for Disease Control and Prevention (CDC) regarding the evolution and impacts of a pandemic. Defining the potential magnitude of a pandemic is difficult because of the large differences in severity for the three 20th-century pandemics. While the 1918 pandemic resulted in an estimated 500,000 deaths in the United States, the 1958 pandemic killed approximately 70,000 Americans and the 1968 pandemic caused an estimated 34,000 U.S. deaths. This difference largely relates to the severity of infections and the virulence of the influenza viruses that caused the pandemics. The 20th century pandemics also have shared similar characteristics. In each pandemic, about 30 percent of the U.S. population developed illness, with about half of those Americans seeking medical care. Children under the age of 18 have tended to have the highest rates of illness, though not of severe disease and death. Geographical spread in each pandemic was rapid and virtually all communities experienced outbreaks.

Planning Assumptions for the Implementation Plan[4]

Pandemics are unpredictable. While history offers useful benchmarks, there is no way to know the characteristics of a pandemic virus before it emerges. Nevertheless, we must make assumptions to facilitate planning efforts. Federal planning efforts assume the following:

1. Susceptibility to the pandemic influenza virus will be universal.
2. Efficient and sustained person-to-person transmission signals an imminent pandemic.
3. The clinical disease attack rate will be 30 percent in the overall population during the pandemic. Illness rates will be highest among school-aged children (about 40 percent) and decline with age. Among working adults, an average of 20 percent will become ill during a community outbreak.
4. Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.
5. While the number of patients seeking medical care cannot be predicted with certainty, in previous pandemics about half of those who became ill sought care. With the availability of effective antiviral drugs for treatment, this proportion may be higher in the next pandemic.
6. Rates of serious illness, hospitalization, and deaths will depend on the virulence of the pandemic virus and differ by an order of magnitude between more and less severe scenarios. Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic or immunosuppressive medical conditions.
7. Rates of absenteeism will depend on the severity of the pandemic. In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members, and fear of infection may reach 40 percent during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak. Certain public health measures (closing schools, quarantining household contacts of infected individuals, “snow days”) are likely to increase rates of absenteeism.
8. The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately 2 days.
9. Persons who become ill may shed virus and can transmit infection for one-half to one day before the onset of illness. Viral shedding and the risk of transmission will be greatest during the first 2 days of illness. Children will play a major role in transmission of infection as their illness rates are likely to be higher because they shed more virus over a longer period of time and they do not control their secretions as well.
10. On average, infected persons will transmit infection to approximately two other people.
11. Epidemics will last 6 to 8 weeks in affected communities.
12. Multiple waves (periods during which community outbreaks occur across the country) of illness are likely to occur with each wave lasting 2 to 3 months. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.

3.3.2 Pandemic Disease Containment/Control Strategies

Specific pandemic protection and response strategies being considered will have varied implications and efficacy within and across CI/KR sectors. All are necessary health strategies to limit social interactions and disease spread; thus reducing illness and death and mitigating the direct economic impacts. All also have potentially significant economic side effects and social consequences that, when coupled with the health impact assumptions, substantially compound the direct effects on all businesses. It is thus imperative for businesses to stay fully informed of government actions to implement disease containment strategies and to factor the potential side effects and impacts on their business into their pandemic plan. Key disease containment strategies include:

- **Isolation:** Separation of persons with specific infectious illnesses in their homes, in hospitals, or in designated healthcare facilities.
- **Quarantine:** Separation and restriction of the movement, usually of a group of people, who, while not yet ill, have potentially been exposed to an infectious agent.
- **Social Distancing:** Within the workplace, social distancing measures could take the form of: modifying the frequency and type of face-to-face employee encounters (e.g., placing moratoriums on hand-shaking, substituting teleconferences for face-to-face meetings, staggering breaks, posting infection control guidelines); establishing flexible work hours or worksite, (e.g., telecommuting); promoting social distancing between employees and customers to maintain three-feet spatial separation between individuals; and implementing strategies that request and enable employees with influenza to stay home at the first sign of symptoms.
- **Closing Places of Assembly:** Voluntary or mandatory closure of public places, including churches, schools, and theaters.
- **"Snow Days/Weeks" and/or Furloughing Non-Essential Workers:** Voluntary or mandatory closure of all non-essential businesses and/or furloughing all non-essential workers.
- **Changes in Movement Patterns:** Restricting movement at the border, instituting reductions in the transportation sector, and applying quarantine protocols.

3.3.3 Societal and Economic Planning Implications

The specific implications for each business' operations from the direct health impacts combined with the proposed disease containment strategies should be identified, assessed, and incorporated into the business' pandemic plan, implications such as:

- Dramatic worker absenteeism (40 percent or more) will occur at all levels due to illness, family member care, death, childcare, and "worried well" (otherwise healthy people who avoid the workplace for fear of exposure).
- Pandemic disease spread will be rapid and unpredictable, likely precluding shifting personnel, resources, and emergency operations centers to "safe" areas.
- Movement restrictions and/or quarantines will disrupt the supply chains and municipal services.
- Social distancing requirements will affect business operations, especially when public contact is unavoidable (e.g., retail food) or workers share a common workspace (e.g., plants).

- Business closures and furloughs for prolonged periods may cause extensive financial harm or even ruin, increasing demand for social and welfare support.
- Lost income and competition for remaining skilled workers and scarce supplies and materials will dramatically affect business response and recovery.
- Reduced worker availability among first responders may result in greater risk of social and security disruptions.
- Disruptions and failures at essential businesses will cause localized economic and social challenges and may affect other businesses in the sector, region, and, perhaps, the nation.

"The (1918 Spanish Influenza) epidemic killed, at a very, very conservative estimate, 550,000 Americans in 10 months; that's more Americans than died in combat in all the wars of this century…"

Alfred W. Crosby
Influenza 1918, The American Experience

3.4 International Context

By definition, a "pandemic" is a disease epidemic spread over a wide geographic area and affecting a large proportion of the population. In the case of the three 20th Century influenza pandemics, they have been of varying severity but all were global events.[5] Given the international context, President Bush announced the International Partnership on Avian and Pandemic Influenza[6] in September 2005. This global surveillance and preparedness network will help detect and respond quickly to any disease outbreaks.

This Partnership will help us improve international surveillance, transparency, timeliness, and response capabilities. The U.S. Government (USG) will utilize the full expertise of the Department of Health and Human Services (HHS) and HHS/CDC to aid the World Health Organization (WHO) and our partner countries in managing and containing the pandemic threat. The Partnership requires countries facing an outbreak to immediately share information and provide samples to the WHO. Already, 88 countries and nine international organizations joined the initial effort. In the past year, the United States has already spent $25 million to control the spread of avian influenza in Southeast Asia, and has provided more than $13 million in technical assistance and pandemic preparedness grants.

Meanwhile the WHO has developed its own comprehensive Global Preparedness Plan,[7] which assists WHO Member States (including the United States) and those responsible for public health, medical, and emergency preparedness to respond to pandemic influenza-related threats. The WHO has defined the phases of increasing public health risk associated with the emergence of a new influenza virus, recommended actions for national authorities, and outlined the measures it will take during each phase.

In 2005, the WHO redefined the six phases of a pandemic to provide guidance to the international community and to national governments on preparedness and response for pandemic threats. The WHO matrix has specific alert periods based on the evolving phases of the disease (Figure B).

For national governments, there are numerous implications each time the WHO declares a pandemic change to Phases 4, 5, or 6 in an affected country. For instance, when the WHO raises the pandemic alert to Phase 5, affected countries are directed to implement realtime monitoring of essential resources, designate special status (i.e., state of emergency) to

affected areas, and commence with triage arrangement for efficient use of healthcare facilities.[8] Private sector businesses, especially those with international operations, should learn the quarantine laws and containment policies of the countries where they have satellite offices.

3.5 U.S. National Alert Stages

The USG Implementation Plan details a U.S.-specific, yet complementary, matrix for Federal Government Response Stages (see Figure B, next page) for pandemic alerts focused on the domestic situation and our nation's interests. For the United States, the HHS Secretary recommends to the President the specific U.S. pandemic response stage in coordination with the global alert phase. In practice, the severity, speed, and reach of a pandemic may blur the distinction between the various alert phases, underscoring the need for flexibility from all partners.

The implications for business are diverse and significant. Businesses should develop plans and internal trigger points for their pandemic response actions based on the alert phase changes. They should closely monitor international and national developments to determine when to activate these triggers. Sections 4 and 5 of this Guide address specific business impacts relating to changes in the WHO/USG phases. For instance, if there is sustained human-to-human disease transmission and the WHO/USG declares a Phase 6, governments will rapidly increase their disease surveillance and containment strategies at borders and ports, which will likely slow the delivery of goods and limit international business travel. For a list of HHS recommendations and potential actions when the WHO declares a new pandemic phase, see www.hhs.gov/pandemicflu/plan/part1.html#5. For business travel updates from the CDC, see www.cdc.gov/travel. For State Department-issued travel restrictions, see www.state.gov/travelandbusiness.

WHO Phases		Federal Government Response Stages	
INTER-PANDEMIC PERIOD			
1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused a human infection may be present in animals. If present in animals, the risk of human disease is considered to be low.	0	New domestic animal outbreak in at-risk country
2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza subtype poses a substantial risk of human disease.		
PANDEMIC ALERT PERIOD			
3	Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.	0	New domestic animal outbreak in at-risk country
		1	Suspected human outbreak overseas
4	Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.	2	Confirmed human outbreak overseas
5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).		
PANDEMIC PERIOD			
6	Pandemic phase: increased and sustained transmission in general population.	3	Widespread human outbreaks in multiple locations overseas
		4	First human case in North America
		5	Spread throughout United States
		6	Recovery and preparation for subsequent waves

Figure B

[4] www.pandemicflu.gov/plan/pandplan.html

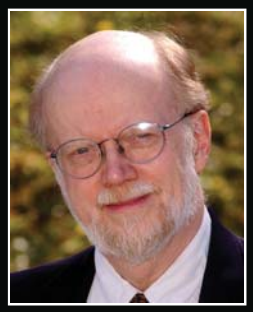
[5] http://pandemicflu.gov

[6] www.state.gov/r/pa/prs/ps/2005/53865.htm

[7] www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5.pdf

[8] www.who.int/csr/resources/publications/influenza/GIP_2005_5Eweb.pdf

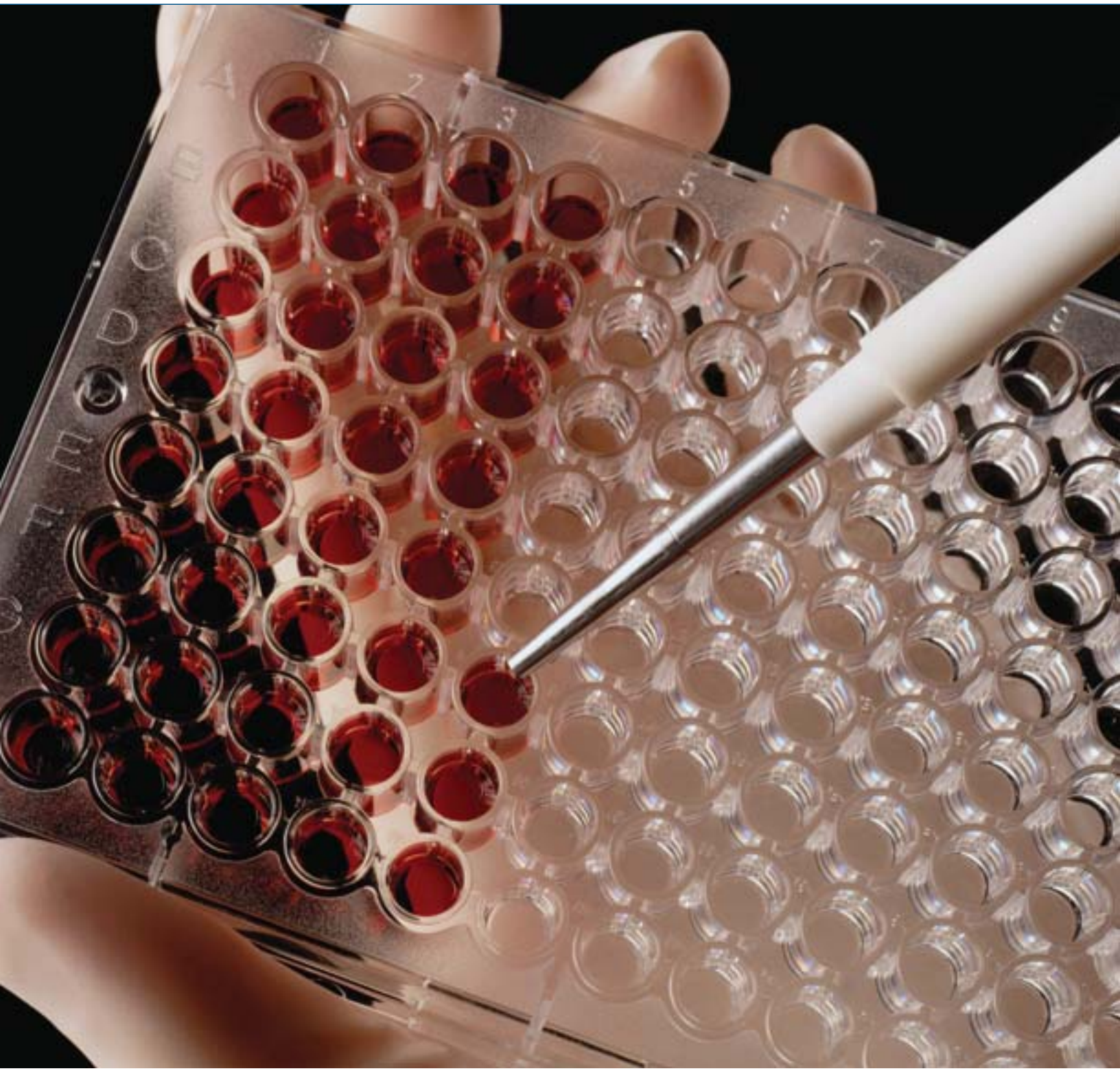
Section 4: Pandemic Implications for Businesses



"We don't know the timing of the next pandemic, how severe it will be. We don't know what drugs will work. We don't have a vaccine. Yet we are telling everyone to prepare for a pandemic. It's tricky…This is scary and we don't know…That's the message."

Dick Thompson
World Health Organization
December 2005

IN THIS SECTION: Overview of Business "Continuity of Operations Plan-Essential (COP-E)" • Defining "Essential" • Pandemic Planning Assumptions and Impacts • Health Assumptions • Disease Mitigation Strategies • Business Impacts • State, Local, and Tribal • Private Sector Business Impacts and Implications



Section 4: Pandemic Implications for Businesses

4.1 Overview of Business Continuity of Operations Plan-Essential (COP-E)

A pandemic influenza threatens to disrupt the essential services and operations within and across our nation's 17 CI/KR sectors and our national security and economic and social stability. America's healthcare sector is planning for every conceivable contingency to protect our nation. However, if national disease containment strategies fail, businesses and individuals will find themselves thrust to the frontlines in this public health battle. The potentially catastrophic impacts demand a new, tailored, business contingency plan and preparedness effort.

Most large businesses have extensive contingency plans on hand for managing natural and man-made disasters.[9] However, the majority of these business continuity plans do not fully account for the significant negative impacts resulting from a severe pandemic influenza.

Pandemic preparedness must involve all types and sizes of businesses. Moreover, it demands a shift in business continuity planning from one that anticipates a short-term, near-normal condition, to one that prepares for extreme long-term, catastrophic contingencies. In the event of a pandemic, the private sector must cope to sustain the nation's essential security, as well as its economic and social stability. To do this, the private sector must maintain production of essential goods and services while mitigating the pandemic impact on operations. COP-E planning assumes pandemic-specific impacts and encourages business contingency planners to identify truly essential functions, people, and materials within and across critical sectors. COP-E also proposes alternative methods tailored to each pandemic phase from preparation to recovery.

4.2 Defining "Essential"

Traditional business contingency planning requires identifying essential functions and people. In light of a pandemic, private sector businesses should refine their definition of essential if they are to continue to provide critical goods and services. The definition should also address the essential delivery of goods and services as these contribute to the continuity of operations for their community and nation. For all businesses, defining what is and is not essential requires applying diverse lenses and filters at each step. We will discuss assessing essential with examples of these planning filters in Section 5. Official USG definitions from the National Strategy for Pandemic Influenza Implementation Plan (www.pandemicflu.gov) include:

Critical infrastructure: Systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.

Essential functions: Functions that are absolutely necessary to keep a business operating during an influenza pandemic, and critical to survival and recovery.

4.3 Pandemic Planning Assumptions and Impacts

Business contingency planners should have something measurable upon which to base their planning, and something tangible from which to extrapolate their specific impacts and implications. The assumptions and implications discussed in Section 3 and Annex 7.2 of the reference Guide provide the context for this process. Planners should tailor these to their business.

4.3.1 Health Assumptions

Section 3 presented the significant health risks and assumptions guiding the nation's planners as they anticipate a pandemic. Business contingency planners should assess carefully each of these 12 assumptions and consider possible second and third order assumptions.

4.3.2 Disease Mitigation Strategies

The disease mitigation strategies discussed in Section 3 and Annex 7.2 of the reference Guide, underpin all pandemic planning efforts. The public health and social distancing strategies will ultimately contain the disease and will reduce the risk of infection and loss of life, but they also will have significant operational side effects for private sector businesses that must be carefully managed.

4.3.3 Business Impacts

Businesses should examine each impact and assumption in the context of its operational environment. This Guide will provide your business contingency planners with the basic assumptions and strategies assumed for a severe pandemic at a time when the nation is in full response mode.

Workforce Absenteeism: Whether the actual workforce absenteeism number is 30 or 40 percent during a severe pandemic wave, this is your "best case" for planning purposes. To complicate matters, the disease may appear randomly among employees striking anywhere from the CEO to the front-line worker. Adding significantly to the total number or workers absent will be those dual-income and single-parent families required to care for children at home when schools are closed for extended periods.

CONSIDER

How will businesses:

- Maintain essential operations and services if 40 percent or more of all workers are out sick or choose to stay home to avoid exposure?
- Maintain essential operations and services when well workers choose, or are forced, to stay home?
- Maintain essential operations and services when community outbreaks last six to eight weeks and multiple waves strike in a calendar year?
- Bolster the depth of reserves for essential workers at all levels?
- Ensure family and childcare support for essential workers?
- Provide delegations of authority and orders of succession for workers?

Note: *The "Consider" questions are intended to assist planners in identifying issues to be considered during the planning process, they will each be addressed in more detail in Section 5 "Actions," in the CI/KR Guide Annex, and additional guidance is available in the planning sections at www.pandemicflu.gov.*

Geographic Dispersion and Rapid Spread: Should human-to-human transmission occur, and should international containment efforts not succeed, the geographic dispersion will be rapid and global. Initial outbreaks may be in Asia, Europe, or even the United States, as happened in 1918.[10] *As noted in the Implementation Plan for the National Strategy, if international containment fails:*

Unlike geographically and temporally bounded disasters, a pandemic will spread across the globe over the course of months or over a year, possibly in waves, and will affect communities of all sizes and compositions. In terms of its scope, the impact of a severe pandemic may be more comparable to that of war or a widespread economic crisis than a hurricane, earthquake, or act of terrorism.[11]

Given a pandemic's global reach, typical disaster response mechanisms and methods (i.e., shifting available resources from affected areas to safe areas) may prove untenable because there will be few, if any, available resources to shift and few, if any, safe areas. Consequently, typical contingency planning that calls for the geographic shifting of reserves of essential personnel and materials from affected to safe areas may be impractical if, not impossible.

Section 4: Pandemic Implications for Businesses

CONSIDER

How will businesses:

- Maintain essential operations and services when necessary resources are not available?
- Ensure sufficient essential resources are available at each worksite?
- Ensure that their planning takes into account the people and businesses that depend on them for supplies and services?
- Afford to cross-train nonessential personnel for essential functions?
- Afford to stockpile adequate levels of essential reserve materials?

Time Duration and "Waves": A pandemic "wave" may linger in a community for six to eight weeks. There will be fundamentally greater negative impacts on individuals, businesses, and the nation from the compounding effects of the disease impacts and disease mitigation strategies applied over a much greater duration than other typical disaster scenarios. In their revised contingency planning, businesses must account for these effects caused by a pandemic's unprecedented duration.

CONSIDER

How will businesses:

- Ensure essential functions over a six-to-eight-week pandemic wave?
- Ensure recovery from a first wave, while preparing for possible subsequent waves over the course of a calendar year?
- Define breaking points when a portion or all basic and essential business functions begin to fail?

Mobility and Travel: Once human-to-human outbreaks appear, the numbers of national and international transit restrictions and closings will grow dramatically.

For U.S. businesses with international offices, production plants, and other interests, the implications are obvious and immediate. At a minimum, all businesses must assess their current contingency planning to determine the level of risk based upon the potential for substantial movement and border restrictions.

CONSIDER

How will businesses:

- Ensure continuity despite significant delays in, and restrictions on, moving personnel and materials?
- Withstand a lengthy quarantine for all traveling personnel?
- Ensure continuity of overseas operations if U.S. personnel abroad return to protect their families and/or seek better healthcare?

Supply Chain and Delivery Networks: For domestic U.S.-based businesses and most small businesses, the impacts from international and national restrictions may not be readily apparent. However, given the increasingly interconnected global economy, movement restrictions affecting raw materials, manufacturers, wholesalers, consolidators, and retailers will have immediate negative outcomes. *As noted in the Implementation Plan for the National Strategy:*

Planning efforts need to assess systemic effects (i.e., supply chain impact, just-in-time delivery, warehousing,

and logistics) and support the development of contingency plans to address lack of critical services and delivery of essential commodities, such as chlorine for water purification, gasoline, food, and medical supplies.[12]

More and more, businesses rely on the just-in-time delivery of materials, goods, and services to maintain their economic livelihood. To survive economically, businesses must deliver their finished goods and services to other business and customers.

For essential goods and material, businesses must completely explore their supply chain relationships, beginning with their internal storage areas and tracking along the branches of their supply chain network back to the source of the materials. A key component while exploring the supply chain will be assessing the business' essential supply chain partners to ensure they, too, are adequately planning and preparing for a pandemic. For the business to be successful, all members of their network must be equally well prepared.

CONSIDER

How will businesses:

- Ensure continuity when worker absenteeism and movement restrictions delay or stop their supply and delivery chains?
- Ensure adequate visibility of their entire essential supply and delivery chain in order to uncover potential impacts on second- and third-order manufacturers and suppliers?
- Define the breaking points when movement restrictions affect a portion or all of the functions of a business?
- Ensure all essential business partners in the supply chain are equally well prepared for a pandemic?

Healthcare Delivery and Public Health: Medical science will ultimately solve the pandemic riddle. However, will anti-viral medications and vaccines be sufficiently timely to save us from the initial shock? As discussed in Section 3, most medical experts believe the answer is "no." *As noted by CDC*:

Currently, there is no vaccine to protect people from pandemic influenza. A vaccine probably would not be available in the early stages of a pandemic… Once a potential pandemic strain of influenza virus is identified, it will take [six to nine] months before a vaccine will be widely available.[13]

What effect will this have on workers and businesses and their pandemic planning and preparedness? What will be the impacts and implications of few, if any, targeted prophylaxis or treatment regimes being available for the first pandemic wave? What will be the business impacts when the healthcare delivery and public health systems are overwhelmed? One obvious inference: everyone is susceptible. Therefore, without vaccine and antiviral protection, effective worker, worker family, and workplace protection strategies and protocols become a necessity for survival.

Section 4: Pandemic Implications for Businesses

An estimated 50 percent of those who get the flu may require medical intervention, and the burgeoning throng of patients and "worried well" may overwhelm our healthcare delivery system. Similarly, the radically increased demand will overwhelm local public health systems that currently have insufficient surge resources. One of the basic business and community health strategies for influenza involves sending workers home at the first sign of infection. However, as the CDC observes, "Persons who become ill may shed virus and can transmit infection for one-half to one day before the onset of illness. Viral shedding and the risk for transmission will be greatest during the first two days of illness."[14]

Specific options for businesses to consider to ease the demand on the healthcare system include:

- Coordinate with local public health and healthcare delivery teams to share information on capabilities, options, and preparedness and response plans.
- Maximize the effectiveness of worker, family, and worksite pandemic protection strategies to reduce the numbers requiring medical attention.
- Use effective risk management communications to validate the business as a reliable source for pandemic updates and worker health monitoring.
- For larger businesses with health and medical staffs, consider establishing an internal pandemic response capability to serve as an alternate healthcare triage site and a dispensing site for vaccine and antiviral drugs.
- For smaller businesses, consider coordinating with other businesses with internal medical support to establish a shared alternate healthcare delivery site.

CONSIDER

How will businesses:

- Ensure the healthcare and public health support for workers and their families?
- Know when their workers and their families have contracted the virus?
- Know how to protect their employees and families when seemingly healthy individuals are spreading the disease?
- Protect workers from others who, while infected, do not yet feel ill or exhibit any symptoms?

Stay Healthy

Take common-sense steps to limit the spread of germs.

Make good hygiene a habit.

- Wash hands frequently with soap and water.
- Cover your mouth and nose with a tissue when you cough or sneeze.
- Put used tissues in a waste basket.
- Cough or sneeze into your upper sleeve if you don't have a tissue.
- Clean your hands after coughing or sneezing. Use soap and water or an alcohol-based hand cleaner.
- Stay at home if you are sick.

Source: www.pandemicflu.gov
For additional information, see www.cdc.gov/flu/protect/stopgerms.htm

National Economic Disruption: Consumer and business spending fuel the nation's economic engine. Regardless of the available liquidity and supporting financial processes, a dramatic and extended reduction in spending and the corresponding cascading effects in the private sector may cause an unprecedented national economic disruption. To ensure their own business' survival and diminish the effects on the national economy, private sector planners must pay equal attention to actions they may categorize as essential in terms of their business' continuity of operations and in terms of their relationship to the continuity of operations of the nation's critical infrastructure and economy.

FAST FACT

According to the Congressional Budget Office, a severe pandemic might cost the U.S. economy more than $600 billion, or about 5 percent of the Gross Domestic Product.

CONSIDER

How will businesses:

- Ensure their economic viability at each phase of the pandemic?
- Prepare and respond when other businesses around them are failing?

Security Risks and Social Stability: Shortages of and disruptions to basic commodities and municipal infrastructure may cause localized security challenges for businesses and communities. Business planners should assume some level of social disruption and plan for direct security risks to their operations and along their supply chain. Effective coordination with public safety officials will facilitate the integration of essential businesses into all community emergency operations plans.

CONSIDER

How will businesses:

- Ensure the security of their workers and families at work and home?
- Ensure the security of their workplace operations and supplies?
- Ensure the security up and down their supply and delivery chains?

[9] Deloitte Center for Health Solutions, "Business Preparations for Pandemic Flu," 2006

[10] Barry, John M., "The Great Influenza: The Epic Story of the Deadliest Plague in History," February 2005

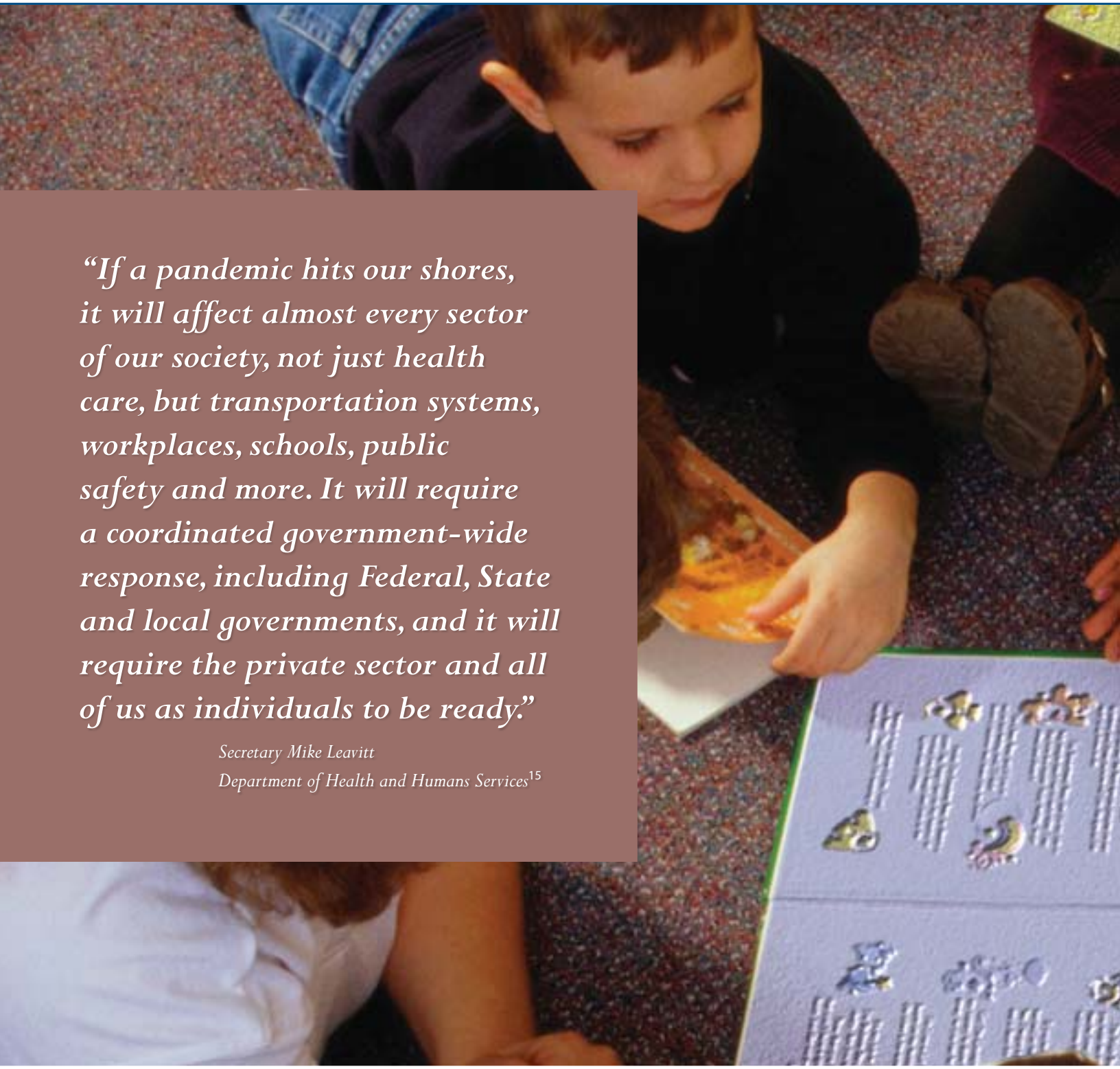
[11] *National Strategy for Pandemic Influenza Implementation Plan*, page 1, May 2006, www.pandemicflu.gov

[12] *National Strategy for Pandemic Influenza Implementation Plan*, page 79, May 2006, www.pandemicflu.gov

[13] U.S. Centers for Disease Control, "Pandemic Influenza, Q&A," December 2005, CDC Web site www.cdc.gov/flu/pandemic/qanda.htm

[14] Health and Human Services, Pandemic Influenza Plan, "Part 1, Strategic Plan," November 2005, HHS Web site www.hhs.gov/pandemicflu/plan/part1.html

Section 5: Continuity of Operations-Essential (COP-E) Guide: Pandemic Planning, Preparedness, Response, and Recovery



"If a pandemic hits our shores, it will affect almost every sector of our society, not just health care, but transportation systems, workplaces, schools, public safety and more. It will require a coordinated government-wide response, including Federal, State and local governments, and it will require the private sector and all of us as individuals to be ready."

Secretary Mike Leavitt
Department of Health and Humans Services[15]

IN THIS SECTION: Develop and Implement a Pandemic Continuity of Operations Plan • How Does COP-E Fit with Current Contingency Plans? • Why COP-E is Important to the Private Sector • The COP-E Planning Process • COP-E Scenario-Driven Pandemic Planning • COP-E Phases: Planning, Preparedness, Response, and Recovery

5.1 Develop and Implement a Pandemic Continuity of Operations Plan

Disaster planning and preparedness is a fundamental requirement of good business practice. All organizations must ensure the capability exists to continue essential operations in response to potential operational interruptions, including a pandemic influenza.[16] This is perhaps more simply said than done in the case of a severe pandemic. The compounded effects of health impact assumptions, proposed disease mitigation strategies, extended duration, and resultant implications for all businesses place a severe pandemic at the extreme on a disaster continuum. Pandemic influenza has the potential for causing levels of global illness, death, economic disruption, and social disturbance like no other. But will a pandemic occur and how severe will it actually prove to be? We simply do not know.

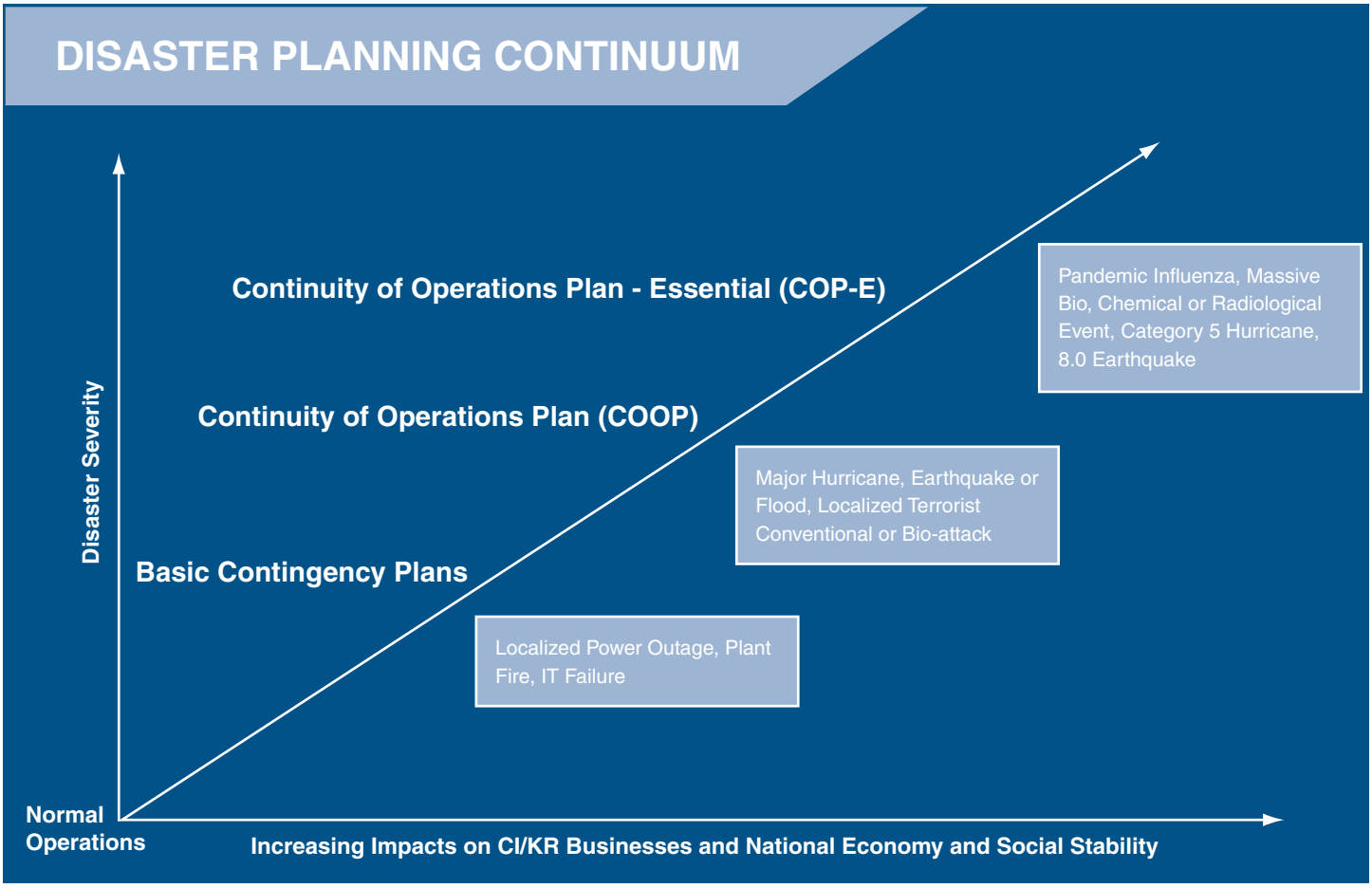
"Planning for and maintaining essential critical infrastructure operations during an influenza pandemic requires an emphasis on the 'well/not yet sick'—the 60 percent of the population that will be available to operate and sustain critical process and systems operations."

James Caverly
Director, Infrastructure Partnerships Division, DHS

When you do not know all the variables, but the risk is extreme, the lesson becomes: Plan for it all. Business continuity plans have integrated most of the known disaster scenarios, but until recently have generally not included a pandemic influenza. This Pandemic Guide recommends an exhaustive review of all existing continuity of operations plans to update and address the specific impacts and implications for pandemic influenza, including updates to address the extreme case, called a Continuity of Operations Plan-Essential (COP-E).

5.2 How Does COP-E Fit with Current Contingency Plans?

COP-E is an extension and refinement of current business contingency and continuity of operations planning that fully exploits existing efforts and integrates within the suite of business disaster plans. The COP-E process assumes severe pandemic-specific impacts to enhance and compliment existing business continuity plans. In addition, COP-E integrates the additional actions needed to identify and prioritize essential functions, people, and material within the business, across business sectors, and as important for the community and the nation. It highlights actions and options to protect and sustain these at each pandemic phase from preparation to recovery. In addition, COP-E incorporates a measured approach for "survival" under distinct COP-E scenarios, and serves a broader mission as an enhancement process for business continuity planning to address other catastrophic disasters like an extreme biological, chemical or radiological attack. Each COP-E scenario will be highlighted in the following sections.



5.2.1 Business Contingency Plan Suite

- **Basic Contingency Planning:** To some degree, all business types and sizes should already have contingency plans to prepare for and respond to business disruptions, such as localized power outages, snow storms, plant fires, IT failures, and myriad other possibilities.
- **Continuity of Operations Plan (COOP):** Many businesses, particularly large ones, produce formal business continuity plans to address potentially significant business disruptions based on an assessment of their

vulnerability, location, and other risk factors. These business continuity plans typically include actions for likely hurricanes, earthquakes, floods, and even localized terrorist events.

- **COP-E:** COP-E planning assumes a major disaster of national significance like a pandemic cascades into a national and international catastrophe. It assumes planning for degrees of "essential" operational requirements based upon a dramatically worsening situation and the need to sustain not only the business, but also the community and the nation. Thus, the scale and scope of the impacts and possible outcomes demands a dedicated level of effort, investment, and planning beyond typical business continuity planning. COP-E expands initial business continuity plans to create an agile, actionable plan for responding and recovering from a potential catastrophic failure on a national or international scale. COP-E planning exploits three "worsening" scenarios of assumptions and actions to support specific local and national outcomes, which are all outlined in Section 5.5.

5.3 Why COP-E is Important to the Private Sector

Typical business continuity plans have not integrated the unique impacts and implications for pandemic influenza on a national or international scale. While simply adapting current business continuity plans to contain pandemic influenza impacts will certainly improve a business' opportunity for success, it may not provide sufficient planning granularity or response flexibility for a catastrophic disaster.

COP-E processes integrate a range of "worsening" scenarios intended to facilitate an exhaustive examination of impacts and compounding effects as they rapidly evolve and influence response and recovery. COP-E scenarios provide business planners a broad yet detailed perspective within which to develop graduated response and recovery actions. COP-E assists planners in prioritizing their actions and costs in a measured fashion, and it prepares them for the rapid adjustments necessary as pandemic impacts evolve.

COP-E is not prescriptive. COP-E scenarios are not nationally defined or formally directed as with the DHS color-coded Threat Advisory. They are planning tools to assist CI/KR sectors and private sector businesses tailor their continuity planning toward more extreme possibilities. The scenarios describe evolving national and regional conditions but must be customized and assessed in the context of the local business' environment. The same type and size businesses in a particular region or community may well be experiencing the impacts of a different COP-E scenario at the same time. Planners should be sure to emphasize the business, worker and family care, and the national/regional/local community objectives when they build their pandemic COP-E plans. COP-E builds upon and complements basic business continuity planning. COP-E planning keeps businesses from becoming too comfortable with their current contingency plans. The scenario and action "what ifs" allow planners to assess possible impacts and responses. It also shows planners how to build flexible plans capable of rapidly adjusting to a graduated response.

How is "catastrophic" different than all other major disasters? There are fundamental differences in all respects between disasters that impact a business, a group of businesses or even businesses across a region, and a disaster that involves all businesses to varying degrees across a nation and the world. As evidenced with major natural disasters including, Hurricanes Andrew and Katrina, and the tsunami in Southeast Asia in 2004, a natural disaster can quickly evolve from a local or regional event into a national or international tragedy in a matter of hours or minutes. These devastating major natural disasters demand planning and response capabilities far beyond most natural disasters. While these major disasters affected businesses well beyond their impact zone, their impacts still pale to the potential catastrophic effects from a major terrorist event with weapons of mass destruction or a pandemic influenza. There is a fundamental difference in the preparation, complexity, quality of effort, and scope of catastrophic disaster as opposed to a major natural disaster. For a catastrophic disaster, the CI/KR business not only must strive to sustain itself, but as impacts worsen it may be called upon to adjust and consolidate its typical essential processes so that it may survive as an economic entity. Yet, through good planning and an agile response, it will adapt and cope sufficiently to continue providing the most essential goods and services necessary to sustain the community and the nation.

5.4 The COP-E Planning Process

The WHO Pandemic Alert Phases, the USG Federal Government Response Stages, and the pandemic scenarios set the context for COP-E planning. Within this context, the three COP-E business scenarios and planning actions across the pandemic disaster phases serve as the planner's basic tools to expand and refine the planning effort for a catastrophic disaster.

- **WHO/USG Phases/Stages:** The Alert and Response Phases/Stages are the real-world touchstone and provide the working context for businesses. Continuously monitoring these and managing trigger points for changes in their planning strategies for preparedness, response, and recovery will be keys to ensuring success.
- **Pandemic Scenarios:** The Appendix to the reference Guide provides planners with pandemic scenarios that highlight an assumed but realistic regional, national, and international context within which to envision their business and the impacts on its operations.
- **COP-E Business Scenarios:** The three COP-E planning scenarios outlined in Section 5.5 take the planner's perspective down from the 50,000-foot national level to the operational level in an effort to refine and prioritize business processes across worsening situations and constrained goals. To ensure a comprehensive yet flexible plan, planners should assess and implement actions based upon the changes in COP-E scenarios and potential implications for both business operations and goals.
- **COP-E Actions and Disaster Phases:** Within the real-world context of the Alert Phases and assumed context of the pandemic and COP-E business scenarios, the actions, issues for consideration, and supporting actions are assessed across the disaster phases. Examining these actions within an evolving context aids in a comprehensive review focused on resolving diverse business challenges.

5.5 COP-E Scenario-Driven Pandemic Planning

"Scenario-driven" planning is an important tool for enhancing the disaster planning process. It involves envisioning and exercising business plans and operations within assumed circumstances that represent a real-world disaster situation. Many businesses, particularly large ones, utilize scenario-driven planning to produce formal continuity of operations plans for all known significant business disruptions. Depending on the geographic location, these businesses formulate continuity plans for risks from major hurricanes, earthquakes, floods, and localized terrorist events. A similar process should be employed for pandemic planning. A severe pandemic influenza scenario assumes a typically localized major disaster of national significance cascades into a potentially catastrophic national and international incident. The scale and scope of the impacts and possible outcomes from a pandemic demand a dedicated level of effort, investment, and planning beyond most existing business continuity planning.

This Guide provides two support tools to assist businesses in developing their pandemic scenarios. First, the Section 9 Appendix to the reference Guide offers two pandemic scenario examples and reference links to others. These scenarios describe an international and national operational context that evolves over time. These scenarios describe an external context, but don't address business particulars. Second, three examples of business specific impacts that can refine the external scenario context are listed below. These three examples of "worsening" business scenarios address pandemic assumptions and business implications to support both local and national essential outcomes. Planners should assess their planning actions within the context described by the national pandemic scenario for each COP-E business scenario, and then compare back and across COP-E scenarios to identify specific changes in trigger and breaking points, priorities, costs, and possible conflicting actions.

5.5.1 COP-E Scenario One

Scenario One assumes a pandemic disaster of national significance affecting businesses for an extended period. Planners assume a significant degradation in normal business operations over an extended period of time and substantial economic loss. *However, by reprioritizing and rapidly shifting efforts internally to sustain essential and critical functions, the disruptions can be contained and hopefully not result in business failure.* **The specific assumptions for Scenario One are:**

- Worker absenteeism reduces the number of available workers by 30-40 percent during the peak weeks of the pandemic wave.
- Transportation restrictions and disruptions substantially slow the movement of essential supplies to their business and end-user customers.
- Voluntary and directed closures of select schools occur in most communities and regions with disease outbreaks.
- Social distancing strategies negatively affect production efficiency, adding to the overall cost of producing goods and services and affect workforce morale.
- Businesses with direct public interface experience a precipitous decline in the numbers of customers purchasing goods and services through personal contact, while businesses with online/telephone ordering capabilities see sharp increases.
- Banks and financial institutions reduce direct contact with customers. Electronic transfers, ATM machines, and drive-up tellers are the financial options of choice.
- Basic commodity availability and municipal infrastructure are sustained with some reduced food options and delays in service and maintenance to routine local utility disruptions.
- Patients inundate healthcare facilities, as well as emergency and social services. Most elective procedures and routine doctor visits are deferred. Federal and State governments mobilize all healthcare reserve forces.

5.5.2 COP-E Scenario Two

Scenario Two assumes a pandemic disaster of national significance that catastrophically affects businesses directly or indirectly for an extended period. Planners assume a near total loss in normal business operations and significant economic impacts. The priority for action shifts entirely to sustaining truly essential functions to preserving and recovering the business over time and ensuring continuous provision of essential functions, goods, and services. *If the business fails, the likelihood increases dramatically for cascading effects affecting other businesses and the community.* **The specific assumptions for Scenario Two are:**

- Worker absenteeism stands at 40 percent during the peak weeks of the pandemic wave; however, those out sick include ***many more*** key essential senior and line management, technical staff, and workers of all types.
- Border restrictions and transportation disruptions significantly delay or halt the movement of all basic and most essential supplies to their business and end-user customers, especially where movements cross international and national borders.
- Social distancing combined with Personal Protective Equipment (PPE) use increases negative impacts on production efficiency and capability. This causes reductions or stoppages in the production of non-essential goods and services, and adds considerably to the overall cost of producing essential goods and services.

- Voluntary and directed closures of places of assembly and schools in nearly all communities (with and without confirmed outbreaks) send many service workers and nearly all children home.
- Fear, social distancing, and lost income for one or more family providers significantly increase impacts on workers and their family's morale.
- Businesses with essential direct public/customer interface maintain very limited and controlled numbers of customers purchasing their goods and services through personal contact by enacting strict social distancing work practices and other protection measures for both workers and customers.
- Financial markets, the banking industry, and basic market liquidity is sustained although small business closures and failures mount and certain large businesses have announced long-term reductions and even possible failures.
- Basic commodity availability and municipal infrastructure is sustained but with considerable reduction in available fuel and food types and accessibility options, along with expanded localized disruptions in electrical supply and potable water.
- Localized economic and social disruptions have increased, requiring state and regional augmentation for public safety and security forces.

5.5.3 COP-E Scenario Three

Scenario Three assumes a pandemic disaster of national significance that catastrophically affects businesses directly or indirectly for an extended period. *Without government or private sector support, planners assume a business' impending failure. Its failure greatly increases the potential for cascading negative effects for other businesses and the community. A rapid, calculated reprioritization and focus on the business' remaining capability and capacity must take place to ensure minimal preservation of those functions that support essential local, regional, and national functions, goods, and services.*
The specific assumptions for Scenario Three are:

- Worker absenteeism from flu and flu-related impacts, as well as school closures and fear of contact, increases reductions in the total number of available workers to at least 50 percent for weeks at a time. Those absent now include most essential senior and line management, technical staff, and key workers of all types.
- Personnel and material transportation disruptions delay the movement of all but the most essential supplies to businesses and end-user customers.
- Businesses implement voluntary furloughing policies for all non-essential workers, and close all non-essential production lines and services.
- Communities request/require all non-essential businesses to implement "snow day" closures for the duration of the pandemic wave.
- The pandemic significantly affects financial markets, the banking industry, and basic market liquidity as small business closures rapidly escalate. Many large businesses anticipate long-term reductions and failure based on cascading and compounding localized catastrophic outcomes for specific sub-sector businesses.
- Basic commodity availability and municipal infrastructure impacts increase dramatically to include extensive and extended local and regional disruptions in the availability of food, fuel, potable water, communications and power.
- Economic and social disruptions increase requiring national augmentation for state and local public safety and security forces.

5.6 COP-E Phases: Planning, Preparedness, Response, and Recovery

The remainder of Section 5 provides CI/KR business planners with specific actions or checklists for each of the pandemic phases. These CI/KR Guide actions fully incorporate and expand on the CDC's initial pandemic business planning checklists developed and distributed in December 2005 (www.pandemicflu.gov/plan/#business). Businesses already using the HHS/CDC checklists are ahead in the process, as none of the original Federal recommendations have changed. However, these companies may also want to review the actions below to determine if there are additional items that may prove useful for their particular business' pandemic planning needs, especially across the COP-E scenarios. Industry-specific planning checklists created with CI/KR private sector representatives are also included in the Guide Annex and appropriate ones will be distributed with the Guide to businesses in each sector.

Planners may use the following checklists of actions within the scenario context to assist in constructing their business continuity plan for pandemic influenza. Each section provides three levels of guidance.

Action

Each overarching action serves as a checklist item and will likely have numerous supporting actions necessary to achieve its objective. These actions are purposefully "generic" to business type, size, or sophistication in continuity planning. Thus, the major actions are also useful as a quick reference for business planners familiar with continuity of operations planning to check if they have this particular base covered, and it allows them to move to the next action without spending time on the issues or supporting actions.

Issues to Consider

This column of the checklist expands on the action for those seeking further clarification.

Supporting Actions

The final column presents a checklist of possible supporting actions to help assist business planners in their efforts to complete the main action. The supporting actions are neither comprehensive, nor specific to an industry or sector. They are simply a starting point and intended to stimulate thinking about further options.

The Guide organizes action checklists in four basic pandemic management phases: **Planning, Preparedness, Response, and Recovery**. They are in these four major categories to simplify their association with the major disaster management process changes and to arrange them in accordance with the WHO and USG pandemic phases/stages. These phases may be further sub-divided by planners to manage the complexity of the efforts required, or the actions may be put into whatever categories the planner determines are most useful for their type/size business.

5.6.1 COP-E Planning Phase

Whether it is manmade or natural, a disaster affecting business operations exhibits many of the same impacts and outcomes, and requires the same essential preparations. The time to plan for disaster contingencies is well before the disaster strikes. With the sheer number and type of disasters threatening businesses, from localized power outages and snowstorms to catastrophic national disasters, one plan will likely not fit all. In today's post 9/11 environment, businesses should assemble a family of carefully targeted disaster preparedness, response, and recovery plans. In the pandemic context, the goals and objectives driving the planner's efforts may require very different preparedness, response, and recovery actions.

The following are examples of major actions, issues, and supporting actions businesses should incorporate during the planning phase in concert with the initial WHO and USG pandemic alert phases/stages. Given the variety of CI/KR business types, these are not exhaustive of all possible actions. ***The checklist should afford a reasonable start, and, at a minimum, should help the planner raise awareness and sensitivity to issues and actions not previously considered.***

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE	**Identify overall lead pandemic coordinator and/or team**	Identify and include in all planning processes, a pandemic coordinator and/or team with defined roles and responsibilities.	• Designate a pandemic coordinator(s). • Assign members to the team and train for the tasks.
	Integrate planning input from inside and outside the business	Seek input and support from all employees, supply chain businesses, key supporting businesses (e.g., insurers, clients, and customers), and, when appropriate, the public.	• Conduct meetings and exercises with all internal and external stakeholders. • Establish a Web site, email, or telephone pandemic information sharing and concerns input center. • Conduct town hall meetings with employees, customers, and the public.
	Define "essential"	Defining what's "essential" may be the most important and most difficult task for planners. It first demands a truly comprehensive review of all functions and all obvious first order functions, as well as those less obvious second and third order ones. Also, it requires a frank assessment of what is really essential and what may be "simply" critical or useful.	• Define "essential" functions, goods, and services a business requires to sustain its own operations and survive as an economic entity. • Define those essential goods and services it provides that are vital to sustain the national, regional, and local communities. • Define the changes and implications of these changes for what is "essential" for each COP-E scenario as impacts become worse and goals shift.
	Identify and prioritize specific impacts on the business	For each COP-E scenario, identify the impacts from disruptions to essential functions, services, and goods. Assess these impacts in terms of priorities, time and "breaking points".	• Identify the prioritized effects on the business and the community, specifically noting what it means at each level when they are unavailable. • Identify how long a business can expect to continue providing essential functions, goods, and services in total or reduced quantities.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE			• Identify breaking points when outside resources can no longer provide essential functions, goods, and services.
	Prioritize devolving essential functions	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.	• Identify primary and supporting functions based upon their impacts on providing essential goods and services for the business and the community. • Prioritize actions to support the "devolution of normal, critical, and essential functions."
	Delegate authorities and orders of succession	"Delegating authorities" is a formal chain of authority for business operations.	• Develop formal protocols for implementing "Delegations of Authority." • Develop and implement formal processes for "Orders of Succession" for all essential personnel. • Define the changes and implications of these changes for what is "essential" for each COP-E scenario as impacts become worse and goals shift.
	Identify/prioritize workers, supplies, equipment, and second/third order support	For the essential functions, identify those personnel, supplies, and equipment vital to maintain the business' essential internal and external functions, services and goods.	• Uncover potential second and third order impacts on workers, supplies, equipment, and supporting functions. • Assess unforeseen supporting interdependencies of "non-essential" functions. • Examine essential internal functions for other challenges, including work outsourced or performed by temporary, part-time, or contract employees.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE	**Forecast worker absences**	Forecast absences during a pandemic based on factors such as worker or family member illness, community containment measures and quarantines, school and/or business closures, and public transportation closures.	• Meet with community health and emergency personnel to gather information on potential health impacts and disease containment strategies. • Monitor Federal, State, local, and tribal pandemic information sites for information on containment strategies. • Meet with workers and their families to assess specific impacts based on worker concerns and needs.
	Sustain essential functions, supplies, material, and equipment	Identify and propose actions to protect and sustain essential functions, supplies, materials, equipment, and systems support. Develop prioritized actions to promote "roster depth" for all essential functions and personnel and to ensure sufficient stocks and/or rapid, reliable re-supply processes for all essential materials and equipment for each COP-E scenario.	• Cross-train non-essential backup workers to perform essential functions. • Retrain and update recently retired essential and non-essential workers. • Train new reserve workers and appropriate worker family members. • Coordinate with like sector businesses to consolidate essential functions and workers at critical pandemic trigger points. • Propose cost-effective and efficient preparedness actions to stockpile strategic reserves for all essential supplies, material, and equipment. • Propose cost-effective and efficient preparedness actions to sustain supporting systems for essential functions, such as periodic maintenance, repair, and emergency replenishment.
	Sustain essential workers	Assess and propose pandemic response policies and actions to initially protect and sustain all business workers, family members, customers, clients, and the public, and then more specifically for the business' essential workers.	• Ensure availability of medical consultation and advice for potentially ill workers and their families and for emergency response. • Encourage and track annual influenza vaccination for employees. • Train new reserve workers, and appropriate worker family members.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE			Establish flexible worksite (e.g., telecommuting) and work hour policies. • Establish policies to limit influenza spread at the worksite. • Establish infection control policies (e.g., immediate mandatory sick leave) for sick employees, and reassign personnel who are at high risk to develop influenza-related complications. • Establish policies restricting travel to affected domestic and international areas, evacuating employees working in or near affected areas, and providing guidance to employees returning from affected areas (see CDC travel recommendations). • Exercise and test policies and procedures. • Train managers and educate employees on policies and procedures.
	Identify and assess workers' family care requirements	Whenever possible and with appropriate privacy protections, identify and assess issues for supporting worker family care. Under such extreme conditions, a worker's family becomes an essential supporting or risk element for the worker and the business. Better understanding the particular needs of workers' families allows for focused actions in developing and implementing a business "family care plan."	• Develop pandemic education and information sharing processes targeted for worker families. • Integrate protocols and technologies into emergency communications. • Ensure sensitivity to worker privacy on any information gathered. • Identify essential workers who are dual-income working parents or single, head of household parents. • Assess the number of workers with school-age children or other dependents at home. • Review the number of workers and families who rely solely on public transportation.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE			• Consider availability of social and community services support. • Plan for grief counseling and psychiatric care. • Account for language issues and barriers. • Identify other special family support needs.
	Prioritize support requirements	Prioritize the business' essential functions, personnel, and material needs for initial distribution of limited medical resources and for Federal, State, local, and tribal non-healthcare support. Federal prioritization schemes for vaccines, antivirals, and other medical countermeasures will be based on functional catagories or occupational types. The business will need to identify and prioritize their specific essential workers within these federal categories and types.	• Prioritize personnel for receipt of vaccines and antiviral medications. • Prioritize personnel for receipt of other types of medical countermeasures and personal protective equipment. • Identify and prioritize essential functions and equipment requiring municipal infrastructure support (water, elect, gas, etc.), essential supplies, and/or dedicated security support.
	Examine the business' inbound supply and support chain	Identify and prioritize critical interdependencies along the entire supply chain, especially noting part-time and outsourced contract support, and other second and third order relationships.	• Review all in-house supply requirements. • Meet with suppliers to identify the supply chain through each level of supply and delivery. • Meet with inbound distributors and transporters. • Examine all second and third tier relationships and other contract arrangements.
	Explore and assess the business' outbound supply chain	Assess interdependencies for essential functions, goods, and services that the business provides along the supply chain. Take special note of part-time and temporary support, outsourced contract support, and other important second and third order relationships.	• Review all in-house products and services distribution requirements. • Meet with outbound retailers, distributors, and transporters to examine issues with delivering the business' goods and services.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE			• Examine all second and third tier relationships and other contract arrangements.
	Examine national, regional, and local supply chain interdependencies and impacts	Assess and prioritize impacts from potential disruptions to national, regional, and local supply chains.	• Assess the business' supply chain for potential impacts from movement disruptions. • Prioritize operational impacts.
	Investigate international interdependencies and impacts	Assess and prioritize impacts from disruptions in business travel and material movement for international workers/offices/plants/affiliates and across supply chains.	• Assess implications for the business' international workers/offices/affiliates. • Assess supply chain requirements involving international suppliers. • Prioritize all impacts by affects on the business' essential, critical, and normal operations.
	Model interdependencies	Map and model the network of essential intra- and inter-sector, cross-border, and cross-jurisdictional interdependencies between the business and its supply chain and all government partners.	• Identify the network of supporting interdependencies. • Model these interdependencies to uncover any critical cross-dependencies.
	Connect with Federal, State, local, and tribal government agencies	The business cannot stand alone; during a pandemic the business and the community will need to work closely as a supporting team to ensure success.	• Collaborate with State, regional, local, and tribal health departments, emergency response, and municipal infrastructure managers to ensure they identify your business as an essential supplier of functions, goods, and services. • Coordinate potential support requirements in advance, such as healthcare, municipal infrastructure, movement, and security. • Identify the assets and services your business could offer to the community.
	Connect with insurers, health plans, and major healthcare facilities	Consider essential actions to ensure your workforce and their family's protection and assure them of plans for their medical support.	• Collaborate with insurers, health plans, and healthcare facilities. • Share pandemic plans and integrate plan with theirs.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE	**Coordinate risk communications protocols and communications capabilities**	Effective, consistent, and timely risk communication is essential to inform and assure internal and external stakeholders during a disaster. Coordinate and support risk communications and information sharing initiatives for pandemic surveillance and detection within the business, across the supply chain, across all interdependent sectors, and with all appropriate government partners.	• Assess and prioritize the business' normal and emergency communications protocols, processes and capabilities for rapid information sharing with all relevant stakeholders. • Meet with all internal and external stakeholder groups to identify concerns and support needs. • Where practical, pre-package risk communications message options. • Coordinate with the local public health and emergency management teams on message and information sharing initiatives. • Develop information sharing processes and protocols tailored for each audience group.
	Provide for communications technologies and protocols	Provide for appropriate information technology, support, and protocols to ensure effective and efficient information sharing and risk communications consistent with the business' pandemic preparedness, response, and recovery needs. Establish tailored business emergency communications and information protocols that address differing requirements across all pandemic phases.	• Identify and assess current and available communications technologies in the business, in the community, and from Federal/State government. • Develop a plan for enhancing, procuring, leasing, or sharing necessary communications technologies. • Establish emergency and information sharing communication protocols for different technologies. • Ensure sufficient redundancy in technologies are available and planned.
	Public and media relations	Public and media relations will be critical to ensuring the business maintains community support, that its workers and customers/clients are consistently and factually informed, and to rapidly dispel any misinformation about the business.	• Meet with local and regional media staff and coordinators to discuss processes and shared support. • Assess requirements for public relations, likely target audiences, potential messages, and various mediums for delivering the messages.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE			• Develop messages and prioritized actions for sharing information with the media. • Identify and mitigate challenges to supporting public and media relations. • Exploit opportunities to inform suppliers, customers, workers, and the public.
	Identify, document, coordinate, and test "trigger points" and resultant actions	A "triggering event" occurs when something in the external or internal environment changes and forces a business to respond. Identify and assess "triggering events" for each potential action, such as changes in the WHO and the USG pandemic alert matrix; Federal, State, tribal, and local government direction; and resource availability.	• Assess what triggers a change in the international pandemic alert status. • Assess what triggers a change in the Federal, State, and local pandemic alert. • Identify and assess what these triggers mean to the business' preparedness and response actions. • Establish authorities, triggers, and procedures for activating and terminating the business' response and recovery plans. • Establish formal mechanisms for altering business operations and transferring business knowledge to key employees. • Establish procedures to monitor the internal and external environment to respond to triggering events.
	Consider essential business support for the community and nation	Consider creative opportunities to adapt the business' essential and non-essential product lines and services to optimize availability of the most essential goods and services (e.g., a soft drink bottler could shift to bottle potable water).	• Assess current product lines and services for alternative uses. • Coordinate with local public health and emergency managers on potential critical shortage needs. • Identify costs and actions necessary to rapidly adapt products and services.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE	**Identify direct and indirect costs**	Costs and resource availability are key considerations in determining what can be afforded and how long preparedness actions may take to accomplish. Develop actions to identify and track all pandemic specific resource costs for each disaster phase to facilitate decision making concerning prioritizing and allocating limited business resources.	• Assess resource implications associated with each action to aid in prioritizing actions and in obtaining outside support. • Assess costs in developing reasonable implementation milestones and timelines. • Develop processes to monitor costs during pandemic phases both to reprioritize resources, and to validate costs for later reviews and possible compensation.
	Assess and incorporate actions developed for each disaster and COP-E phase	Pandemic impacts will evolve and requirements will alter dramatically based upon changes at each disaster phase.	• Identify and examine the assessments, processes, and actions developed for each disaster implementation phase (prepare, respond, and recover). • Review in light of both the business and the greater good.
	Identify metrics, milestones, and timelines	Identifying both external and internal metrics and milestone aids to ensure the business' planning expectations and preparedness horizons are achievable and practical.	• Assess each action to identify sub-actions and tasks. • Identify specific measurable processes or outcomes for each action. • Assess potential milestone and timeline implications based on best available time projections and WHO/CDC information on the pandemic. • Assess the time required to implement a potential action (e.g., one month vs. three years).
	Assess and develop exercise and training options	Exercises and training sessions are powerful tools for preparing the participants and the planners. Involving both internal and external business stakeholders in focused pandemic exercises and training sessions are critical components of any pandemic plan.	• Assess requirements for pandemic scenario-driven exercises with groups consisting of the business' managers and workers, as well as key suppliers, customers, and government emergency managers.

PLANNING PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PLANNING PHASE			• Develop scenario-driven exercises to test planning actions and involve internal and external stakeholders. See business specific scenario input above and Section 9-Appendix in the reference Guide for examples of pandemic scenarios and exercises. • Develop training programs for all personnel on personal, workplace and family protection protocols, and actions to take for each phase of a pandemic. • Assess and prioritize costs and available resources.
	Monitor actions and milestones	Develop a monitoring process and instrument sensitive to business privacy issues.	• Identify and develop a monitoring tool/instrument for use with the business' pandemic preparedness, response, and recovery actions. • Assess costs to develop and implement monitoring processes. • Develop, where practical, sharing agreements with similar businesses. • Coordinate with Federal, State, and local public health and emergency management officials to share monitoring capabilities and real-time status information.
	Finalize, implement, and review periodically	Finalize and implement the business' pandemic influenza plan(s) in a rational and timely way in order to ensure the business is fully prepared to respond and recover from a potentially severe pandemic influenza. Review all planning actions and processes periodically.	• Implement initial appropriate actions for the pandemic phase and external trigger point. • Continuously monitor and assess implementation actions to ensure staying on target. • Adjust plans as necessary to ensure a flexible, effective, and successful implementation. • Review plans periodically; at least every 90 days initially and more frequently as the pandemic evolves.

5.6.2 COP-E Preparedness Phase

Businesses vary greatly in their ability to plan for, respond to, and ultimately recover from a major disaster like a pandemic. How these differences are managed within a business, between businesses, and across sectors will be crucial to overall economic success.

The first implementation section from the business' Pandemic Plan incorporates specific assessments and actions needed to prepare the business to respond and recover from a pandemic influenza. The Preparedness Phase relates to the WHO Pandemic Alert Phases 1-4 and USG Stages 0-1; at Phase 5 and Stage 2 the time remaining to prepare for response is minimal. To succeed, preparedness demands involvement and support from all business echelons, ranging from CEOs to frontline workers and their families. Pandemic preparedness-specific processes and challenges are listed in the checklist below.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE	**Empower a pandemic preparedness and response team**	The pandemic planning coordinator and team may also serve as the lead preparedness and response team.	• Identify and assign pandemic emergency operations leadership and support team. • For larger businesses, establish an emergency operations center to manage response and recovery operations during outbreaks. • Leverage personnel and functions already established for other disaster contingency requirements.
	Incorporate disaster phases and COP-E scenarios for the pandemic periods	Planning and preparedness are not end-states. All actions necessary during response and recovery must have corresponding planning and preparedness actions.	• Businesses should track changes in the WHO and USG pandemic alerts to define objective "trigger points" when their preparedness activities should shift to the next level. • Integrate all the critical actions for the response and recovery disaster phases to ensure preparedness activities are focused and timely. • Successful preparedness necessitates prioritizing and implementing actions based on a full understanding and integration of requirements across each pandemic period and disaster phase.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE			• Refine and focus prioritized actions with respect to sustaining essential business, community and national functions, goods and services and achieving success under the three worsening scenarios.
	Sustain essential functions	The bottom-line for preparedness is to support sustaining essential functions during response and recovery. Incorporate and prioritize all preparedness actions to ensure this primary outcome.	• Preparedness actions should concentrate on resolving potential weaknesses in these networks before their failure causes an entire function to fail. • Plan for scenarios likely to result in increased or decreased demand for goods and services (e.g., hand washing disinfectants and protective gloves) during a pandemic.
	Prepare to sustain essential workers	• Reduce risk and protect workers and their families.	Implement actions and policies to reduce overall and specific "risk" and protect the workforce from internal and external contacts.
		• Improve the numbers of available essential workers.	One essential worker should not be the only employee able to perform a specific essential function. Implement preparedness actions to improve the roster depth of numbers for essential workers available for each function.
		• Auxillary workforce	Train and prepare an auxillary workforce to assume particular roles in helping to sustain essential functions (e.g., contractors, part-time employees, and family members).
		• Virtual operations	To build a more flexible worksite, establish and implement creative policies and actions, including promoting telecommuting; providing "batch-loading" tasks; and installing remote handling and delivery capabilities (i.e., drive-up windows).

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE		• Information technology support	Implement preparedness actions to enhance IT support for telecommuters to provide sufficient computer and telephone equipment, lines, and bandwidth at the business and at intermediary telecommunications systems.
		• Manage worker shifts	Practice “ghost-shift changes” wherever possible, with workers going off duty leaving the workplace before the new shift enters.
		• Create worker “shifts”	Consider expanding the normal one-shift workday to one with multiple shift periods to minimize worker contact.
		• “Safe” workers	Set up a process to track and deploy workers recovering from influenza to perform high-risk, essential services.
		• Home care options	Establish and test home care options for workers from single-parent and dual-income worker families. Home care options may include employing non-essential workers to help care for essential worker families.
		• Dedicated transportation	Identify worker transportation requirements. For those essential workers without options or for those who rely solely on public transportation, establish a means of dedicated transportation to/from work while maintaining necessary infection control processes (e.g., social distancing and surface cleaning).
		• Business and worker insurance	Review, revise, and implement insurance for workers, including providing adequate health insurance, business interruption insurance, and liability insurance for home care or dedicated transportation.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE		• Worker leave	Implement policies and funds to pay for extended sick and family care leaves, worker furloughing, and "snow days."
		• International workers	Take measures to support workers at international sites and ensure the safety of returning U.S. workers and their families.
	Ensure essential supplies, material, equipment and support systems	• Prioritized actions	Implement prioritized actions to ensure adequate reserves in a timely manner for all essential supplies, material, equipment, and systems support.
		• Reserve duration	Ensure pandemic reserves are sufficient to endure the initial 6-8 week wave, and to replenish rapidly during the first recovery period and subsequent waves.
		• Just-in-time requirements	Ensure businesses can maintain existing just-in-time supply and maintenance arrangements, or ensure sufficient reserve stockpiles are on-hand.
		• Equipment maintenance schedules	Review all equipment standard maintenance and repair schedules, maintenance history, and equipment life expectancy to ensure all essential and critical pieces are capable of sustained operation with the supply and maintenance resources available on-site or in reserves.
		• 2nd/3rd order effects	Target possible second and third order effects, such as "who supplies the suppliers" and identify their potential weaknesses.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE	**Address other interdependent systems**	For the business to be fully prepared, it must ensure all its essential interdependent in-house sub-contractors, and external suppliers, deliverers, and other connected systems are equally well prepared.	Implement actions to help prepare other essential interdependent support systems, including those performed by various onsite contractors and sub-contractors (e.g., security and food operations), and by outsourced off-site contractors (e.g., hazardous waste removal, physical, IT security, and emergency response).
	Implement internal surveillance and detection	Monitoring the environment to detect disease occurrence and outbreaks and the evolution from animals to humans affords the veterinary and human public health teams their best opportunity to swiftly interdict the disease and potentially contain its spread. Businesses play a critical role in supporting and conducting surveillance and detection, and monitoring their situational awareness.	• Different hospitals and health centers treating patients may not detect an outbreak immediately. The business suddenly experiencing greater than normal numbers of workers with flu-like symptoms may be first to alert the community and nation. • To assist Federal, State, tribal, and local public health officials, businesses should implement internal surveillance protocols and processes to monitor the health status of all workers, contractors, and family members. • Coordinate with local public health officials to develop a surveillance plan. • Collaborate with local public health officials to establish the best methods to report potential illness and outbreak information.
	Where available, utilize occupational health and medical teams	Typically, large- and medium-sized businesses have extensive in-house occupational health teams available for surveillance and response phase for health support.	• For busineses with in-house occupational health and medical staff, implement and share surveillance information with government public health officials. • Smaller business should explore sharing surveillance information and resources with larger businesses in their supply chain and the community. • Regardless of size, businesses should contact state and local public health offices to coordinate sharing expertise and disease surveillance strategies.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE	**Exploit external surveillance and detection**	Exploit international, national, state and local public health surveillance resources (e.g., international and national health surveillance Web sites; local emergency operations centers; and public health offices academic institutions) for monitoring disease progress externally to provide important insights into potential pandemic timing, impacts, and trigger points.	Visit these Web sites: • (HHS/CDC) http://pandemicflu.gov • (WHO) www.who.int/csr/outbreaknetwork/en • (Pan American Health Organization) www.paho.org/english/ad/dpc/cd/influenza.htm • (European Union) www.eu.int/comm/health/index_en.html
	Monitor and coordinate changes in trigger and breaking points	Businesses that monitor external surveillance efforts and implement internal surveillance programs will be better informed and prepared to adjust key actions for their own pandemic preparedness and response and recovery trigger points. Coordinate and update government and local emergency response units and essential points of contact concerning changes to the business' response and recovery trigger and breaking points.	• Monitor and adjust business trigger points and actions from changes in international, national, and local pandemic phases. • Large businesses should share their external surveillance information and insights on trigger points with smaller businesses in their supply chain and community. • Identify key points of contact at all government and emergency services providers on preparedness actions and support requirements. • Ensure they are aware and able to respond to changes in the business' critical trigger and breaking points.
	Implement risk communications and information sharing	Implement risk communications and information sharing protocols to ensure an open, consistent two-way information flow with suppliers, customers, workers, families and all appropriate government and emergency response agencies.	• Implement risk communications and information sharing protocols and technologies. • Train all appropriate internal and external stakeholders on communications systems. • Test communications effectiveness under exercise conditions.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE	**Coordinate business and public relations**	Implement a business and public relations strategy that allows for the dissemination of programs and materials on business preparedness and pandemic fundamentals. As businesses become more expert at tracking and understanding international, national and local surveillance actions, they will be better able to assure internal and external stakeholders and manage misinformation about the pandemic and their operations.	• Provide overview information on symptoms of influenza, modes of transmission, etc. • Provide information on personal protection and response strategies (e.g., hand hygiene, sneezing etiquette, and PPE). • Provide information on disease containment strategies (e.g., social distancing and snow days). • Provide updated business planning and preparedness information. • Share information on trigger point and phase changes and implications for the business with all internal and external stakeholders. • Coordinate with public and media relations points of contact to ensure they are aware of changes and any impacts on the business.
	Share and compare best business practices	Many preparedness actions are common across various businesses and community agencies, by sharing and comparing best practices the business can not only improve its own preparedness but save resources on less effective actions.	• Share best practices with other businesses in your community, chambers of commerce, and associations to improve community response efforts. • Participate in business and community working groups to share information about interdependent and essential functions, develop supporting relationships, and ensure visibility for all business preparedness, response and recovery plans.
	Implement exercises, education, and training	Implement and test preparedness exercise, education, and training programs for in-house workers, their families, contactors, suppliers, and customers as well as for appropriate external businesses and community support.	• Implement scenario-driven exercises to test planning actions and involve internal and external stakeholders. • Train all personnel on personal, workplace, and family protection protocols, and actions to take for each phase of a pandemic.

PREPAREDNESS PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
PREPAREDNESS PHASE	**Refine costs and resources**	Refine and reprogram initial planning "costs" associated with pandemic preparedness and reprioritize implementation based upon available resources.	• Assess all costs based upon actual preparedness expenditures and update estimates for response and recovery. • Reprioritize all actions based upon any changes in pandemic timing, costs, and available resources.
	Adjust actions	Rapidly and effectively adjust actions based upon changes in the operational environment.	• Continuously assess ongoing preparedness activities to adjust objectives, effects, and actions based upon changes in the business and greater economic and social environments. • Continuously assess planned response and recovery actions to ensure they remain the best actions to achieve success.

5.6.3 COP-E Response Phase

WHO Alert Phase 5 and USG Stage 2 describe an evolving pandemic with confirmed but not sustained human-to-human outbreaks at one or more sites. At this stage, there will be little or no time remaining before communities and businesses in the United States begin reacting. Thus, final preparations and initial response actions should be implemented now. Actions taken in the response phase should exploit the solid foundation constructed during preparedness. However, what is planned and what actually occurs as the pandemic unfolds may be quite different. Businesses should train workers to adjust from planned actions as pandemic impacts materialize in order to contain any new challenges before their localized impacts and implications can produce cascading effects with potentially catastrophic outcomes. Response phase actions are listed in the checklist below.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE	**Assess swiftness of the pandemic outbreaks**	The speed with which pandemic outbreaks may appear and spread across the nation will severely challenge typical Federal, State, and private sector disaster response capabilities and capacities.	• Monitor international, national, State, and local pandemic outbreak reports. • Assess and adjust actions based on potential implications for the business as it spreads. • Assess implications on all business locations. • Assess supply chain impacts on the business due to outbreaks.
	Employ risk management strategies at the workplace	There are two basic categories of risk management intervention: transmission interventions (i.e., cough etiquette and hand hygiene) and contact interventions (i.e., social distancing techniques and the implementation of liberal leave policies).	• Implement specific strategies to protect employees from getting or spreading influenza on the job, including instituting processes that request and enable employees with influenza to stay home at the first sign of symptoms. • After assessing workers, the business should tailor interventions to the particular needs of individuals or of the business.
	Manage and track individual worker risk for complications	Individuals at high risk for severe and fatal infection cannot be predicted with certainty but will likely include: • Pregnant women • Persons with compromised immune systems • Persons with underlying chronic conditions	• Identify and assess implications for those at-risk workers and family members. • Provide additional protections for employees falling into at-risk categories. • Track the health status of these high risk workers and their families.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE		• Persons age 65 or older.	• Coordinate with local public health and healthcare delivery sites to report incidents and prioritize care.
	Recommend worker family protection strategies	Share with workers and their families personal and home protection measures and social distancing strategies similar to those employed in the workplace or in public.	For additional guidance on individual and family care pandemic planning, visit www.pandemicflu.gov/planguide/checklist.html
	Enforce worker protection strategies	In concert with their fellow workers, workers should pursue individual protective strategies while at the worksite. Businesses should publish these strategies for use by all workers.	• Implement personal social distancing strategies: where practical maintain three feet spatial separation between workers. • Avoid crowded places and heavily populated gatherings. • Avoid face-to-face meetings—use teleconference calls, videoconferencing, and the Internet to conduct business. • Avoid public transportation or avoid rush hour crowding on public transportation. • Avoid workplace cafeterias and introduce staggered lunchtimes. • Avoid congregating in break rooms. • If a face-to-face meeting with people is unavoidable, minimize the meeting time, choose a large room, and sit at least one yard away from each other.
	Consider use of PPE	If symptomatic persons cannot stay home during the acute phase of their illness, require them to wear a surgical/procedure mask or N95 respirator in public places.	• Although officials have not documented the efficacy of surgical/procedure masks or N95 respirators, workers may wear one as part of an individual protection strategies.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE			• Even with proper PPE and training, and employing all other appropriate infection control procedures, symptomatic workers should only be allowed in the workplace under the most extreme circumstances to sustain essential business continuity. • Visit www.hhs.gov/pandemicflu/plan/sup4.html#ppestan for more information and updates on PPE.
	Enforce worksite protection strategies	Basic worker protection strategies should be incorporated in business pandemic plans and preparedness actions.	• Implement relevant social distancing policies, including furloughing non-essential workers and employing "snow days." • Promote hand hygiene and cough etiquette in workplace. • Develop policies for financially assisting furloughed workers. • Modify office and plant layouts and workstation arrangements. • Set up pick-up or delivery systems where clients and customers can pre-order and/or request information via telephone/email/fax. • Provide sufficient and accessible infection control supplies. • Evaluate worker access to and availability of healthcare services during a pandemic.
	Publish and encourage individual protection strategies	Implement the CDC recommended personal health protection strategies at www.cdc.gov/flu/protect/stopgerms.htm.	• Avoid close contact. • Stay home when sick. • Cover your mouth and nose. • Clean your hands. • Avoid touching eyes, nose or mouth.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE	**Restrict workforce travel**	Establish policies for restricting travel to affected geographic areas, evacuating employees working in or near affected areas, and providing guidance for employees returning from affected areas (refer to CDC travel recommendations). Organizations should anticipate how such measures might further substantially aggravate staffing shortages.	• Monitor worker travel plans. • Monitor U.S. government health and travel Web sites (www.cdc.gov/travel/index.htm and www.state.gov/travel). • Cancel trips based on travel advisories issued by the USG. • Conduct business using teleconference, conference calls, or other means.
	Clean facilities and equipment	Given that influenza can spread through contaminated objects and surfaces, additional protection 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 two days on such surfaces.	• The CDC recommends cleaning worksite surfaces with soap and water or a detergent/disinfectant, depending on the nature of the surface and the type and degree of contamination. • Clean surfaces touched with hands, at least daily. • HHS will develop additional guidance regarding cleaning procedures and handling of potentially contaminated waste in non-healthcare settings such as the workplace.
	Ensure social and psychological support	Experiences with disaster relief efforts suggest enhanced workforce support activities help workers remain effective during emergencies. During a pandemic, the occupational stresses will likely differ from those faced by relief workers in the aftermath of a natural disaster. The severity and duration of illness along with potentially high numbers of deaths will add considerably to personal and social stress.	• Monitor worker and worker family social and psychological concerns. • Create alliances with community-based, government and non-governmental organizations with expertise in providing psychosocial support services. • Visit www.hhs.gov/pandemicflu/plan/sup11.html for updated information.
	Conduct training and exercises in workplace and personal protection	The protocols employed are usually not part of normal business operations, and employers must train workers on them under actual work conditions and settings.	• Exercise and train pandemic response teams on protection protocols periodically during preparedness phase and actively in response.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE			• Train workers on personal and worksite protection strategies. • If PPE is used, ensure all workers have been thoroughly trained and where appropriate fitted for use according to CDC, OSHA, and manufacturer's guidance.
	Implement protection strategies and actions and monitor completing milestones	Planners and pandemic response teams should include deliberate methods to measure, monitor, and adjust actions to changing conditions and improved protection strategies.	• Implement a formal worker and workplace protection strategy with metrics for assessing worker conformance and workplace cleanliness. • Monitor and periodically test protection methods. • Track and implement changes in approved or recommended protection measures.
	Assess and coordinate impacts on disaster response support	Shifting resources geographically from a safe zone to an impacted one will be a limited option for government and private sector businesses. Businesses will initially rely solely on their own pre-positioned, on-site resource reserves.	• Pre-position material and equipment onsite. • Ensure essential personnel are at the primary worksite. • Reaffirm that essential suppliers have their material and personnel on-hand and are able to respond and support as planned. • Coordinate with local public health and emergency response points of contact to ensure open, adequate communications.
	Manage compounding impacts, business "breaking points," and cascading effects	The diverse stressors on critical infrastructures may be compounded by the sheer scope and severity of pandemic impacts, which may cause businesses to exceed system breaking points faster than predicted. Businesses must be prepared to efficiently respond and contain these local and perhaps seemingly minor breakdowns before they cause major cascading effects.	• As pandemic impacts mount, closely monitor all essential functions to ensure sustained operations. • Monitor potential weaknesses in the system that may fail faster than planned.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE			• Rapidly adjust actions to address any normal, critical, or essential system disruptions or failures in order to correct for the loss and to mitigate and contain any potential cascading effects on essential systems.
	Monitor and adjust for cross-sector and international interdependencies and cascading effects	National cross-sector support challenges and international supply chain interdependencies may cause catastrophic cascading effects due to reliance on essential "unknown" second and third-order supplies and suppliers.	• Assess the supply chain and all supporting businesses to ensure essential functions are sustained. • Coordinate with supporting businesses to ensure no previously "unknown" challenge has arisen. • Monitor international, national, State, and local information channels for new impacts and implications.
	Ensure response support risk communications and technologies	Response personnel at all levels must have a common operating picture for unfolding events to prioritize and allocate support resources. Given the sheer scale and numbers involved, however, current communications systems may prove ineffective and incapable of supporting information sharing within and across sectors.	• Re-test all internal and external business emergency, risk, and information sharing communications systems and protocols. • Re-test all community-based emergency and information sharing communications systems. • Ensure and re-test options for work-around opportunities when primary communications systems fail.
	Coordinate government direct and indirect support	Direct support may be in the form of vaccines, antiviral drugs, and personal protection supplies for essential workers, priority and clearances for a business' supply deliveries, on-site public safety and physical security augmentation, and specific material from government stockpiles. Support that is more indirect may come from governmental relief with waivers for key regulatory and jurisdictional restrictions specific to an essential sector or particular business.	• Re-affirm contacts and planned actions with government and community emergency management personnel. • Track availability of government direct and indirect support. • Assess and project support needs to inform and coordinate with government and community teams. • Coordinate with all supporting businesses to assess their needs and timing for government support.

RESPONSE PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RESPONSE PHASE	**Exercise media and public relations**	Controlling misinformation and rumors will remain a critical function for government and businesses during times of extreme stress.	• Re-affirm contacts and planned actions with public and media relations points of contact. • Assess pre-planned message and adjust for changing conditions. • Monitor and forecast potential public and media relations issues. • Quickly address rumors and misinformation. • Keep all internal and external stakeholders informed in a timely manner.
	Anticipate economic and social disruption	Potential shortages and disruptions to the delivery of provisions of basic commodities and maintenance of municipal infrastructure during the peak pandemic times may result in public safety and physical security challenges at the local and national level.	• Adjust business actions based on any unfolding economic and social disruptions. • Coordinate closely with local government and community emergency response personnel to stay abreast of localized disruptions. • Affirm all business plans and actions to maintain security for the workplace and workers. • Coordinate with local community and other businesses to assist where possible in helping to maintain economic and social order.
	Monitor and rapidly adjust	The ability to continuously monitor all business activities and then affect rapid adjustments based upon observed and anticipated changes and impacts will be the hallmark of the business that successfully copes during the pandemic response phase(s).	• Implement the business response plan. • Continuously monitor and assess response actions. • Rapidly adjust actions as required to sustain essential functions and ensure success.

5.6.4 COP-E Recovery Phase

"Even if a 1918-like scenario unfolds, 98 out of every 100 people will still be alive at the end of the pandemic; how do we minimize their pain and suffering?.Hope and despair are not strategies…Comprehensive and serious planning is not optional…"

Michael T. Osterholm Ph.D., MPH
University of Minnesota
February 2006

Business contingency planners and response teams should assess how the different pandemic challenges in the response phase may affect their business and incorporate these into their plans and recovery actions. Furthermore, unlike nearly all other disasters, pandemic recovery duration and investments must be tempered by priorities for pandemic preparedness for follow-on waves. Examples of major recovery challenges are listed in the checklist below.

RECOVERY PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RECOVERY PHASE	**Assess response impacts, little physical damage yet still costly and protracted**	There may be little physical damage to municipal infrastructures, business facilities, and worker homes. Physical damage likely will result from equipment breakdowns from deferred maintenance and repair, and potentially from localized security and social disruptions. However, the recovery phase will likely still be lengthy and costly for most businesses.	• Assess all physical, economic, and social impacts. • Adjust recovery actions based upon actual impacts and circumstances. • Assess costs to prepare for next wave. • Implement all planned and adjusted recovery actions to restore the business to full, normal operations.
	Prepare for next pandemic waves	Unlike most other natural and manmade disasters, a pandemic could linger for more than a year with multiple outbreaks.	• Monitor international and national health information sources for any updates on next pandemic waves. • Balance recovery actions with essential preparedness for next wave actions.
	Address impacts from influenza related illness and deaths	Overcoming effects from worker and worker family illness and death will be a significant challenge for all businesses.	• Finding sufficient suitable replacements will be difficult.

RECOVERY PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RECOVERY PHASE			• Skilled workers may take advantage of higher demand and compensation elsewhere. • There will be a substantial increase in single-parent families and orphans. • Widespread fear and grief will potentially cause long-term psychological trauma.
	Overcome impacts of skilled worker and essential material shortages and competition	Lost income and competition for available skilled workers and scarce materials favors larger businesses.	• Assess shortage impacts on the business. • Forecast costs and time to recover. • Implement options and actions to correct shortages.
	Examine competition impacts on small businesses	For small business, the competition for personnel and supplies will delay or even end their recovery opportunities.	• The business community as a whole should assist to mitigate the impacts of competition and recovery on smaller businesses. • Managing this competition through focused government interventions and/or business cooperation may prove vital to a national economic recovery.
	Mitigate impacts on worker lost income	Lower- and middle-income workers lacking sufficient reserves to weather extended unemployment will be hardest hit.	• Where practical develop internal programs to assist in assuring workers and their families will not face financial ruin. • Assess actual impacts on the business' workers and families. • Assist workers to access available business and government worker recovery support programs.
	Assess insurance and business impacts	Where plant shutdowns are required, "restarts" for critical infrastructure manufacturing plants may be extensive and problematic for the plant and other businesses.	• Assess impacts on insurance companies and self-insuring businesses.

RECOVERY PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RECOVERY PHASE			• Mitigate impacts on the business from potential failures in their supporting insurance.
	Examine impacts from production and other plant shutdowns	Lost income and competition for available skilled workers and scarce materials favors larger businesses.	• Assess and mitigate plant shutdown impacts. • Assess and mitigate impacts from shutdowns in plants owned by others that provide the business with essential supplies and equipment. • Communicate with customers, suppliers, and government recovery teams on potential challenges resulting from delayed plant restarts.
	International recovery potentially lagging behind the United States	International raw material availability, manufacturing and assembly, supply chain support, as well as international purchases of U.S. goods may be delayed.	• Monitor international recovery operations and assess impacts from any delays. • Mitigate delays in international supply chain recovery.
	Coordinate government and community support	In the recovery phase, numerous opportunities exist for direct and indirect governmental and community support and relief, which include direct personnel and material support, indirect regulatory and jurisdictional waivers, and tax and financial incentives.	• Re-affirm contacts and planned actions with government and community emergency management personnel. • Track availability of government direct and indirect recovery support. • Assess and project potential support needs to inform and coordinate with government and community teams.
	Continue enhanced risk communications and information sharing	Honest, accurate, and timely risk communications and open information sharing within and across businesses and the community and government is critical to a successful recovery.	• Ensure communications and information-sharing channels remain open with all external stakeholders. • Provide continuous updates concerning business recovery and next pandemic wave preparedness efforts. • Share all information in an honest, consistent, and timely manner.

RECOVERY PHASE			
	Action	**Issues to Consider**	**Supporting Actions**
RECOVERY PHASE	**Maintain public and media relations**	Information sharing within the business, between the business and its suppliers and customers, with other sector businesses, and for public and media relations will remain essential to control misinformation and rumors.	• Re-affirm contacts and planned actions with public and media points of contact. • Assess pre-planned message and adjust as necessary. • Monitor and forecast potential public/media relations issues. • Quickly address any rumors and misinformation. • Keep all internal and external stakeholders informed in a timely, consistent manner.
	Measure, monitor, and adjust	Implementing and measuring recovery actions, and monitoring to adjust these based on observed and anticipated changes and impacts will continue to be the hallmark of the business that successfully copes through a pandemic.	• Implement the business recovery and prepare for next wave plan. • Continuously monitor recovery and prepare actions. • Adjust actions to restore essential functions and ensure success for the next pandemic wave.

[15] Remarks of HHS Secretary Michael Leavitt on "Avian Flu," National Press Club, Oct. 27, 2005, CQ Transcriptions

[16] DHS Pandemic Plan, Chapter 8, Introduction

Section 6: Partnerships and Information Sharing

"Our nation has to work together in a unified and coordinated manner across federal, state and local jurisdictions and with the private sector, and, most importantly, with the American people…We need to coordinate and share assets and resources and emergency plans in a way we haven't done before."

Secretary Michael Chertoff
Department of Homeland Security
December 9, 2005

IN THIS SECTION: Essential Partnership for Success • Facilitate Public-Private Partnerships • Why COP-E is Important to the Private Sector • Identify and Enhance Partner Interdependencies • DHS Partnering and Information Sharing Capabilities and Initiatives • Partnering and Information Sharing Points of Contact

Section 6: Partnerships and Information Sharing

6.1 Essential Partnership for Success

A public-private partnership across all levels of government and the private sector is critical to preparing for and responding to all types of catastrophic events. The effects of a pandemic cross all sectors of infrastructure and government. Effective preparedness and timely response to and recovery from disasters of this scale necessitate fundamentally integrated partnerships between Federal, State, local, and tribal government agencies and private sector CI/KR owners and operators.

From surviving the temporary loss of more than 40 percent of your workers to ensuring the delivery of essential commodities, a pandemic will test the private sector. DHS, in collaboration with all Federal departments and especially the Departments of Agriculture, Commerce, Health and Human Services, State, and Transportation, is committed to working with the private sector to better prepare and respond to the potential impacts of a pandemic on business.

This section of the guide focuses on establishing and maintaining effective communications both before and during a pandemic, specifically highlighting the vital nature of robust partnerships between the private sector and all levels of government. These trusted partnerships are valuable vehicles for a reliable, real-time, two-way exchange of information that assists in the preparation for, mitigation of, and response to a pandemic.

Given their tremendous stake in sustaining essential business operations, many businesses in the private sector have comprehensive emergency management plans and systems in place. In addition, corporate America is positioned to lend a hand to the government's pandemic response and recovery efforts.

Pandemic containment strategies rely heavily on frontline private sector defenders—healthcare "first responders" and the business community—to detect and notify government officials ofoccurrence of a pandemic, as well as its operational impacts. DHS' information sharing networks, like the Homeland Security Information Network (HSIN) and the Sector Coordinating Councils (SCC) and Government Coordinating Councils (GCC), will be exercised fully for a pandemic allowing for greater synergy between the private sector and the government. It is important to recognize that a voluntary two-way information sharing system between industry and government requires the government to assist the private sector overcome barriers that, to date, have limited the relationship.

Every business is a link in a chain of actions and reactions with all its partner businesses, as well as all other businesses, and the community at large. To survive a pandemic, all businesses must plan to collaborate with members all along their supply chain network, key customers, and business competitors. For essential goods and material, businesses must undertake a complete exploration of their supply chain relationships, starting from their internal storage areas and tracking as far as practicable along the branches of their supply chain network back to the source of the materials, and up to the end-user customers. Working with supply chain partners to uncover potential weaknesses and highlight critical paths through the network will allow for actionable planning focused on mitigating any pandemic-related challenges. Similarly, businesses must investigate and collaborate with their diverse interrelated local community and state officials and emergency response partners.

As outlined in Section 5 of this Guide, security planners must educate themselves on how pandemic influenza changes the security risks (consequences, threats, vulnerabilities) they face. To achieve this effect, the Infrastructure Partnership Division of DHS will undertake a number of actions, including summarizing the likely impacts to each of the 17 CI/KR sectors, supporting CI/KR reviews of specific vulnerabilities, and so on. Much of this information can be found in the annex of this Guide.

6.2 Facilitate Public-Private Partnerships

The National Response Plan (NRP) aligns the range of Federal incident management and emergency response plans into an effective and efficient structure. Together the NRP and the National Incident Management System (NIMS) integrate the capabilities and resources of various governmental jurisdictions, incident management and emergency response disciplines, nongovernmental organizations, and the private sector into a cohesive, coordinated, and seamless national framework for domestic incident management. Specifically, the NIMS provides a nationwide template enabling Federal, State, local, and tribal governments and private sector and nongovernmental organizations to partner and work together efficiently to prevent, prepare for, respond to, and recover from domestic incidents, including pandemics. It is the NRP, using the NIMS, which establishes the mechanisms to, among other things:

- improve coordination and integration of public and private partners;
- maximize efficient use of resources needed to protect and restore the nation's CI/KR;
- improve incident communications and awareness between the public and private sectors; and
- facilitate Federal emergency support to State, local, and tribal governments.[17]

The NIMS and NRP are extensive documents; however, they are available online. Both should be reviewed to assess for business and government partnership and coordination implications and options during the planning phase, to integrate into continuity of operations plans, and to have available for reference during response and recovery. For the NRP, log on to www.dhs.gov/interweb/assetlibrary/NRP_FullText.pdf. For more on NIMS, log on to http://www.dhs.gov/dhspublic/interweb/assetlibrary/NRP_FullText.pdf.

6.3 Identify and Enhance Partner Interdependencies

DHS has designed the Sector Partnership Framework, which is built on an unprecedented level of public-private cooperation. While DHS is responsible for the critical infrastructure program, implementation requires an integrated process among all key stakeholders, including the private sector. The National Infrastructure Protection Plan (NIPP) lays out the conceptual framework of the SCCs and GCCs. Moreover, the framework envisions these councils as the mechanisms for information exchange in matters relating to critical infrastructure protection (CIP) across the 17 critical sectors.

- SCCs: Designed to develop an entire range of infrastructure protection activities and issues, including information sharing, SCCs are the sector's principal point of entry into government. SCCs are self-organized, self-run, self-governed, and responsible for generating participation of the owners/operators within a sector.
- GCCs: The complementary government counterpart for each sector, formed to achieve inter-agency coordination. GCCs coordinate critical infrastructure strategies, policy, programs, and communication across government.

The Sector Partnership Framework is the mechanism for government and private industry to work together to address issues of critical infrastructure protection. For implementation of the framework to be effective, public and private sector stakeholders must have legitimate opportunities for meaningful participation. The framework generates real value when all partners create the work cooperatively. The coordinating councils will serve as resources to provide advice, information, and recommendations on issues associated with formal CIP programs.

To implement the necessary disease containment strategies such as social distancing, worker furloughs, assembly closings, and movement restrictions requires strong pre-existing partnerships from the relevant public and private sector entities well in advance of human outbreaks within our borders. The work, however, is not limited to preparedness strategies.

6.4 DHS Partnering and Information-Sharing Capabilities and Initiatives

6.4.1 CI/KR Pandemic Planning Support

Within the Preparedness Directorate of DHS, the Office of Infrastructure Protection (IP) leads the national preparedness effort to secure critical infrastructure from the effects of pandemic influenza. In collaboration with its Federal, State and local government partners, DHS-IP will work with CI/KR sector organizations and industries to identify potential cross-sector and cross-jurisdictional impacts.

DHS-IP will assist and encourage the private sector to develop plans and procedures for sustaining essential levels of national, regional, and local services during a pandemic. To begin, businesses in each CI/KR sector will be encouraged to develop and implement a pandemic COP-E plan. To that end, DHS-IP will provide technical assistance to develop a business COP-E template. By using the Sector Partnership Framework, DHS-IP can tailor the templates to the diverse needs across the various sectors.

Currently there is no standard, agreed-upon list of information items or shared actions between government and private sector businesses for a pandemic. An important early goal for the pandemic planning and preparedness process will be to ensure active collaboration between government at all levels and private sector businesses to define what information and actions should and can be efficiently and effectively shared between the two, and how best to expedite this sharing. With this Guide, DHS-IP has taken a first step toward realizing this goal by highlighting the challenge, describing issues and outcomes to consider, and proposing a process for resolution. DHS-IP will now work closely with the CI/KR sectors/businesses and other government agencies to implement the Guide and manage the information-sharing process.

6.4.2 National Infrastructure Coordinating Center (NICC)

The DHS National Operations Center (NOC), formerly known as the Homeland Security Operations Center (HSOC), serves as the Nation's hub for domestic incident management operational coordination and situational awareness. The National Infrastructure Coordinating Center (NICC), one of four sub-elements of the NOC, facilitates the passing of information between CI/KR sector businesses and the NOC.

As a CI/KR-focused element of the NOC, the NICC, a "24/7" watch operations center, provides a centralized mechanism and process for information sharing and coordination between the government, SCCs, GCCs, and other industry partners. The NICC also disseminates products originated by the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) that contain all-hazards warning, threat, and CI/KR protection information. When a pandemic influenza outbreak is imminent (WHO Pandemic Alert Period Phases 4/5 and USG Stages 1/2), or already occurred, the private sector is encouraged to communicate key information, negative and positive, affecting their business or industry to the NICC.

WHO TO CONTACT: DHS has established a pandemic e-mail hotline for the private sector. To contact the NICC on pandemic-related issues or to share critical and timely information—24/7/365—send an email to dhspandemic@dhs.gov. Additionally, for those CI/KR businesses participating in the network, the NICC can be contacted through the Homeland Security Information Network (HSIN).

DHS plans to use the NICC as the hub for all CI/KR private sector information sharing needs during all phases of a pandemic. The NICC provides private industry partners with a centralized mechanism to report and receive information pertaining to threats, events, and suspicious activity that may affect the private sector. When the pandemic strikes and infrastructure incidents result, the NICC will perform important triage and alerting functions, coordinating with the appropriate government and industry constituents to support situational awareness. These triage and alerting functions result in a more rapid and effective coordination during crisis response and recovery activities.

DHS-IP will communicate and update CI/KR private sector businesses on key pandemic information and government actions through direct interface with the NICC by exploiting the HSIN technology platform (discussed below). DHS-IP will utilize the NICC as the first stop for CI/KR business interface to reduce communications confusion; both to receive business information and share government information so that together we can develop and implement effective, mutually supporting response options.

6.4.3 Homeland Security Information Network (HSIN)

HSIN is the primary internet-based technology platform for information sharing between CI/KR businesses, sector leadership and the NICC/DHS. Along with the NICC direct contact email and telephone numbers above, HSIN affords private sector businesses another contact solution and continuous source for monitoring pandemic information that exploits the power of the internet. For all domestic threats, to include an influenza pandemic, HSIN is the mechanism for collaboration on threats and vulnerabilities pertaining to the nation's CI/KR referred to in Homeland Security Presidential Directive-7 (HSPD-7). HSIN is an operational and technical platform providing a suite of tools that will enable DHS and the critical sector owners and operators to communicate, coordinate, and share information.

For more information or to enroll in the HSIN-CS, visit www.swern.gov/forms/enrollrequirements.php

In 2005, DHS launched HSIN-Critical Sectors (CS) to communicate real-time information to critical infrastructure owners and operators. The mission of the HSIN-CS program is to ensure the protection and reliable performance of the nation's CI/KR sectors through the strategic use of information sharing and communication capabilities. Additionally, HSIN creates an enhanced partnership between the owners and operators of the nation's critical infrastructures, DHS and the Sector-Specific Agencies (SSAs).

While the primary users of the HSIN platform are currently Federal, State, and local government users, the possibility of pandemic offers a tremendous opportunity to leverage the system's capabilities for CI/KR sector owners and operators. The DHS-run system is a low-cost information-sharing platform that enables the CI/KR sectors to coordinate and receive, submit, share, and collaborate on timely, actionable, and accurate information pertaining to the threats, vulnerabilities, and security affecting each sector's infrastructure.

Through HSIN-CS, participating users receive the following functionality: timely broadcast alerts, threats, warnings, and incident reporting; sharing critical documents and analyses; real-time collaboration on key issues or crises; support best practices and protective strategies and the growth of "communities of interest." DHS will also work with critical infrastructure stakeholders on an ongoing basis to create and improve the value of the HSIN-CS program, and to determine and address constraints in the program.

Much of the success of the program relies on the active participation of the critical infrastructure sector members. Each sector, working in partnership with DHS, will develop the program and the network to further protect and sustain the reliability of the specific critical infrastructure sector participating in HSIN-CS.

As with information protection for the HSOC and NICC, the Federal government recognizes that, given privacy concerns and fear of public disclosure, the private sector may be reluctant to share information with the Federal government using HSIN. The Protected Critical Infrastructure Information (PCII) Program encourages private industry to share voluntarily their sensitive and proprietary business information with the Federal government. If it satisfies the requirements of the Critical Infrastructure Information Act of 2002, submitted information is protected from public disclosure. For more information, visit: www.dhs.gov/dhspublic/interapp/editorial/editorial_0404.xml.

6.5 Partnering and Information-Sharing Points of Contact

The following are useful links as your company begins working on its pandemic planning:

- For a complete list of state homeland security advisors, visit: www.dhs.gov/dhspublic/interapp/editorial/editorial_0291.xml
- To reach the 24/7 CDC Hotline, contact: 800-CDC-INFO (800-232-4636) or email cdcinfo@cdc.gov
- For a list of State and territorial publichealth officials, visit: www.astho.org/index.php?template=regional_links.php&PHPSESSID=58b56231688358e09f989713c70ede0a
- For a list of State health departments, visit: www.phppo.cdc.gov/phtn/sites.asp#state
- For a list of United States Fire Administration State Points of Contact, visit: www.usfa.fema.gov/pocs/
- For a comprehensive link to all State Emergency Management Agencies, visit: http://www.fema.gov/about/contact/statedr.shtm
- For a contact list of all Federal Emergency Management Agency (FEMA) regional offices, visit: http://www.fema.gov/about/contact/regions.shtm
- For more information on HHS offices and services available in each region, and how to contact HHS regional offices, visit: www.hhs.gov/about/regions
- For DHS basic preparedness information for businesses and individuals, visit: www.ready.gov
- For information on Federal labor laws, visit: www.dol.gov
- For information on emergency workforce planning through the public, visit America's Service Locator at www.servicelocator.org

Please refer to the Appendix in the reference Guide for a more exhaustive list of pandemic-related Web sites.

[17] National Response Plan, for more information, see www.dhs.gov/interweb/assetlibrary/NRP_FullText.pdf

Section 7: Public and Media Relations

"The media and public officials helped create that terror [of the 1918 influenza pandemic]—not by exaggerating the disease but by minimizing it, in their attempts to reassure the public."

John Barry
"The Great Influenza," 2004[18]

IN THIS SECTION: Essential Partnership for Success • Facilitate Public-Private Partnerships • Why COP-E is Important to the Private Sector • Identify and Enhance Partner Interdependencies • DHS Partnering and Information Sharing Capabilities and Initiatives • Partnering and Information Sharing Points of Contact

Section 7: Public and Media Relations

7.1 Communicating with the Public

The massive scope and broad reach of a pandemic will make it virtually impossible for any stakeholder—government official or private sector owner and operator—to ensure accurate, consistent information. Therefore, information management should be a primary focus. Whether it is the President informing the public about the Federal handling of the crisis or a business owner assuring employees about the safety of the workplace, the demands for information during a pandemic will be unremitting for weeks, even months at a time. Moreover, sustaining employee confidence and morale for many months will be a tremendous challenge. As with any crisis communication plan, business leaders must provide their employees, the media, and the public with consistent, relevant, truthful, and timely information.

In the *National Strategy for Pandemic Influenza*,[19] the White House outlined strategies designed to help communicate expectations and responsibilities in the face of a pandemic. The *National Strategy* recognizes planning for a pandemic requires the government to articulate clearly the actions and priorities necessary to prepare for and respond to a pandemic. In order to accomplish this goal, the Federal government will:

- Ensure clear and coordinated risk communication, domestically and internationally, before and during a pandemic. This includes identifying credible spokespersons who can communicate helpful, informative, and timely messages.
- 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.
- 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.
- Provide guidance and support to poultry, swine, and related industries on their role in responding to an outbreak of avian influenza, including ensuring the protection of animal workers and initiating or strengthening public education campaigns to minimize the risks of infection from animals.[20]

Sustaining the nation's infrastructure and essential services—the underpinnings of the national economy—during a pandemic crisis requires a strong commitment from the private sector. DHS will coordinate with HHS and State, local, and tribal officials on the messages released to the public to ensure communications are consistent and accurate. The private sector's important role cannot be overstated. Employers are often the first ones to educate employees on prevention strategies, protect customers' health and safety, and mitigate the impact to the nation's economy.

"I think it's absolutely critical as a leader to deliver an honest message, a message that contains all the parts, the good and the bad."

Dr. John Agwunobi
Florida State Health Director
during the 2001 Anthrax attacks [21]

Effective risk communication is essential to inform your employees and mitigate panic. As you prepare for the pandemic, it is critical for your company to develop a coordinated and streamlined information framework that facilitates, not impedes, communication to your employees, the public, government officials, and the media.

7.2 Communicating with Employees and their Families

The impact of the pandemic on your employees and their families will be tremendous. At a time when as many as half your staff will be out of the office and nightly media accounts report about the virus, it is critical for businesses to keep an open two-way line of communication between employer and employee. To accomplish this, businesses must develop their pandemic emergency communications plan now.

Employers are likely to find themselves communicating with anxious employees, a fact that will only contribute more to high rates of absenteeism and the "worried well" population. It is important that you begin immediately disseminating information from public health sources covering routine infection control (e.g., hand hygiene, coughing, and sneezing etiquette), pandemic influenza fundamentals (e.g., signs and symptoms of influenza, modes of transmission) as well as personal and family protection and response strategies. Prior to the pandemic, we recommend beginning an in-house dialogue with employees that will:

- Communicate to your employees very early about the possibility of a pandemic, its possible ramifications, and your company's preparedness to withstand it.
- Explain how HR policies will respond to the pandemic (i.e., "snow days," leave policies, schools closings, telecommuting policies).
- Hold a "Pandemic 101" brownbag lunch series and multi-media campaign to educate employees on pandemic basics and engage them in planning efforts.
- Advise employees where to find up-to-date and reliable pandemic information from Federal, State, and local public health sources.
- Inform employees in newsletters, intranet, emails, and other internal communication tools on the company's steps (i.e., providing PPE, office cleanings) to ensure a safe workplace.
- Circulate public health information about caring for ill family members at home.
- Identify pandemic coordinator and response team (including in-house nurse or healthcare provider) with defined roles for preparedness, response, and recovery.

INVOLVE THE STAFF

Be sure to involve your co-workers in your preparedness planning. One of the best methods of assuring your company's recovery is to provide for your co-workers' well-being. Communicate regularly with employees before, during, and after an incident.

1. Involve co-workers from all levels in emergency planning.
2. Use newsletters, intranets, staff meetings, and other internal communications tools to communicate emergency plans and procedures.
3. Set up procedures to warn employees. Plan how you will communicate with people who are hearing-impaired or have other disabilities or who do not speak English.
4. Set up a telephone call tree, password-protected page on the company website, email alert, or call-in voice recording to communicate with employees in an emergency.
5. Designate an out-of-town phone number where employees can leave an "I'm OK" message in a catastrophic disaster.
6. Encourage employees to have alternate means and routes for getting to and from work.
7. Keep a record of employee emergency contact information with other important documents in your emergency kit and at an off-site location.
8. If you rent, lease, or share space with other businesses, it is important to communicate, share, and coordinate evacuation procedures and other emergency plans.

Courtesy of Ready.gov, for more information,
Visit: www.ready.gov/business/st2-involvecoworkers.html

- Work with local public health authorities to determine legal authority and to identify trigger points and procedures for company closings and re-openings.
- Establish an emergency communications plan identifying key contacts with State and local public health officials.
- Develop and test platforms (e.g., hotlines, "telephone trees," dedicated Web sites) for communicating pandemic status and actions to employee sand families.

COMMUNICATING WITH YOUR EMPLOYEES

In the event of a pandemic influenza, businesses will play a key role in protecting employees' health safety as well as limiting the negative impact to the economy and society. Planning for pandemic influenza is critical. To assist you in your efforts, HHS/CDC has developed a checklist for large businesses. It identifies important specific activities you can do now to prepare, many of which will also help you in other emergencies.

The communications checklist below is an excerpt from the larger planning document available at www.pandemicflu.gov/plan/pdf/businesschecklist.pdf.

Completed	In Progress	Not Started	Pandemic Preparedness Strategies
			Develop and disseminate programs and materials covering pandemic fundamentals (e.g., symptoms of influenza, modes of transmission), personal and family protection and response strategies (e.g., hand hygiene, sneezing etiquette).
			Anticipate employee fear and anxiety, rumors, and misinformation and plan communications accordingly.
			Ensure communications are culturally and linguistically appropriate. Disseminate information to employees about your pandemic preparedness and response plan.
			Provide information for the at-home care of ill employees and family members. Develop platforms (e.g., hotlines, dedicated Web sites) for communicating pandemic status and actions to employees, vendors, suppliers, and customers inside and outside the worksite in a consistent and timely way, including redundancies in the emergency contact system.
			Identify community sources for timely and accurate pandemic information (domestic and international) and resources for obtaining counter-measures (e.g., vaccines and antivirals).

7.2.1 Strategies for Supporting Businesses and Sectors, Customers and the Public

Given that 85 percent of the nation's critical infrastructure resides in the hands of the private sector, it is essential for corporate America to engage in all Federal, State, and local pandemic preparedness and response activities. When the pandemic begins, business leaders must be able to restore employee confidence and morale while conducting media and stakeholder outreach that restores public and shareholder confidence in the safety, security, and solvency of the company.

Decisions made by the private sector can have cascading impacts across various sectors of the economy. Effective information management during a pandemic requires planning and coordination across the public and private sectors. It is also important to assess your business' normal communications processes and capabilities for rapid information sharing with government partners, supply chain businesses, customers, and workers and their families.

As you read in Section 6 of this Guide, there are arrays of partnership opportunities available to you as you begin developing your preparedness plan. It is important to remember not only your company's needs, but also how these needs can be impacted by other businesses in your sector, government agencies, suppliers along your chain, and key customers and contractors.

In the pre-pandemic period, it will be necessary to enhance and maintain situational awareness across your business and to establish working partnerships with other key sector entities, to help identify essential functions and critical intra- and inter-sector and cross-border planning, response, and mitigation needs. Due to the complexity of your business and the dynamic effect of local decisions on the entire sector, communications plans should address a number of the following challenges, including:

- ensuring adequate information sharing, analysis, and coordination among the private sector, Federal, State, and local governments, and international partners;
- providing updates on the operational status of your business;
- maintaining awareness of public health measures under consideration that may impact your business, such as vaccine/antiviral distribution, need for food and other essential services during quarantines, and social distancing measures; and
- establishing clear notification protocols to keep government partners informed of early warning signs and potential cases within your company.

Update existing emergency communications in light of the pandemic threat. Detail how you will communicate with employees, authorities, and customers during and after a pandemic disaster. Below are some basic audience-specific strategies, developed by DHS for the Ready.Gov Web site.

1. **Employees:** Provide employees with information on when, if, and how to report to work following an emergency.
2. **Management:** Provide top company executives with all relevant information needed for the protection of employees, customers, vendors, and nearby facilities.
3. **Public:** Update the public with assurances that you are utilizing all resources to protect workers and the community.
4. **Customers:** Update customers on the status of products, services, and deliveries.
5. **Government:** Tell authorities what you can do, and what you need, in the recovery effort.
6. **Other Businesses/Immediate Neighbors:** Be prepared to give competing companies a prompt briefing on the nature of the emergency so they can assess their own threat levels.

7.2.2 Response to Changing Conditions and Rumors

"Sometimes you really don't know what you don't know. Dealing with new and emerging infections is a very humbling experience. We should not pretend to know what will happen. Will it be severe or mild? Which age groups will be most affected? We just don't know."

Dr. Margaret Chan
Representative of the Director for Pandemic Influenza, WHO [22]

During a pandemic, anticipate the fear and anxiety of employees and their families based on rumors and misinformation. After the initial stages, news media coverage will be a mix of positive and critical coverage. As the media proceeds with in-depth analysis of what happened and why, these elements become important to an effective response that fosters trust among you and your employees:

- Monitor news media reports and public inquiries to identify emerging issues, rumors, and misperceptions and respond with communications accordingly.
- Conduct daily conference calls or morning roundtables with a cross-section of your company's pandemic team to discuss latest developments.
- Distribute prompt daily communications to all staff to update the number of sick employees, respond to rumors, and meet with workers and families about deaths.

REMEMBER THE STARCC PRINCIPLE

In a crisis, your message to employees and the media must be:

Simple—Frightened people do not want to hear big words.

Timely—Frightened people want information now.

Accurate—Frightened people will not get nuances, so give it straight.

Relevant—Answer their questions and give action steps.

Credible—Empathy and openness are your keys to credibility.

Consistent—The slightest change in the message is upsetting.

7.3 Communicating with the Media

Without a doubt, a pandemic will be a full-scale media event. With that understood, it is best to know the press will be there and they will be asking questions. Depending on the nature of your business, there is a high probability that the media will report something related to your business, so it is your job to make sure they report the facts and to correct them (politely and quickly) when they are wrong.

There are two primary reasons to collaborate with the press before and during a pandemic influenza crisis. First, in the throes of a pandemic with many employees working from home, the media may be your primary tool to get public safety messages to your employees and information about your business to your customers. Second, the media knows its audiences better than you do and can often translate and simplify your message better than you can.

As with all issues related to the pandemic, working with the media is easier when you have coordinated in advance to ensure you have the right contacts and networks within a particular newspaper, radio station, or television news station. For more information on dealing with the media during a crisis, visit: www.cdc.gov/communication/emergency/leaders.pdf to read the CDC's publication, "Crisis & Emergency Risk Communications: By Leaders for Leaders."

Below you will find a number of excellent risk communications guides and resources for public officials and leaders of any enterprise that will help in your pandemic planning efforts.

- Crisis and Emergency Risk Communication: By Leaders For Leaders (CDC), Course Book (PDF) (695KB), visit: www.cdc.gov/communication/emergency/leaders.pdf
- Participant's Manual (includes slides) (PDF) (447KB), visit: www.cdc.gov/communication/emergency/part_man.pdf
- Communicating in a Crisis: Risk Communication Guidelines for Public Officials (Substance Abuse and Mental Health Services Administration), visit: www.riskcommunication.samhsa.gov/
- Effective Media Communication during Public Health Emergencies (WHO), visit: www.who.int/csr/resources/publications/WHO_CDS_2005_31/en/
- Terrorism and Other Public Health Emergencies: A Reference Guide for the Media (HHS), visit: www.hhs.gov/emergency/mediaguide/PDF/
- WHO Handbook for Journalists: Influenza Pandemic (PDF) (738KB), visit: www.who.int/entity/csr/don/Handbook_influenza_pandemic_dec05.pdf
- WHO Outbreak Communications Guidelines (PDF) (452KB) (WHO), visit: www.who.int/infectious-disease-news/IDdocs/whocds200528/whocds200528en.pdf

[18] Barry, John, The Great Influenza: The epic story of the deadliest plague in history, Penguin Books, pg 462, 2004

[19] www.whitehouse.gov/homeland/pandemic-influenza.html

[20] Ibid

[21] www.cdc.gov/communication/emergency/leaders.pdf

[22] www.who.int/entity/csr/don/Handbook_influenza_pandemic_dec05.pdf

For more information including a PDF copy of the expanded CI/KR guide, please visit www.pandemicflu.gov or email your CI/KR-related questions to dhspandemic@dhs.gov.