



The 2009 H1N1 “Swine Flu” Outbreak: An Overview

Sarah A. Lister

Specialist in Public Health and Epidemiology

C. Stephen Redhead

Specialist in Health Policy

April 30, 2009

Congressional Research Service

7-5700

www.crs.gov

R40554

Summary

On April 29, 2009, the World Health Organization (WHO) raised its influenza ("flu") pandemic alert level to Phase 5, one level below declaring that a global influenza pandemic was underway. According to WHO, "the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short."

The WHO has increased the pandemic flu alert level in response to the spread of a new strain of influenza A subtype H1N1 virus. First identified in Mexico in March 2009, the novel flu strain has quickly spread to the United States, where, as of April 29, there are 91 confirmed cases of illness, including one death. Additional cases have been confirmed in several other countries.

The new flu strain was initially dubbed "swine flu" because it contained genetic material from flu strains that normally circulate in swine. However, there has been no evidence to date that pigs are involved in the transmission of this virus. There have been concerns that the term "swine flu" has had unwarranted trade implications for swine and pork products, among other concerns. On April 30, 2009, WHO began referring to the new strain as influenza A(H1N1).

Federal agencies have adopted a pandemic response posture, under the overall coordination of the Secretary of Homeland Security. The Obama Administration has requested \$1.5 billion in emergency supplemental appropriations to address the threat, and congressional committees in both chambers have convened emergency hearings to assess the situation.

This report provides an introduction to the situation regarding the potential of a global human influenza pandemic caused by the new H1N1 flu strain; a brief chronology of events; a discussion of key actions taken and authorities invoked by the WHO and the U.S. government; information about key U.S. government pandemic flu planning documents; and sources for additional information about the situation as it unfolds. This report will be continually updated to reflect unfolding events.

Contents

Introduction	1
Brief Chronology (2009)	3
Key Official Actions.....	5
International Actions	5
WHO: Determination of Influenza Pandemic Phase	5
WHO: International Health Regulations.....	7
WHO: Travel and Food Safety Guidance	8
U.S. Government Actions	8
Department of Homeland Security (DHS) Leadership Designation.....	8
HHS Determination of a Public Health Emergency	8
FDA Emergency Use Authorization	9
CDC and State Department Travel Notices	9
Emergency Supplemental Appropriations	9
Naming the Virus Strain.....	10
U.S. Pandemic Influenza Planning Documents.....	10
Key Information Sources.....	12

Figures

Figure 1. WHO Influenza Pandemic Phases	7
-----------------------------------------------	---

Tables

Table 1. WHO Influenza Pandemic Phases	6
----------------------------------------------	---

Contacts

Author Contact Information	12
----------------------------------	----

Introduction

On April 29, 2009, the World Health Organization (WHO) raised its influenza ("flu") pandemic alert level to Phase 5, one level below declaring that a global influenza pandemic was underway. According to WHO, "the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short."¹

The WHO has increased the pandemic flu alert level in response to the spread of a new strain of influenza A subtype H1N1 virus. First identified in Mexico in March 2009, the novel flu strain has quickly spread to the United States, where, as of April 29, there are 91 confirmed cases. Most of the cases have been mild, but there have been five hospitalizations, including one death. Additional non-fatal cases have been confirmed in Austria, Canada, Germany, Israel, New Zealand, Spain, and the United Kingdom. Case counts are rising daily.

The new influenza strain responsible for the outbreak is an apparent reassortment of several existing strains of influenza A subtype H1N1 virus, including strains typically found in pigs, birds, and humans. The Centers for Disease Control and Prevention (CDC) reports that the symptoms and transmission of the novel H1N1 flu from person to person are much like that of seasonal flu. Laboratory testing of the new strain indicates that the antiviral drugs oseltamivir (Tamiflu) and zanamivir (Relenza) are expected, in most cases, to be effective in treating illnesses that result from this new strain.

The new flu strain was initially dubbed "swine flu" because it contained genetic material from flu strains that normally circulate in pigs. However, there has been no evidence to date that the outbreak arose from human exposure to pigs. Also, WHO and other health officials have stressed that there is no risk of infection from consumption of pork. There have been concerns that the term "swine flu" has had unwarranted trade implications for swine and pork products, among other concerns. On April 30, 2009, WHO began referring to the new strain as influenza A(H1N1).

An influenza pandemic occurs when a novel flu strain emerges and spreads across the globe, causing serious illness among humans. For that to happen, the virus must have the following three features: it must be genetically novel so that there is a lack of preexisting immunity; it must be pathogenic (i.e., capable of causing illness in humans); and it must be easily transmitted from person to person. WHO, in consultation with experts in member countries, monitors global movement of flu strains among human populations, and has developed a scale for monitoring pandemic risk. The scale consists of five pre-pandemic phases with increasing incidence of animal and then human illness and transmission, and a sixth phase that represents a full-blown human pandemic, with sustained viral transmission and outbreaks in most or all regions of the world. Historically, flu pandemics have occurred in multiple waves before subsiding.

As a result of the rapid spread of the new H1N1 strain, WHO raised its official pandemic alert level from Phase 3, where it had been for several years because of the threat of H5N1 avian flu, to Phase 4 on April 27, and then to Phase 5 on April 29. Phase 3 means that a novel flu strain is causing sporadic cases of small clusters of disease but is not sufficiently transmissible to sustain

¹ World Health Organization (WHO), *Pandemic Influenza Preparedness and Response: A WHO Guidance Document*, April 2009, p. 32, <http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html>.

community-level outbreaks. Phase 4, by contrast, signals that human-to-human transmission of the virus is sufficient to sustain community-level outbreaks. Raising the alert level to phase 5 means that there is sustained community-level transmission in two or more countries within one WHO region, and that a pandemic may be imminent. **Table 1** describes the phases of a flu pandemic, as defined by WHO.

Influenza Defined

Influenza ("flu") is a respiratory illness that can be transmitted from person to person. Flu viruses are of two main genetic types: Influenza A and B. Influenza A strains are further identified by two important surface proteins that are responsible for virulence: hemagglutinin (H) and neuraminidase (N).

Seasonal flu circulates each year in the winter in each hemisphere. The dominant flu strains in global circulation change from year to year, but most people have some immunity; infection can be fatal. CDC estimates that there are about 36,000 deaths from seasonal flu each year, on average. Vaccines are made each year based on predictions of the strains that are most likely to circulate in the upcoming flu season.

Avian flu ("bird flu") is caused by viruses that occur naturally among wild birds, and that may also affect domestic poultry. In 1997 a new "H5N1" strain of avian flu emerged in Asia, and has since caused millions of deaths among domestic poultry, and hundreds of deaths in humans. Health officials have been concerned that this strain could cause a human pandemic, and governments around the world have carried out a number of preparedness activities, including vaccine development and stockpiling, and planning for continuity of services.

Swine flu occurs naturally and may cause outbreaks among wild and domestic swine. People do not normally get swine flu, but each year CDC identifies a few isolated cases of human flu that are caused by flu strains typically associated with swine.

Pandemic flu is caused when a novel strain of human flu (i.e., one that spreads from person to person) emerges and causes a global outbreak, or pandemic, of serious illness. Because there is little natural immunity, the disease is often more severe than is typical of seasonal flu.

(Adapted from HHS, "Flu Terms Defined," <http://www.pandemicflu.gov>. For more information about pandemic flu, see "Understanding Pandemic Influenza" in CRS Report RL33145, *Pandemic Influenza: Domestic Preparedness Efforts*.)

In response to the situation, the Secretary of Homeland Security, Janet Napolitano, has assumed the role of Principal Federal Official, coordinating federal response efforts. On April 26, Charles E. Johnson, then the Acting Secretary of Health and Human Services (HHS), who is responsible for coordinating the public health and medical response to the incident, declared a public health emergency. Among other things, the declaration authorized the Food and Drug Administration (FDA) to issue Emergency Use Authorizations (EUAs), permitting certain unapproved uses of Tamiflu and Relenza (such as in very young children), as well as the use of an unapproved diagnostic test for the new flu strain.

CDC has released these antiviral drugs, as well as respiratory protection devices and other medical supplies, from the Strategic National Stockpile (SNS), to help states respond to the outbreak. CDC reports that it has released to state health officials one-quarter of the 50 million treatment courses of Tamiflu and Relenza stockpiled in the SNS. CDC also has activated its Emergency Operations Centers to coordinate the agency's response to the outbreak, and has issued an advisory recommending travelers to postpone all non-essential travel to Mexico. Border control agents are visually inspecting incoming travelers from Mexico, questioning them about symptoms and recent illnesses, and isolating and testing those who appear to be sick. Administration officials are resisting calls to implement more aggressive measures such as closing the U.S.-Mexico border, noting that the new flu strain is already in the United States and

that the focus of mitigation strategies is on where U.S. illnesses are being reported, and on patients' families and their surrounding communities.

The Obama Administration has requested \$1.5 billion in emergency supplemental appropriations to address the threat, and congressional committees in both chambers have convened emergency hearings to assess the situation.

This report provides a brief chronology of events; discusses key actions taken and authorities invoked by WHO and the U.S. government; provides information about key U.S. government pandemic flu planning documents; and provides sources for additional information about the situation as it unfolds. This report will be continually updated to reflect unfolding events.

Brief Chronology (2009)²

April 21

- CDC reports that two children in California recently recovered from apparently unrelated infections with a unique strain of influenza A/H1N1 containing gene segments from swine flu viruses. The children had not had contact with pigs, raising concerns about possible human-to-human transmission, and putting health authorities on alert.

April 23

- CDC reports five more U.S. "swine flu" cases, three in California and two in Texas, bringing the total to seven and further increasing concerns about human-to-human transmission. Most cases experienced mild symptoms and all recovered. The agency determines that the novel flu strain is susceptible to the antivirals Tamiflu and Relenza.

April 24

- CDC reports one additional U.S. "swine flu" case in California, bringing the total to eight, and announces that samples from the deadly outbreak in Mexico match the novel A/H1N1 strain isolated from patients in the United States, who had milder illnesses.
- WHO announces that Mexican officials have reported three separate outbreaks of illness involving hundreds of individuals and including several dozen fatalities. WHO reports that the virus has primarily struck otherwise healthy young adults rather than the very young and old, who typically are affected by seasonal flu.

² Compiled from websites of the World Health Organization (WHO), <http://www.who.int/csr/disease/swineflu/en/index.html>; Centers for Disease Control and Prevention (CDC), <http://www.cdc.gov/swineflu/>; and Center for Infectious Disease Research and Policy (CIDRAP), <http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/index.html>.

April 26

- Federal officials declare a public health emergency in response to the outbreak, as CDC announces nine more cases, bringing the U.S. total to 20 cases in five states (California, Kansas, New York, Ohio, and Texas). The Secretary of Homeland Security, Janet Napolitano, announces the release of 25% of the 50 million treatment courses of Tamiflu and Relenza in the Strategic National Stockpile, along with personal protective equipment and other medical supplies. CDC also releases guidance on facemask and respirator use and recommendations for clinicians and public health officials managing flu outbreaks.

April 27

- CDC confirms 20 more "swine flu" cases, all connected to previous cases at a New York City high school, bringing the U.S. total to 40 cases. Federal officials recommend that people avoid non-essential travel to Mexico. FDA issues Emergency Use Authorizations permitting certain unapproved uses of Tamiflu and Relenza (such as in very young children), as well as the use of an unapproved molecular diagnostic test for the new flu strain.
- WHO raises its pandemic alert level from Phase 3 to Phase 4, having concluded that the novel flu strain is sufficiently transmissible from person to person to sustain community-level outbreaks. European Union officials warn against non-essential travel to areas where outbreaks have been detected.

April 28

- CDC reports a total of 64 confirmed U.S. cases of "swine flu" in five states (New York, California, Texas, Kansas, and Ohio), saying that it is becoming increasingly clear that the virus is spreading beyond people who recently traveled to Mexico where the outbreak appears to have originated.
- The Obama Administration asks Congress for a \$1.5 billion supplemental appropriation to combat the outbreak.
- In addition to the U.S. cases, WHO reports a total of 41 confirmed cases in the following six countries: Mexico (26, including seven deaths), Canada (6), New Zealand (3), United Kingdom (2), Israel (2), and Spain (2).

April 29

- CDC reports a total of 91 confirmed U.S. cases in 10 states (New York, Arizona, California, Indiana, Kansas, Massachusetts, Michigan, Nevada, Ohio, and Texas), including 51 cases in New York City, and confirms the first U.S. "swine flu" death, in a young child in Texas.
- WHO raises its pandemic alert level from Phase 4 to Phase 5 (evidence of sustained community-level outbreaks in multiple countries) and, in addition to the U.S. cases, reports a total of 57 confirmed cases in the following eight countries: Mexico (26, including seven deaths), Austria (1), Canada (13), Germany (3), Israel (2), New Zealand (3), Spain (4), and the United Kingdom (5).

Key Official Actions

International Actions

WHO: Determination of Influenza Pandemic Phase

The World Health Organization (WHO) is the coordinating authority for health within the United Nations system. It is responsible for providing leadership, guiding a research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries, and monitoring and assessing health trends. WHO, in consultation with member countries and appropriate experts, monitors the global movement of flu strains among humans, and determines the risk of a global pandemic according to phases, from 1 to 6. Phase 6 is a global pandemic, in which worldwide or nearly worldwide person-to-person transmission of a novel influenza virus strain is occurring. **Table 1** describes the phases of a flu pandemic, as defined by WHO.

The current pandemic alert level is Phase 5. It was recently raised from Phase 3 (where it had been for several years because of the threat of H5N1 avian flu) to Phase 4 on April 27, and then to Phase 5 on April 29, as the 2009 H1N1 "swine flu" was reported in countries on several continents.³ WHO pandemic phases are depicted in graphical form in **Figure 1**, which shows that WHO considers Phase 5 as a global call for full-strength pandemic response efforts, to continue throughout a declared Phase 6, were a pandemic to ensue.

Governments have been urged by WHO to develop pandemic influenza preparedness and response plans. Generally these plans are staged according to WHO pandemic phases. Similarly, corporations and other interests have also developed comprehensive plans that would unfold according to WHO phase determinations.

In announcing her decision to raise the level of influenza pandemic alert from Phase 4 to Phase 5 on April 29, WHO Director-General Dr. Margaret Chan said:

All countries should immediately activate their pandemic preparedness plans. Countries should remain on high alert for unusual outbreaks of influenza-like illness and severe pneumonia. At this stage, effective and essential measures include heightened surveillance, early detection and treatment of cases, and infection control in all health facilities. This change to a higher phase of alert is a signal to governments, to ministries of health and other ministries, to the pharmaceutical industry and the business community that certain actions should now be undertaken with increased urgency, and at an accelerated pace.⁴

³ WHO, "Current WHO Phase of Pandemic Alert," http://www.who.int/csr/disease/avian_influenza/phase/en/index.html.

⁴ WHO, statement by WHO Director-General Dr. Margaret Chan regarding swine influenza, April 29, 2009, http://www.who.int/mediacentre/news/statements/2009/h1n1_20090429/en/index.html.

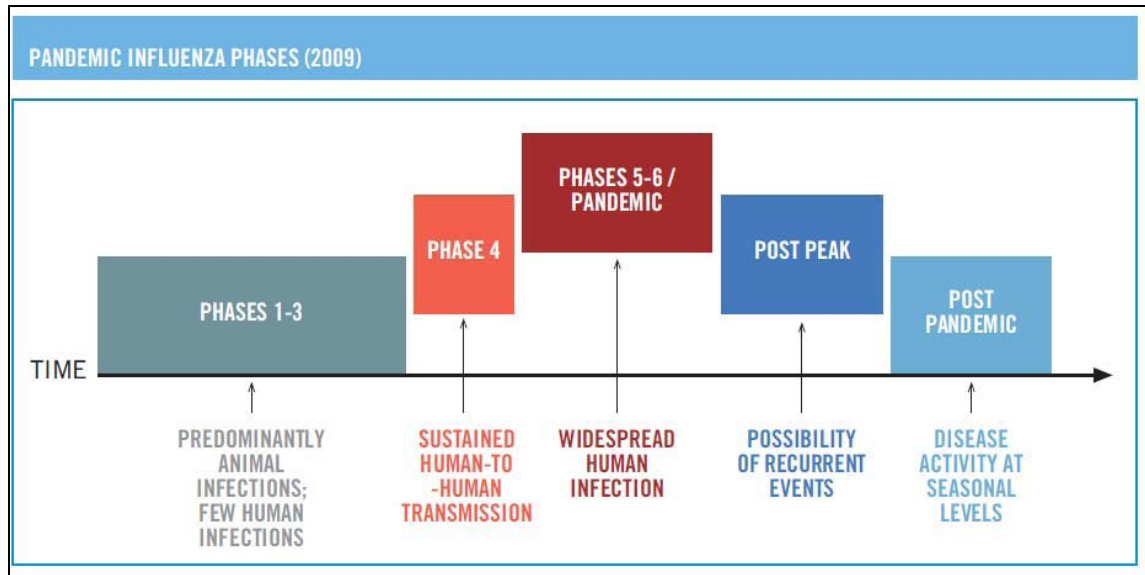
Table I. WHO Influenza Pandemic Phases
(Current alert level is highlighted)

Phase	Description
Phase 1	No animal influenza virus circulating among animals has been reported to cause infection in humans.
Phase 2	An animal influenza virus circulating in domesticated or wild animals is known to have caused infection in humans and is therefore considered a specific potential pandemic threat.
Phase 3	An animal or human-animal influenza reassortant ^a virus has caused sporadic cases of small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks.
Phase 4	Human-to-human transmission of an animal or human-animal influenza reassortant ^a virus able to sustain community-level outbreaks has been verified.
Phase 5	The same identified virus has caused sustained community-level outbreaks in two or more countries in one WHO region. ^b
Phase 6	In addition to the criteria defined in Phase 5, the same virus has caused sustained community-level outbreaks in at least one other country in another WHO region. ^b
Post-peak Period	Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.
Possible New Wave	Level of pandemic influenza activity in most countries with adequate surveillance rising again.
Post-pandemic Period	Levels of influenza activity have returned to the levels seen for seasonal influenza in most countries with adequate surveillance.

Source: Adapted from WHO, *Pandemic Influenza Preparedness and Response: A WHO Guidance Document*, April 2009, Table I, p. 13, <http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html>.

- a. A reassortant virus results from a genetic reassortment process in which genes from animal and human influenza viruses mix together to create a new strain.
- b. WHO governs through six regional offices that do not strictly correspond with the world's continents. The WHO regions are the African Region; the Region of the Americas; the South-East Asia Region; the European Region; the Eastern Mediterranean Region; and the Western Pacific Region. See "WHO—Its People and Offices," <http://www.who.int/about/structure/en/index.html>.

Figure 1. WHO Influenza Pandemic Phases



Source: WHO, *Pandemic Influenza Preparedness and Response: A WHO Guidance Document*, April 2009, Figure 3, p. 31, <http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html>.

WHO: International Health Regulations

In 2005, the World Health Assembly adopted a revision of the International Health Regulations (IHR), giving a new mandate to WHO and member states to increase their respective roles and responsibilities for the protection of international public health. The IHR(2005) require signatory nations (which include the United States) to notify WHO of all events that may constitute a “Public Health Emergency of International Concern,” and to provide information regarding such events. The IHR(2005) also include provisions regarding designated national points of contact, definitions of core public health capacities, disease control measures such as quarantine and border controls, and others. The IHR(2005) require WHO to recommend, and signatories to use, control measures that are no more restrictive than necessary to achieve the desired level of health protection.⁵

On April 25, 2009, upon the advice of the Emergency Committee called under the rules of the IHR(2005), the WHO Director-General declared the global threat of H1N1 “swine flu” a Public Health Emergency of International Concern. This designation calls upon signatories to provide timely and transparent notification of events to WHO, to collaborate with other countries in disease reporting and control, and to adopt effective risk communication strategies to reduce the potential for international disease spread and the likelihood of unilateral imposition of trade or travel restrictions by other countries.⁶

⁵ For more information, see CRS Report RL34144, *Extensively Drug-Resistant Tuberculosis (XDR-TB): Emerging Public Health Threats and Quarantine and Isolation*, by Kathleen S. Swendiman and Nancy Lee Jones.

⁶ WHO, *International Health Regulations*, <http://www.who.int/ihr/en/>.

WHO: Travel and Food Safety Guidance

A number of governments have instituted enhanced passenger screening practices at their borders, and policymakers have debated more extensive prohibitions against the entry of travelers from countries or areas affected by the outbreak. The WHO has consistently advised against compulsory movement restrictions as a means to control influenza, citing a lack of evidence of their effectiveness, coupled with their potentially harmful effects on public confidence and on trade. WHO has provided the following message in its daily situation updates since April 27:

WHO advises no restriction of regular travel or closure of borders. It is considered prudent for people who are ill to delay international travel and for people developing symptoms following international travel to seek medical attention, in line with guidance from national authorities.⁷

WHO has also commented on food safety concerns raised by the outbreak, saying:

There is also no risk of infection from this virus from consumption of well-cooked pork and pork products. Individuals are advised to wash hands thoroughly with soap and water on a regular basis and should seek medical attention if they develop any symptoms of influenza-like illness.⁸

U.S. Government Actions

Department of Homeland Security (DHS) Leadership Designation

On April 27, the Secretary of Homeland Security, Janet Napolitano, stated in a press briefing that she was serving as the coordinator of the federal response to the flu outbreak, having assumed the role of Principal Federal Official (PFO).⁹ According to the National Response Framework (NRF), which guides a coordinated federal response to disasters and emergencies in general, the Secretary of Homeland Security leads federal incident response.¹⁰

HHS Determination of a Public Health Emergency

On April 26, Charles E. Johnson, then the Acting HHS Secretary, who is responsible for coordinating the public health and medical response to the "swine flu" outbreak, declared a public health emergency pursuant to Section 319 of the Public Health Service Act.¹¹ Among other things, this authority enables FDA to implement an authority in the Federal Food, Drug, and

⁷ WHO, "Situation updates—Swine flu," <http://www.who.int/csr/disease/swineflu/updates/en/index.html>.

⁸ Ibid.

⁹ Department of Homeland Security, *Remarks by Secretary Napolitano at Media Briefing on H1N1 Flu Outbreak*, April 27, 2009, <http://www.dhs.gov/ynews/>.

¹⁰ CRS Report RL34758, *The National Response Framework: Overview and Possible Issues for Congress*, by Bruce R. Lindsay. The PFO position has been controversial, however, because it may conflict with the role of the Federal Coordinating Officer (FCO), a leadership position established in the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act).

¹¹ HHS, "HHS Declares Public Health Emergency for Swine Flu," press release, April 26, 2009, <http://www.hhs.gov/news>. More information about this authority is available in CRS Report RL33579, *The Public Health and Medical Response to Disasters: Federal Authority and Funding*, by Sarah A. Lister.

Cosmetic Act—the so-called Emergency Use Authorization (discussed below)—allowing for the use of unapproved medical treatments and tests, under specified conditions, if needed during an incident.

FDA Emergency Use Authorization

If an emerging public health threat is identified for which no licensed or approved product exists, the Federal Food, Drug and Cosmetic Act authorizes the FDA Commissioner to issue an Emergency Use Authorization (EUA) so that unapproved but potentially helpful countermeasures can be used to protect the public health.¹² On April 27, pursuant to authority provided by the prior public health emergency determination, FDA issued EUAs to allow emergency use of (1) oseltamivir (Tamiflu) and zanamivir (Relenza) for the treatment and prophylaxis of influenza; (2) disposable respirators for use by the general public; and (3) an unapproved diagnostic test for the new flu strain.¹³

CDC and State Department Travel Notices

On April 27, CDC issued a Travel Health Warning, its highest advisory level, recommending that U.S. travelers avoid all nonessential travel to Mexico.¹⁴ (The agency had issued a Travel Health Precaution, the next lower advisory level, on April 25.) On April 28, the Department of State issued a travel alert to U.S. citizens of the health risks of travel to Mexico due to the “swine flu” situation, noting the CDC’s Travel Health Warning of the previous day.¹⁵

The advisories above, regarding travelers leaving the United States, are voluntary. With respect to incoming travelers, Customs and Border Protection (CBP), in DHS, is monitoring them at ports of entry (typically a visual inspection or interview regarding possible symptoms), providing information about disease control measures, and referring symptomatic persons to a CDC quarantine station or a local public health official for evaluation. According to CBP, “at this time all U.S. ports of entry are open and operating as normal with officers using risk based border screening.”¹⁶ WHO and CDC officials have commented that scientific evidence does not support closure of a border to travelers as an effective means of controlling the spread of influenza.¹⁷

Emergency Supplemental Appropriations

On April 27, Representative Obey, the Chairman of the House Appropriations Committee, and Senator Harkin, the Chairman of the Senate Labor, Health and Human Services, Education, and

¹² Food and Drug Administration, *Guidance: Emergency Use Authorization of Medical Products*, July 2007, <http://www.fda.gov/oc/guidance/emergencyuse.html>.

¹³ Information is available at CDC, “Swine Flu: Emergency Use Authorization (EUA) of Medical Products and Devices,” <http://www.cdc.gov/swineflu/eua/>.

¹⁴ CDC, *Travel Health Warning: Travel Warning: Swine Influenza and Severe Cases of Respiratory Illness in Mexico—Avoid Nonessential Travel to Mexico*, April 27, 2009, <http://wwwn.cdc.gov/travel/contentSwineFluMexico.aspx>.

¹⁵ U.S. Department of State, Bureau of Consular Affairs, *Travel Alert: Mexico - 2009-H1N1 Influenza*, April 28, 2009, http://travel.state.gov/travel/cis_pa_tw/pa/pa_3028.html.

¹⁶ U.S. Customs and Border Protection, *CBP Monitors H1N1 Flu Outbreak; All Ports Operating Routinely*, April 30, 2009, <http://www.cbp.gov/xp/cgov/newsroom/alerts/flu/>.

¹⁷ Donald G. McNeil, “Containing Flu Is Not Feasible, Specialists Say,” *The New York Times*, April 29, 2009.

Related Agencies Appropriations Subcommittee, both suggested that Congress might add funds to the pending defense supplemental appropriations request to respond to the recent swine flu outbreak.¹⁸ On April 28, the White House sent a letter to congressional leaders requesting \$1.5 billion for swine flu preparedness measures, including supplementing stockpiles of antiviral medications; developing a vaccine; supporting monitoring, diagnostic, and public health response capabilities; and assisting international efforts to control the disease.¹⁹

Naming the Virus Strain

When news of the outbreak of a new flu strain emerged, WHO, CDC, and others referred to the virus as H1N1 "swine influenza" or "swine-origin influenza." This is based on the presumed evolutionary origin of the strain from strains that circulate in swine, since it contains genetic material typically found in North American and Eurasian swine flu strains. However, there has been no evidence to date that pigs are involved in the transmission of the virus involved in the current outbreak. The designation of the outbreak as "swine flu" has concerned the swine industry, who believe it has led to unwarranted economic and trade consequences for swine and pork products. Others have raised concerns that because of religious practices that call for the avoidance of swine and pork products by some persons of Jewish or Muslim faiths, disease control measures may be compromised in these groups if illness is perceived as a social stigma. On April 29, 2009, officials from HHS, DHS, and other federal agencies referred to the virus as "2009 H1N1."²⁰ On April 30, 2009, WHO began referring to the new strain as influenza A(H1N1).

U.S. Pandemic Influenza Planning Documents

Numerous federal and other planning documents that are specific for the response to a flu pandemic have been published. Selected documents are listed below. These plans are intended to address a pandemic caused by any applicable flu strain, but they were written when there was significant global concern about H5N1 avian flu. Unless otherwise noted, these plans can be found on a government-wide pandemic flu website managed by HHS.²¹

- The *National Strategy for Pandemic Influenza*, November 2005, published by the Homeland Security Council, outlines general responsibilities of individuals, industry, state and local governments, and the federal government in preparing for and responding to a pandemic.
- *National Strategy for Pandemic Influenza, Implementation Plan*, May 2006, published by the Homeland Security Council, assigns more than 300 preparedness and response tasks to departments and agencies across the federal

¹⁸ Rob Margetta, "Harkin, Obey Want Swine Flu Funds in Supplemental," *CQ Today*, April 27, 2009.

¹⁹ Drew Armstrong, "Obama Seeks \$1.5 Billion in Supplemental To Fight Flu Outbreak," *CQ Today*, April 28, 2009. For more information, see CRS Report R40531, *FY2009 Spring Supplemental Appropriations for Overseas Contingency Operations*, coordinated by Stephen Daggett and Susan B. Epstein.

²⁰ See, for example, HHS, "Secretary of Health and Human Services Kathleen Sebelius Holds News Conference on Swine Flu," transcript, comments of Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases, National Institutes of Health, April 29, 2009.

²¹ See <http://www.pandemicflu.gov/plan/federal/index.html>.

government; includes measures of progress and timelines for implementation; provides initial guidance for state, local, and tribal entities, businesses, schools and universities, communities, and non-governmental organizations on the development of institutional plans; provides initial preparedness guidance for individuals and families. One- and two-year implementation status reports have also been published.

- The *HHS Pandemic Influenza Plan*, November 2005, provides guidance to national, state and local policy makers and health departments, outlining key roles and responsibilities during a pandemic and specifying preparedness needs and opportunities. This plan emphasizes specific preparedness efforts in the public health and health care sectors.
- The *HHS Pandemic Influenza Implementation Plan, Part I*, November 2006, discusses department-wide activities: disease surveillance; public health interventions; medical response; vaccines, antiviral drugs, diagnostic tests, and personal protective equipment (PPE); communications; and state and local preparedness.
- *Department of Defense Implementation Plan for Pandemic Influenza*, August 2006, provides policy and guidance for the following priorities: (1) force health protection and readiness; (2) the continuity of essential functions and services; (3) Defense support to civil authorities (i.e., federal, state, and local governments); (4) effective communications; and (5) support to international partners.
- *VA Pandemic Influenza Plan*, March 2006, provides policy and instructions for Department of Veterans Affairs (VA) in protecting its staff and the veterans it serves, maintaining operations, cooperating with other organizations, and communicating with stakeholders.
- *Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources*, published by DHS, September 2006, provides business planners with guidance to assure continuity during a pandemic for facilities comprising critical infrastructure sectors (e.g., energy and telecommunications) and key resources (e.g., dams and nuclear power plants).
- *State pandemic plans*: All states were required to develop and submit specific plans for pandemic flu preparedness, as a requirement of grants provided by HHS.²²

²² For more information, see HHS, *Assessment of States' Operating Plans to Combat Pandemic Influenza: Report to Homeland Security Council*, January 2009, at <http://www.pandemicflu.gov/plan/states/index.html>, and CRS Report RL34190, *Pandemic Influenza: An Analysis of State Preparedness and Response Plans*, by Sarah A. Lister and Holly Stockdale.

Key Information Sources

CRS Reports on Public Health and Emergency Preparedness http://apps.crs.gov/cli/cli.aspx?PRDS_CLI_ITEM_ID=3276&from=3&fromId=13

World Health Organization

- Information about the current H1N1 swine flu situation: <http://www.who.int/csr/disease/swineflu/en/index.html>
- *Pandemic Influenza Preparedness and Response: A WHO Guidance Document*, (April 2009): <http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html>
- Current phase of flu pandemic alert: http://www.who.int/csr/disease/avian_influenza/phase/en/index.html
- International Health Regulations (2005): http://www.who.int/topics/international_health_regulations/en/

U.S. Government

- CDC 2009 H1N1 flu page: <http://www.cdc.gov/swineflu/investigation.htm>
- Pandemic flu planning information: <http://www.pandemicflu.gov/> (Note: much of this information is in the context of planning for the H5N1 avian flu threat.)
- Department of Health and Human Services Pandemic Planning Updates, addressing monitoring and surveillance, vaccines, antiviral medications, state and local preparedness, and communications, through January 2009: <http://www.pandemicflu.gov/plan/federal/index.html#hhs> (Note: much of this information is in the context of planning for the H5N1 avian flu threat.)

Author Contact Information

Sarah A. Lister
Specialist in Public Health and Epidemiology
slister@crs.loc.gov, 7-7320

C. Stephen Redhead
Specialist in Health Policy
credhead@crs.loc.gov, 7-2261