



South Carolina Prepares: Pandemic Influenza Preparedness Progress Report, 2008

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Introduction

This is the third annual Pandemic Influenza Preparedness report written for the South Carolina Legislature by the Office of Public Health Preparedness of the South Carolina Department of Health and Environment Control. The first report was written in November 2006 following the Legislature's proviso support in purchasing 325,000 treatment courses of antiviral medicines for influenza, at a total cost of \$6.6 million, of which \$5 million was purchased with state matching funds, to provide protection for our citizens.

This report outlines the current status of H5N1 Avian Influenza worldwide and briefly summarizes pandemic influenza preparedness activities in South Carolina over the past three years. The threat of a pandemic in our world has not decreased over this time, as explained in this report. In fact, the danger of a pandemic increases with the passing of each year. Historically, about three times a century, an outbreak of influenza occurs with a virus that is new to the human immune system, resulting in a pandemic: the rapid worldwide spread of the disease. In about one-third of these outbreaks, a virus emerges which is particularly virulent, contagious and lethal, such as the "Spanish Flu" of 1918 that killed approximately 550,000 Americans and 100 million people worldwide in less than eight months. The current H5N1 strain of avian influenza is particularly virulent to the humans who have contracted it and is greatly concerning to public health officials worldwide. The last pandemic was in 1968. Roughly, every 30 years, the world experiences another pandemic—we are overdue.

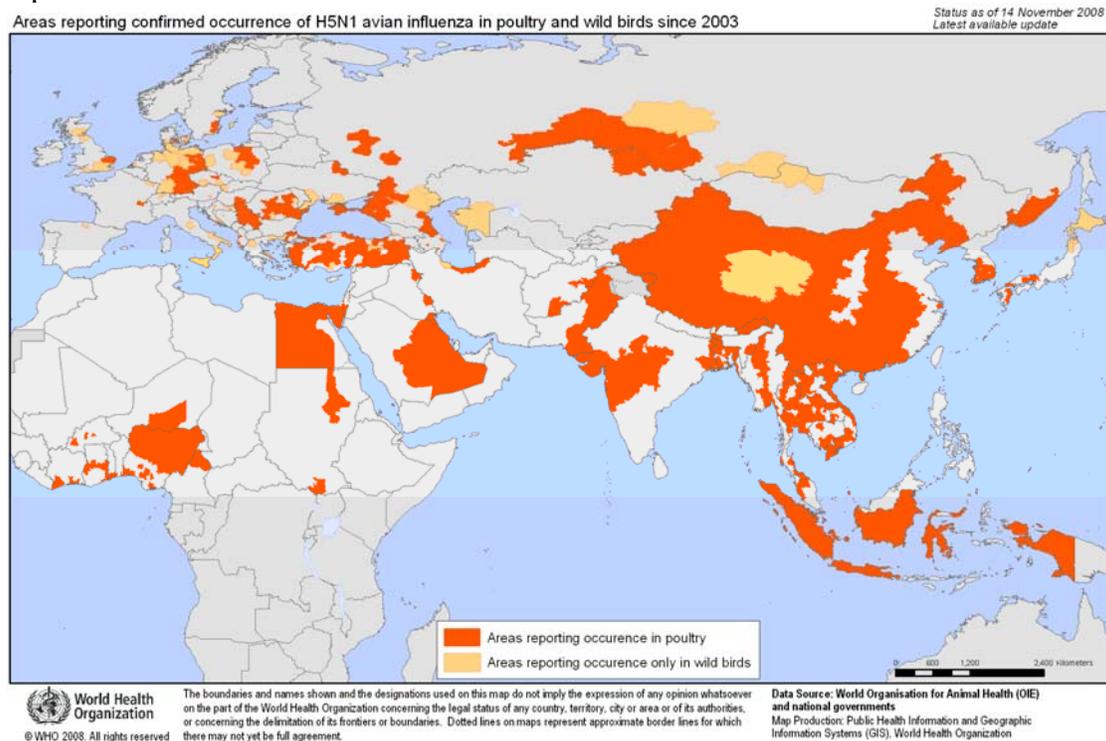
The pandemic preparedness efforts and achievements outlined in this report are also a reflection of the overall public health preparedness efforts undertaken by the Office of Public Health Preparedness. All planning and coordination efforts between SCDHEC state level planners, SCDHEC regional planners, and state and local public and private planning partners, improve the state's ability to respond quickly and effectively to any disaster, natural or manmade. Communication lines and understanding of response efforts are clarified. Tabletop exercises and planning meetings sharpen state level responses and provide opportunities to improve response. The majority of these planning activities are supported by federal funds which are shrinking. After August 2009, there will be no more federal funding to support pandemic planning. Other preparedness federal funds will require state matching dollars. Sustenance of state emergency preparedness, for pandemics and other disasters, is becoming a critical issue.

This report will provide a current snapshot of the level of public health preparedness for a pandemic.

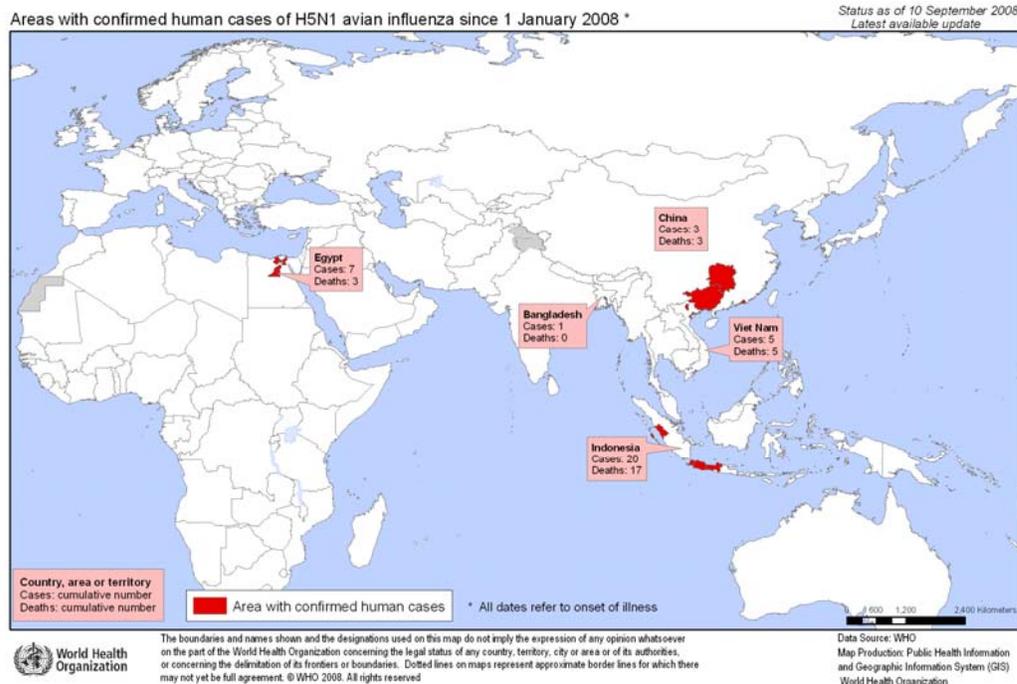
From Michael Leavitt, Secretary, United States Department of Health and Human Services, June 13, 2007: "Local preparedness must be the foundation of our national response. Communities that fail to prepare—expecting the federal government to come to the rescue---will be tragically mistaken."

International Developments in 2008

The threat of a global outbreak of a new and deadly strain of influenza is real. While media attention to the H5N1 strain of avian influenza is waning, the disease remains widespread among wild birds in Asia, Africa and Europe and sporadic outbreaks among poultry flocks continue. The human death toll from January 2008 through September 2008 stands at 28 deaths of 36 laboratory confirmed cases. Since 2003, there have been 387 confirmed human cases and 245 deaths, for a death rate of 63%. Public health officials remain concerned that the disease may mutate into a deadly virus that will spread rapidly from human to human and touch off a worldwide pandemic with unprecedented illness and loss of life.



This World Health Organization map from http://gamapserver.who.int/mapLibrary/Files/Maps/Global_SubNat_H5N1inAnimalConfirmedCUMULATIVE_20081114.png shows the countries affected by H5N1 avian influenza since the outbreak began in 2003. This strain of avian influenza has not yet appeared in North America.



In 2008, human cases occurred in Egypt, Bangladesh, China, Viet Nam and Indonesia. The World Health Organization uses a series of six phases of pandemic alert to inform the world of the seriousness of the threat and of the need for more intense preparedness activities. The world is presently in Phase 3: a new influenza virus subtype is causing disease in humans, but is not yet spreading efficiently and sustainably among humans.

In October 2008, the United Nations and the World Bank issued “Responses to Avian Influenza and State of Pandemic Readiness: Fourth Global Progress Report.” (Available on the internet at: <http://un-influenza.org/files/ProgressReport2008.pdf>) According to the report, there were “fewer outbreaks in domestic poultry, fewer newly infected countries, fewer human cases and fewer deaths” in 2008, compared with 2006 and 2007. The disease is firmly established among birds in a number of countries, however, and the threat of a global influenza pandemic remains unchanged. There has been no evidence of sustained human-to-human transmission of the disease. Though human cases from bird-to-human transmission are sporadic and infrequent, the high percentage of cases who die is a major concern.

Progress has been made in the response to avian influenza and in preparedness for a potential human pandemic. Among the accomplishments the report describes are:

- Effective surveillance, prompt detection and rapid responses to outbreaks in poultry have improved success of control measures. Improvements in disease surveillance of wildlife and domestic poultry have been made in many countries. Access to laboratory testing for animal samples has been improved. Compensation for poultry owners whose birds have been culled for disease control has promoted compliance, but only 68% of the countries studied had such programs in place.

- Threats to human health have been reduced through risk communication campaigns targeted to poultry owners and the general public.
- International health regulations came into effect as of June 2007 that provide a regulatory framework for improving disease surveillance and international reporting.
- Some 30 nations have pledged over \$2.7 billion for the control of avian influenza and pandemic preparedness measures in the affected countries. Of this, approximately \$1.5 billion has been expended so far for disease control measures, laboratory testing, protective equipment and emergency response. The United States has contributed \$628 million for international efforts in over 80 countries.
- Pandemic preparedness measures include planning: 97% of the 145 countries reporting had pandemic preparedness plans. The major focus of most plans has been on the health sector. Other measures include planning for the distribution of antiviral medicines and vaccines, stockpiling antivirals, developing H5N1 vaccines, and planning for public health measures like social distancing and risk communication.

The report states that many countries face significant economic, technical and human resource constraints that limit their capabilities to respond to avian influenza or prepare for a human pandemic. Significant efforts are needed to improve biosecurity protection for poultry flocks. Pandemic preparations need to be made by all stakeholders, including both the public and private sectors, especially for maintaining the continuity of essential services.

Pandemic Preparedness in the United States

At the national level, pandemic preparedness efforts focused on stockpiling pre-pandemic vaccine and antiviral drugs, increasing seasonal vaccine production capacity, sponsoring research on vaccines and medicines and federal planning efforts. In March 2008, additional federal planning guidance was released to the states. Thirteen departments of the federal government identified over 400 specific activities that were to be included in the states' pandemic influenza plans. States were given four months in which to update and resubmit their pandemic influenza plans to incorporate the activities. State plans were reviewed by federal agencies and comments sent in November 2008. It is anticipated that a federal assessment report will be sent to the states in December 2008.

In July 2008, the U. S. Department of Health and Human Services released new guidance on vaccine allocation during a pandemic. According to the federal guidance, four broad target groups were defined as priority groups to receive vaccination:

“people who 1) maintain homeland and national security, 2) provide health care and community support services, 3) maintain critical infrastructure and 4) are in the general population. Everyone in the United States is included in at least one vaccination target group. People who are not included in any occupational group would be vaccinated as part of the general population based on their age and health status.”

(News Release, July 23, 2008: “HHS and DHS Announce Guidance on Pandemic Vaccination Allocation”

<http://www.hhs.gov/news/press/2008pres/07/20080723a.html>

The federal guidance document on prioritization of pandemic vaccine allocation may be found at <http://www.pandemicflu.gov/vaccine/allocationguidance.pdf>)

Pandemic Preparedness in South Carolina

The threat of an influenza pandemic is real. There is great uncertainty about when the next pandemic will occur, how serious the disease will be, and how effective the measures to contain the disease will be. Our challenge is to prepare for the worst case and take prudent measures now to protect the health of South Carolinians. Under the state’s Emergency Operations Plan, the Department of Health and Environmental Control (SCDHEC) has major responsibilities for protecting health, coordinating medical care and responding to disasters. The Department has worked closely with representatives of hospitals, emergency medical services, health care provider organizations, law enforcement, emergency management, education and many others to update the state’s Pandemic Influenza response plan.

Planning for a pandemic requires that South Carolina’s communities prepare to be self-sufficient, to identify and use local resources to last throughout many weeks of the spread of the disease. In a pandemic, all areas of the state may be affected at the same time. There may be few federal resources on which to count and it is estimated that 25% of the population, or over 1,000,000 of South Carolina’s citizens, would be stricken in the first pandemic wave.

Non-recurring federal funding has been used to support state preparedness efforts. Last year, FY 2007-08, was the final year of federal grant funding for pandemic influenza activities. The federal funding supported surveillance, stockpiling, planning, exercising and education efforts. An additional one-time grant of \$1,098,346 supported hospital stockpiles of ventilators, medical supplies and medical surge exercises. During FY 2007-08, SCDHEC pandemic preparedness efforts focused on planning, providing information to the public and organizations, preparing to implement medical and social measures to minimize the effects of a pandemic, and stockpiling antiviral medications and medical equipment.

Emphasis in the final year of the grant was on updating pandemic preparedness plans of all state agencies in accordance with the new federal guidance released in March 2008, with submission of the state plans due in July 2008. This included completing plans for continuity of operations, community containment, medical surge, and mass fatality management. A wide range of new planning topics were added to the federal guidance to address issues for state government agencies, emergency medical services, 911 call centers, and private industry sectors.

From the beginning of the pandemic influenza supplemental grant funding in 2006 through the current 2008-09 funding cycles, pandemic preparedness efforts focused on planning and public awareness activities. Regional SCDHEC staff, in concert with local emergency management agencies, hosted pandemic summits, planning meetings and tabletop exercises to test county plans. Mass Casualty planning groups focused on improving medical surge capabilities. Community outreach activities attempt to involve every sector in the planning process and preparedness efforts. In addition, SCDHEC expanded seasonal influenza surveillance to year-round reporting. State laboratory testing capabilities to identify new influenza viral strains were increased. A state stockpile of antiviral medicine was established. Mass vaccination clinics for seasonal flu were held to test emergency plans with real life experiences. State and local planning efforts also addressed mass fatality management during a pandemic. State planning efforts focused on the further development of state level plans and efforts to protect the public through community mitigation efforts, such as isolation and quarantine and school closings. Continuity of operations planning at SCDHEC and other state agencies was refined.

South Carolina will complete the final year of the federally sponsored pandemic influenza preparedness program in August 2009 with the remaining federal funds. Major pandemic preparedness activities underway since November 2007 include:

- The State Pandemic Influenza plan was updated for the 2009 State Emergency Operations Plan. In accordance with the revised federal guidance, a cross-walk of state agency emergency plans and federal requirements was completed. Major sections of the State Pandemic Influenza Plan were revised or updated. A Mass Fatality Plan was developed in cooperation with the Coroner's Association and other partners, for addition to the Mass Casualty Annex of the State Emergency Operations Plan. The state's pandemic influenza plan was submitted for review in July 2008.
- A State Pandemic Influenza Ethics Task Force was convened in November 2008 to provide a forum for discussion of ethical issues in pandemic influenza planning and preparedness. The Task Force will meet through August 2009 to review state pandemic influenza plans and prepare guidance on public health and medical care ethical issues.
- State and regional exercises were held throughout the year to test Pandemic Influenza response plans. Isolation and quarantine workshops and exercises were held in each of the eight DHEC regions and engaged many community planning partners. Several regions conducted mass seasonal influenza vaccination clinics. In addition, exercises of the Strategic National Stockpile program were done at the state and regional level. A state-level and a regional-level exercise to test the procedures to close schools and daycares during a severe pandemic were first held in 2007. State Department of Education and SCDHEC planners have continued to establish and refine a protocol for closing the schools during a pandemic and will re-test this protocol in a follow-up state and regional exercise in 2009.

- A State Public Health Emergency Pharmaceutical Stockpile was established in FY 2006-07. Under a federal match program, South Carolina ordered 435,000 treatment courses of antiviral medicines for influenza, at a total cost of \$8.9 million (of which \$6.7 million were non-recurring funds from the state for match.) The pharmaceutical stockpile facility was completed in April 2008 and is fully operational. In addition to the state stockpile, the federal Strategic National Stockpile has allocated 618,000 treatment courses for South Carolina. When the federal allocation and the state stockpile are combined, there is a sufficient supply to treat up to 25% of the state's population for pandemic influenza.
- A Speaker's Bureau was established to promote widespread public awareness of the possibility of pandemic influenza among community and business leaders. In 2006, six "train the trainer" sessions were held at the state level to prepare approximately 300 speakers for pandemic influenza presentations. Since then, there have been 963 training events, with over 38,000 participants. Educational programs were presented across the state: in FY 2007-08, there were 210 presentations with approximately 10,323 participants in attendance. Presentations addressed a range of pandemic influenza issues from general education and awareness to specific guidance on continuity of operations planning and the use of personal protective equipment (PPE). Public awareness activities are being curtailed as funding for pandemic preparedness ended.
- The public information campaign, "What Do You Do to Prevent the Flu?" began airing on television and radio in October 2007 for the second year. The purpose is to increase public awareness and knowledge of ways they can prevent the spread of seasonal influenza. The messages promote vaccination, hand washing, cough etiquette, and staying home when sick. These are key messages for seasonal influenza, but are also important messages for a pandemic influenza. <http://www.scdhec.net/flu/>. The campaign received national recognition with an award from the National Public Health Information Coalition.
- The Department re-published the "Pocket Guide to Public Health and Pandemic Flu" to inform the public about preparedness for a pandemic. The guide was published in English and Spanish and is available on the Department's website at http://www.scdhec.net/administration/ophp/pandemic_resources.htm. Over 75,000 copies of the pocket guides have been distributed to date.
- Under contract to SCDHEC, South Carolina Educational Television produced a home care video for caregivers, a hand-washing video for school children, and public service announcements on pandemic influenza. In November 2008, "The Wash Hands Song" won the 2008 Freddie Award in the Children's Health category, an international health and medical media award. (<http://www.thefreddies.com/Awards/Results.aspx?CategoryId=9&Year=2008>) These important educational and public awareness materials are for use now, and in the event of a pandemic.

- Clemson University Livestock Poultry Health and DHEC conducted a successful full-scale exercise on deployment of the National Veterinary Stockpile in September 2008. This exercise tested the same logistical system that will be used for the deployment of Strategic National Stockpile medicines and vaccines in the event of pandemic influenza.
- Each year, SCDHEC conducts disease surveillance for influenza and influenza-like illnesses. <http://www.scdhec.gov/health/disease/acute/flu.htm> Disease surveillance activities for influenza-like illness have been stepped up by recruiting additional providers to report. Part of this effort includes the hiring of part-time public health clinical liaisons in each SCDHEC region. These liaisons recruit physician's office to the surveillance network by visiting local physician offices and providing education and technical assistance with continuity of operations planning, and pandemic awareness training for the physicians' staff.
- Laboratory testing capabilities and capacity have been increased. Laboratory testing is used to confirm the types of influenza circulating and to look for the emergence of novel viruses.
- DHEC maintains a Health Alert Network to quickly provide alerts and detailed information to health care providers about disease outbreaks or important health problems, including influenza. <http://www.scdhec.gov/health/disease/acute/flualert.htm>
- The South Carolina seasonal influenza plan is available at: <http://www.scdhec.gov/health/disease/immunization/docs/fluplan.pdf> This plan describes public health activities to prevent and monitor influenza.
- Each year, SCDHEC has a seasonal influenza vaccination campaign to encourage people in high risk groups to get flu shots. The risk for complications, hospitalizations, and deaths from influenza are greater among persons 65 and older, young children, and people with certain chronic diseases including diabetes, asthma and heart disease. In July 2008, DHEC was awarded a CDC Immunization grant to promote seasonal influenza vaccination for this year's flu season.
- In July 2008, South Carolina hosted a meeting of eight southeastern states to address interstate issues related to pandemic influenza. This meeting was the second for pandemic planning in our region and afforded the southeastern state health departments and related agencies a chance to review planning activities and address common concerns. South Carolina led the planning for a proposal to obtain a CDC grant for the Region IV states to improve interstate disease surveillance. The two-year grant was awarded to the region and will support closer cooperation and data sharing for improved influenza surveillance.

What More Should Be Done?

Federal funding for the pandemic influenza preparedness program has ended, and no state funds have been appropriated to continue public health preparedness efforts for pandemic influenza. This means that any future pandemic preparedness activities must be funded by the state or by redirecting federal funds for public health preparedness. Federal programs for public health preparedness and hospital preparedness have new requirements for state matching funds. Federal authorizing legislation passed in December 2006 requires a 5% match in 2009, increasing to 10% in 2010. The state will be required to provide \$1 in match to receive \$10 in federal funds. The imposition of new match requirements mean that state funding for public health preparedness is essential. Federal match requirements begin in FY 2009-10, and are projected to be \$785,282 (5% of federal funds) for FY 2009-10 and \$1,570,564 (10% of federal funds) for future years. In addition, federal funding for preparedness has been significantly reduced. The federal CDC Public Health Emergency Preparedness grant that has supported emergency preparedness capacity throughout DHEC has been severely reduced, from \$14,497,322 in FY 2002-03, to \$9,455,476 in FY 2007-08, a reduction of \$5,041,846 or 35% in the base annual funding over the six years of the program. This reduction in funding has caused cut-backs in program personnel and jeopardized preparedness efforts.

- **State funding is needed to support the Public Health Emergency Pharmaceutical Stockpile.** Secure receipt, storage and shipping facilities must be built, with the capacity to serve as a receiving and distribution site for the federal Strategic National Stockpile. The first phase of construction, the State Public Health Emergency Pharmacy stockpile facility was completed in April 2008. Funding is needed for the second phase of construction: the 15,320 square foot Strategic National Stockpile Receipt, Storage and Staging Site. This facility is designed to provide a secure site for the storage of emergency equipment and supplies, and emergency trailers and response vehicles currently stored in an open air site at State Park with limited security. In the event of a major disaster, the building will serve as the Receipt, Storage and Staging (RSS) Site and distribution center for supplies and equipment sent by the Strategic National Stockpile. The entire building must meet federal specifications in order to qualify as a Strategic National Stockpile Receipt, Storage and Staging Site. During emergency operations, this site will be a distribution center for large quantities of emergency medical supplies and medicines and will function as an extension of the Public Health Emergency Pharmacy. Recurring funding is needed to purchase medicines, vaccines and infection control supplies, to rotate stock when medicines and vaccines expire, and to operate the stockpile facility. The stockpile represents an ongoing program to assure that South Carolina has resources on hand to treat its citizens in the event of a pandemic influenza or other major disease outbreak and to support medical surge and emergency response.
- **The state must be prepared to purchase large quantities of influenza vaccine and to quickly vaccinate large numbers of people.** Human vaccines have been developed for protection against the pre-pandemic H5N1 avian influenza virus. At

this time, one vaccine has been licensed by the Food and Drug Administration for the pre-pandemic H5N1 influenza virus. Several manufacturers have H5N1 vaccine in production, and the US Strategic National Stockpile has purchased or placed orders for approximately 12 million doses. Unfortunately, a specific vaccine for a pandemic influenza strain cannot be developed until after the pandemic strain emerges: it might be a different type of influenza than H5N1. In any case, when there is a pandemic, South Carolina must be ready to buy vaccine and use it.

- **Beginning in FY 2009-10, federal funding for public health preparedness will be sustained only with additional matching state funds and maintenance of state effort.** SCDHEC is designated as the primary agency for Emergency Support Functions 8 - Health and Medical Services and 10 - Hazardous Materials in the state Emergency Operations Plan. The agency is responsible for planning and response to all state emergencies. This includes providing response in the state emergency operations center, coordinating the provision of medical care, public health and sanitation, behavioral health, deceased identification and mortuary services in its role as lead agency for ESF-8. Additionally, SCDHEC is the lead agency in the ESF 10 response to the release of hazardous materials into the environment, including response to disasters involving nuclear facilities, laboratories, hazardous waste sites, and spills in railway, air or roadway mishaps. State funding to provide the staff to plan and coordinate SCDHEC's response is currently limited to one employee and half-time funding for another. Federal funding has supported additional personnel at both the state and regional level to coordinate emergency response and planning functions for health and environmental protection of South Carolinians. In FY 2009-10, federal programs will require a 5% state match, and this will increase to 10% in subsequent years.

Online Resources

South Carolina Department of Health and Environmental Control Pandemic Influenza Website:

http://www.scdhec.net/administration/ophp/pandemic_preparedness.htm

South Carolina Legislature Online Reports:

South Carolina Prepares: Pandemic Influenza Progress Report, 2007

http://www.scstatehouse.gov/reports/dhec/pandemicinfluenzaprogressreport2007_1.pdf

South Carolina Prepares: Pandemic Influenza Report, 2006

<http://www.scstatehouse.gov/reports/dhec/pandemicinfluenza.pdf>

U.S. Department of Health and Human Services Pandemic Influenza website:

<http://www.pandemicflu.gov/>

Chronology of Key Events in the H5N1 Avian Influenza Outbreak (from World Health Organization), National Pandemic Influenza Preparedness, and South Carolina's Pandemic Influenza Preparedness	
1997	Outbreaks of highly pathogenic H5N1 avian influenza are reported in poultry at farms and live markets in Hong Kong. Human infections with H5N1 influenza are reported in Hong Kong. Altogether, 18 cases, 6 of them fatal, are reported in this first known instance of human infection with this virus.
April 2000	SC DHEC prepares a draft response plan for pandemic influenza.
May 2002	South Carolina begins major expansion of public health preparedness activities under Centers for Disease Control "Public Health Preparedness and Response for Bioterrorism Program" and Health Resources and Services Administration "Bioterrorism Hospital Preparedness Program."
February 2003	Two cases of H5N1 in a Hong Kong family, one fatal. A third family member died of respiratory illness, but no samples were taken.
Mid 2003	Animal outbreaks of H5N1 occur in Asia, but go unreported.
July 2003	DHEC hires an epidemiologist to oversee increased disease surveillance for influenza and respiratory illnesses.
December 2003	Outbreak in poultry is reported in South Korea.
January 2004	Viet Nam reports H5N1 in poultry. Sporadic human cases of H5N1 are reported, with severe respiratory disease and high fatality rates. Outbreaks in poultry are reported by Japan, Thailand, Cambodia and Laos.
February 2004	Outbreaks in poultry are reported by Indonesia and China.
March 2004	Reports of human cases continue. Confirmed cases include 12 in Thailand, with 8 fatal; and 23 in Viet Nam, 16 fatal.
Fall 2004	Human cases are reported from Viet Nam, Thailand
November 2004	Pandemic Influenza Plan is officially included in South Carolina State Emergency Operations Plan
January 2005	Human cases in Viet Nam, Thailand.
February 2005	First human case in Cambodia.
April 2005	Die-off of wild birds at Qinghai Lake in central China.
July 2005	First human case reported in Indonesia. Avian outbreaks in Russia
August 2005	Avian outbreaks in Kazakhstan, Tibet, Mongolia.
October 2005	Avian outbreaks in Turkey, Romania, Croatia, China. More human cases confirmed in Indonesia and Thailand.
October 2005	CDC announces successful research to reconstruct the 1918 pandemic influenza virus, concludes that the virus was avian in origin and has some similarities to the H5N1 strain.
November 2005	US Department of Health and Human Services releases National Pandemic Influenza Plan. President Bush announces National Strategy for Pandemic Influenza. China reports first two human cases of H5N1. South Carolina expands the State Bioterrorism Advisory Committee to serve as the state's Pandemic Influenza Coordinating Council.

December 2005	National summit meeting of state health officers was held to announce national campaign to prepare for pandemic influenza. US Department of Health and Human Services Secretary announces a fifty-state tour of pandemic influenza summit meetings to increase state preparedness efforts.
January 2006	Turkey and Iraq report first human cases. Poultry outbreaks occur in Turkey.
February 2006	Indonesia continues to report human cases: 25 cases and 18 fatalities. China reports 12 human cases and 8 th fatality. H5N1 is confirmed in wild birds in Azerbaijan, Bulgaria, Greece, Italy, Iran, Austria, Germany, France, Hungary, Slovakia, Bosnia-Herzegovina and Georgia and in poultry in Iraq, Nigeria, Russia, Egypt, India, Malaysia, France and Niger.
March 2006	First human cases are reported in Azerbaijan and Egypt. H5N1 is confirmed in wild birds in Switzerland, Montenegro, Poland, Denmark, Sweden and the Czech Republic and in poultry in Albania, Cameroon, Myanmar, Afghanistan, Israel, Pakistan, and Jordan.
March 2006	South Carolina holds “South Carolina Prepares: Pandemic Influenza State Summit” meeting. Governor Sanford signs proclamation to work with DHHS to prepare for pandemic influenza in South Carolina.
May 2006	South Carolina receives Phase I Pandemic Influenza supplemental funds of \$1.5 million for planning, exercises and preparedness initiatives.
May 2006	US Department of Homeland Security releases National Strategy for Pandemic Influenza: Implementation Plan that describes the roles of federal agencies in response to pandemic influenza.
May-October 2006	Human cases of H5N1 influenza continue to occur on a sporadic basis in Indonesia, Egypt, China, Thailand. As of October 16, 2006, World Health Organization reported 256 cases and 151 deaths from 2003 to date. The disease is not yet easily transmitted from person to person. Avian disease continues to be widespread in Asia, Europe and Africa in wild birds, with sporadic outbreaks in domestic poultry. It has not yet reached North America or South America. Extensive monitoring of wildlife and commercial poultry is conducted in the US and Canada to detect H5N1.
June – October 2006	South Carolina holds regional and county summits to develop county and city pandemic influenza plans and hold exercises. Numerous presentations are made at meetings and conferences to promote planning and preparedness by government agencies, business, schools and faith communities.
July 2006	South Carolina sends a letter of intent to participate in the federal match program for purchase of antiviral medicines for a state stockpile.
August 2006	Phase II Pandemic Influenza grant proposal submitted to Centers for Disease Control. South Carolina received \$3,282,750 for planning, exercises and other pandemic influenza preparedness activities.

September 2006	<p>Initial orders are placed for antiviral medicines for South Carolina state stockpile. 325,000 treatment courses were ordered, with anticipated delivery by March 2007.</p> <p>Multiple state and federal agencies in South Carolina-Clemson University, Department of Natural Resources, South Carolina Department of Agriculture, US Department of Agriculture Wildlife Services and Veterinary Services and SCDHEC announce increased surveillance for avian influenza in wild birds and domestic flocks.</p>
October 2006	The “What Do You Do To Prevent the Flu?” public information campaign was launched at the South Carolina State Fair. Brochures and public service announcements on television and radio promote vaccination, hand washing, cough etiquette and staying home when sick as ways to prevent the spread of seasonal flu. These and additional materials will be used for public information in a pandemic situation.
October 2006	US Department of Health and Human Services releases “Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings during an Influenza Pandemic.”
November 2006	Regional mass vaccination clinics are held to exercise emergency plans.
November 2006	Avian influenza reported in Korea (first since September 2004)
November 2006 - December 2006	Sporadic human cases confirmed in Indonesia, China and Egypt.
December 2006	Widespread avian influenza outbreaks in Vietnam
January 2007 – October 2007	Avian influenza in wild birds or poultry reported in Japan, Hong Kong, Thailand, Viet Nam, Hungary, Russia, United Kingdom, Indonesia, Pakistan, Turkey, Laos, Afghanistan, Kuwait, Myanmar, China, Bangladesh, Saudi Arabia, Cambodia, Ghana, Malaysia, Czech Republic, Togo, Germany, France, and India.
January 2007 – October 2007	Human cases confirmed in Indonesia, Egypt, Nigeria, Laos, China, Cambodia, and Vietnam. Through October 8, 2007, 67 cases and 44 deaths were reported in 2007. There were 330 total cases since 2003, and 202 deaths: a case fatality ratio of 61.2 deaths per 100 cases.
February 2007	SC ETV produces and broadcasts a pandemic influenza documentary.
February 2007	Centers for Disease Control releases “Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States.” Occupational Health and Safety Administration releases “Guidance on Preparing Workplaces for Pandemic Influenza.”
February 2007	South Carolina holds a state level tabletop exercise on school closure to discuss the implications for education and the community and identify planning issues.
March 2007	South Carolina hosted a meeting of eight Southeastern States to discuss key interstate issues in pandemic preparedness, including legal issues, public information, and disease control measures.
April 2007	Food and Drug Administration approves a human H5N1 vaccine. 12 million doses to be stockpiled by US Government.

April 2007	SCDHEC submits required pandemic influenza plans for review by the Centers for Disease Control and other federal agencies.
May 2007	South Carolina receives initial shipment of 325,000 treatment courses of antiviral medicines for the state stockpile.
May 2007	US Department of Health and Human Services releases "Interim Guidance for the Use of Facemasks and Respirators in Public Settings During an Influenza Pandemic."
July 2007	South Carolina holds a state level tabletop exercise to test receipt and distribution of Strategic National Stockpile antiviral medicines.
August 2007	US Department of State releases "North American Plan for Avian and Pandemic Influenza."
September-October 2007	DHEC, Clemson University Livestock Poultry Health and the University of South Carolina Center for Public Health Preparedness conducted state and regional programs on "Avian Influenza Rapid Response Training: The Role of Public Health in a Multi-Agency Response to Avian Influenza in the United States."
November 2007	From November through January 2008, a series of isolation and quarantine workshops and tabletop exercises were held in each of the eight DHEC regions to familiarize agency staff and partners with the laws and procedures for implementing quarantine.
March 2008	New federal pandemic influenza planning requirements were released, including guidance from 13 federal departments. The new guidance required significant additional planning by many agencies of state government and the private sector, and mandated changes or additions to many public health pandemic plan components.
April 2008	Stockpile facility was completed. Antiviral medicines (435,000 treatment courses) and infection control supplies for public health workers are stored in the facility.
July 2008	Updated state plan was submitted to the US Department of Health and Human Services for review by federal agencies. South Carolina was awarded a grant to improve seasonal influenza vaccination rates during the 2008-09 flu season.
August 2008	Federal funding for Pandemic Influenza Preparedness ends. South Carolina continues limited pandemic preparedness activities and planning with the remaining federal funds from FY 2007-08. Pandemic program activities will end in August 2009.
September 2008	South Carolina and seven southeastern states in Region IV were awarded a grant to improve interstate disease surveillance.
November 2008	South Carolina Pandemic Influenza Ethics Task Force was initiated to provide a forum for discussion of ethical issues in pandemic influenza planning and preparedness. Comments were received from federal reviewers on portions of the revised pandemic influenza emergency operations plan. South Carolina will update and resubmit the plan in accordance with federal guidance, as resources permit.

