



South Carolina Pandemic Influenza Preparedness Report November 1, 2019

This report is submitted by the Department of Health and Environmental Control in compliance with General Appropriations Act of 2019-2020, Part 1B, Section 34.31.

Seasonal Influenza

Influenza is a contagious respiratory illness caused by influenza viruses. The United States experiences increased levels of influenza illness during the fall and winter, which is referred to as seasonal influenza. Seasonal influenza causes hospitalizations and deaths each year in South Carolina, with numbers depending on the severity of the season.

During the 2018-19 influenza season, 4,663 laboratory-confirmed influenza cases, 2,685 influenza-associated hospitalizations, and 103 influenza-associated deaths were reported. Influenza activity was considered to be widespread for 15 consecutive weeks, with the highest period of influenza activity occurring between the weeks ending February 2, 2019, to March 16, 2019. Individuals 65 years of age and older accounted for the highest proportion of influenza-associated hospitalizations and influenza-associated deaths, at 51% and 65% respectively. Of the reported 103 influenza-associated deaths, three (3) occurred in individuals less than 18 years of age. The number of influenza-associated hospitalizations and deaths reported during the 2018-19 influenza seasons were less than those reported for the 2017-18 influenza season.

The best way to prevent seasonal influenza is with annual vaccination. Each year, the seasonal influenza vaccine is updated to match the viruses that are expected to circulate.

Pandemic Influenza

Pandemic influenza occurs when a new influenza A virus emerges that is substantially different from the seasonal flu viruses that have been circulating. People do not have immunity against the new virus and the seasonal influenza vaccine does not protect against it. A pandemic, or global outbreak, occurs when the virus can spread easily from person to person. There is no way to predict when this will occur, thus maintaining influenza surveillance and preparedness is key to responsiveness.

Pandemic influenza is a recurring threat. Four (4) influenza pandemics occurred over the past 100 years, in 1918, 1957, 1968, and 2009. The most recent pandemic (2009) was caused by the H1N1pdm09 influenza virus and primarily affected children and young to middle-aged adults. It led to the death of 0.001—0.007% of the world's population during the first 12 months the virus circulated. The impact was less severe than previous pandemics in which mortality ranged from

[S.C. Department of Health and Environmental Control](http://www.scdhec.gov)

2600 Bull Street, Columbia, SC 29201

(803) 898-3432

www.scdhec.gov

0.03% of the world's population during the 1968 H3N2 pandemic to 1—3% percent of the world's population during the 1918 H1N1 pandemic.

The U.S. Department of Health and Human Services (HHS) publishes guidance for the nation's pandemic influenza preparedness. It released the Pandemic Influenza Plan 2017 — Update IV in December 2017. It outlined significant advancements in the nation's preparedness efforts and identified goals, objectives, and key actions for the next decade to continue to maintain and advance preparedness efforts.

Some of the advancements in national preparedness include:

- Advances in the ability to detect and track influenza viruses.
- New diagnostic test that can identify an influenza subtype in 20 minutes.
- Expanded partnerships among HHS, U.S. Customs and Border Protection, and the Coast Guard at more than 300 United States ports of entry to better conduct disease investigations among passengers and crews of aircraft and cruise ships.
- New types of vaccines that can be produced more quickly.
- Expanded number of manufacturers that can supply vaccine to the United States.
- More robust access to vaccination — additional types of health professionals now permitted to vaccinate, and vaccinations now offered in pharmacy settings.
- National stockpile of antiviral drugs, including pediatric formulations.
- Improved understanding of the use of respirators and other personal protective equipment.
- Increased knowledge and research on the feasibility, public acceptability, and effects of non-pharmaceutical interventions, including school and child care closures.
- Flu on Call™, a new national network of telephone triage lines staffed by information specialists and medical professionals. Flu on Call™ reduces both the need for face-to-face provider encounters and surge on medical facilities during a severe pandemic event.

South Carolina's Pandemic Influenza Preparedness

Planning: DHEC maintains the Pandemic Influenza Plan and the Medical Countermeasures Plan to guide South Carolina's response to a pandemic influenza event, which include:

- Providing current public health information regarding the pandemic.
- Encouraging and assisting providers to participate with influenza surveillance.
- Confirmatory testing of laboratory specimens for public health surveillance purposes.
- Convening stakeholders to facilitate a coordinated response to issues that arise related to health care surge needs.
- Receiving, staging, storing, allocating, and distributing federal public health resources.
- Identifying, planning, and managing public Point of Dispensing (and supporting Closed Point of Dispensing) vaccine and/or antiviral sites.
- Assisting in distribution of pandemic influenza vaccine to at-risk populations and priority groups.
- Facilitating communication with response partners.

Medical Countermeasures Operational Readiness Review: Every two (2) years, DHEC in coordination with the CDC conducts an Operational Readiness Review (ORR) to demonstrate its capability to receive, stage, store, distribute, and dispense (or administer) material during a public health emergency. During the ORR process, CDC reviews documents to determine the state’s current implementation level in three (3) areas: Descriptive, Planning, and Operations. Implementation levels are “Early,” “Intermediate,” and “Established.” The goal for South Carolina is to be “Established” in all three (3) areas on or before June 30, 2022. The following chart outlines the current implementation levels for each area since the ORR was established in 2018:

	2018	2020
Descriptive Area	Intermediate	To be scheduled.
Planning Area	Intermediate	
Operations Area	In-Progress ¹	

At the completion of these reviews, action plans are developed focusing on activities designed to address prioritized medical countermeasures planning and operations.

State Antiviral Stockpile: DHEC maintains a small cache of antivirals to support early public health response in the event of a pandemic. The following chart outlines the type of medication and number of courses in the cache:

	Oseltamivir 75mg (Tamiflu)	Zanamivir 5mg (Relenza)
Number of Courses	500	150

Training and Exercise: All trainings and exercises are designed with the goal of ensuring that South Carolina has the capability to conduct mass dispensing and/or vaccination operations and assist community partners with coordinating support services and making decisions about non-pharmaceutical interventions. Beginning July 1, 2019, the training and exercise program will be focused on two (2) identified goals:

1. To establish operational readiness to vaccinate critical workforce personnel with two (2) doses of pandemic influenza vaccine, separated by 21 days, within four (4) weeks of influenza vaccine availability, and;
2. To establish operational readiness to vaccinate at least 80% of the state’s population with two (2) doses of pandemic influenza vaccine, separated by 21 days, within 12 weeks of pandemic influenza vaccine availability.

In August 2019, DHEC participated in Crimson Contagion, a federal-level pandemic influenza functional exercise in which South Carolina was the Health and Human Services Region IV participating state. The exercise served as a vehicle to integrate state and local decision making

¹ Annual and five-year exercise requirements are not yet completed due to scheduling. There is no basis for a complete assessment at the time of site visit.

during a pandemic influenza response, identify gaps in existing plans, and provided an opportunity to explore dissemination of information to and from appropriate local, state, and federal entities. The Pandemic Influenza Plan and the Medical Countermeasures Plan will be updated based on outcomes of the exercise.

The following matrix outlines planned exercise activities relating to pandemic influenza preparedness over the next five (5) years beginning July 1, 2019:

Planned Pandemic Influenza Activities July 1, 2019 – June 30, 2024	
State	<p>Update state Pandemic Influenza Plan.</p> <p>One (1) Table Top Exercise.</p> <p>One (1) Functional Exercise focusing on vaccination of at least one (1) critical workforce group.</p> <p>Demonstrate operational readiness through the completion of a Distribution Full-Scale Exercise once every five (5) years.</p>
Public Health Regions	<p>Complete three (3) annual drills.</p> <p>Vaccine clinic set up checklist completed.</p> <p>Table Top Exercises within the first two (2) years.</p> <p>Vaccination through-put drill.</p> <p>One (1) Functional Exercise focusing on vaccination of at least one (1) critical workforce group.</p> <p>Demonstrate operational readiness through the completion of a Mass vaccination Full Scale Exercise within five (5) years.</p>

Influenza Surveillance System

South Carolina maintains a year-round influenza surveillance system. Clinical providers and laboratories are required to report to DHEC all positive influenza laboratory test results within three (3) business days, influenza-associated hospitalizations on a weekly basis, and influenza-associated deaths within 24 hours. Influenza outbreaks and suspected novel strains of influenza are immediately reportable by phone. In the event of a pandemic, surveillance components will be modified or added (i.e., increase frequency of reporting, monitor school absenteeism, etc.) in consultation with the CDC.

An evaluation of South Carolina's influenza surveillance system indicated that removing the requirement for reporting positive rapid antigen detection tests would not compromise virologic surveillance. Therefore, beginning in 2019, providers will no longer be required to report positive rapid antigen detection tests to DHEC.

South Carolina participates in the CDC's U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), a voluntary surveillance system in which clinical providers report the aggregate number of visits attributed to influenza-like illness (ILI) weekly. During the 2017-18 influenza season, 18 South Carolina providers participated in ILINet. For the 2018-19 influenza season, DHEC executed data sharing agreements with 14 Hospitals, allowing DHEC to use electronic emergency department data for the purpose of ILINet surveillance. This season, South Carolina has a total of 30 enrolled ILINet providers. DHEC maintains the SC Disease Alerting, Reporting & Tracking System (SC-DARTS), a syndromic surveillance system that utilizes hospital emergency department chief-complaint data to detect potential clusters of ILI.

Annually, DHEC's Public Health Laboratory (PHL) distributes an influenza informational letter and test kits to clinical providers across the state. DHEC provided an educational webinar hosted by the South Carolina Hospital Association (SCHA) in October 2018 to raise awareness about the importance of flu surveillance.

The PHL confirms influenza cases using the CDC's Real-Time influenza testing method. When suspected respiratory disease outbreaks are identified, the PHL conducts special testing to rapidly identify the cause. Testing results are electronically submitted daily to the CDC through the Association of Public Health Laboratories' Public Health Laboratory Interoperability Project.

DHEC submits influenza original specimens to a CDC National influenza Reference Center Laboratory in accordance with the national Influenza Virologic Surveillance Right Size Roadmap. This system prescribes how many influenza-positive specimens need to be identified to detect emerging seasonal influenza antigenic variants (mutations in the virus) or novel influenza virus infection based on a state's population size. For the 2018-19 influenza season, DHEC is implementing automated extraction equipment for high through-put testing for influenza.

Because novel human influenza viruses often emerge through mixing (reassortment) of human and animal influenza viruses, monitoring workers who are responding to outbreaks of influenza in animals is critical. DHEC maintains a working relationship with Clemson University Livestock Poultry Health, which performs routine disease surveillance on animals.

Data collected from human surveillance activities are compiled, analyzed and disseminated in a report to the public. The Flu Watch is posted weekly on the DHEC website and can be accessed at <https://www.scdhec.gov/health/flu/flu-watch-data-reports-maps>. Public health alerts are issued to clinical providers through the South Carolina Health Alert Network at the start of the influenza season and in emergent situations. Media releases are issued for the first influenza death of the season and at other times as deemed appropriate.

Rick Toomey

Richard K. Toomey, Director

October 31, 2019

Date