



South Carolina Pandemic Influenza Preparedness Report November 1, 2023

This report is submitted by the Department of Health and Environmental Control ("Department" or "DHEC," hereinafter) in compliance with General Appropriations Act of 2023-2024, 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 2022-23 influenza season, 59,631 laboratory-confirmed influenza cases, 3,455 influenza-associated hospitalizations, and 162 influenza-associated deaths were reported for South Carolina. Influenza activity was considered to be widespread for 14 consecutive weeks, with the highest period of influenza activity occurring between the weeks ending October 29, 2022, to November 12, 2022. Individuals 65 years of age and older accounted for the highest proportion of influenza-associated hospitalizations and influenza-associated deaths, at 53% and 69% respectively. Of the reported 162 influenza-associated deaths, six (6) occurred in individuals less than 18 years of age. The number of influenza-associated hospitalizations and deaths reported during the 2022-23 influenza seasons were more than those reported for the 2021-22 and 2020-21 influenza seasons.

Annual vaccination is the best way to prevent seasonal influenza with vaccines that are modified slightly each season to provide protection against the most common circulating influenza virus strains.

Pandemic Influenza

Pandemic influenza occurs when a shift in the genetic make-up of an influenza A virus results in an entirely new, or novel, influenza A virus emerging that is substantially different from the seasonal flu viruses that have been circulating. People have no immunity against the new influenza A virus strain. The seasonal influenza vaccine will not protect against a novel influenza A strain and a new vaccine providing protection against the pandemic strain must be developed. A pandemic, or global outbreak, occurs when the virus can spread easily from person to person because no one has existing immunity. There is no way to predict when a pandemic 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 century, in 1918, 1957, 1968, and 2009. The most recent pandemic (2009) was caused by the emergence of the H1N1pdm09 influenza virus that primarily affected children and young to middle-aged adults. It led to the death of an estimated 123,000 to 203,000 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 an estimated 1 to 4 million of the world's population during the 1968 H3N2 pandemic to an estimated 17 to 50 million people (about 2-3% of the global 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.
- Increased 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. In 2022, DHEC, South Carolina Emergency Management Division (SCEMD), and the South Carolina National Guard (SCNG) expanded our planning efforts through the development of a Data and Intelligence Sharing Annex which streamlines coordination between partner agencies during emergency response operations. DHEC is prepared to:

- Provide current public health information and guidance regarding the pandemic.
- Encourage and facilitate provider participation in influenza surveillance and reporting.
- Test laboratory specimens for public health surveillance purposes.
- Receive, allocate, and distribute federal public health resources.
- Manage public vaccine and/or antiviral sites.
- Coordinate the distribution of pandemic influenza vaccine.
- Facilitate communication with response partners.

Medical Countermeasures Readiness: The Medical Countermeasures (MCM) Plan outlines how the State stores, distributes, and dispenses public health resources to the people of South Carolina during a public health emergency. Updates to the MCM Plan began in July 2023 and are projected to be complete in June 2024. The MCM Planning Team, led by DHEC's Bureau of Public Health Preparedness, includes representation from the agency's Immunization Division, COVID Coordination Office, and Office of Nursing, as well as representation from SCEMD and the State Law Enforcement Division (SLED). Once the rewrite is complete, the MCM Plan will reflect lessons learned from the COVID-19 response and mpox MCM distribution, formalize key public-private partnerships, and expand service-site delivery mechanisms.

Stores: DHEC maintains a cache of 500 antiviral courses, 175,000 items of personal protective equipment (PPE), and a preparedness warehouse to support early public health response during a pandemic flu outbreak.

The Strategic National Stockpile (SNS) maintains a cache of PPE, ventilators, and oral, IV, and inhalation antiviral drugs specifically to prepare for a pandemic flu. Supplies in the SNS can be delivered to requesting states in 48 hours or less.

In 2021, DHEC and SCEMD established a state PPE stockpile. More than 22 million products are managed in the stockpile, including:

- 14 million Gloves
- 2 million N94, N95 and KN95 Masks
- 2 million Surgical Masks
- 1 million Gowns

Distribution: The federal Public Health Emergency (PHE) for COVID-19 expired on May 11, 2023. Throughout the course of the COVID-19 pandemic and at no cost to the receiving entities, South Carolina distributed more than:

- 12 million PPE products
- 6 million COVID-19 Vaccines
- 240,000 COVID-19 Therapeutics

Dispense: The CDC’s pandemic flu response guidelines recommend that states maintain readiness to vaccinate:

1. Critical workforce personnel with two doses of pandemic influenza vaccine, separated by 21 days, within four weeks of influenza vaccine availability; and
2. 80% of the state's population with two doses of pandemic influenza vaccine, separated by 21 days, within 12 weeks of pandemic influenza vaccine availability.

Analysis indicates that if vaccine supply had been unlimited during the COVID-19 pandemic, South Carolina’s participating providers could reach the goal to vaccinate critical workforce personnel classified in phase 1A in four weeks. Vaccination of 80% of the general population may require up to 28 weeks without additional resources and increased private partner participation in administration programs.

| | Population Size | Providers | Statewide Weekly Capacity | Weeks Until Complete |
|---------------------------------------|-----------------|-----------|---------------------------|----------------------|
| Critical Workforce¹ | 280,000 | 950 | 260,000 ² | 4 |
| 80% of General Population | 3,700,000 | | | 28 |

Training and Exercise: The following matrix outlines the status of planned activities relating to pandemic influenza preparedness over five years beginning July 1, 2019, to align with Public Health Emergency Preparedness (PHEP) Cooperative Agreement.

| <u>Planned Pandemic Influenza Activities</u> <u>July 1, 2019 – June 30, 2024</u> | | |
|---|---|--|
| <u>State</u> | Update and maintain state Pandemic Influenza Plan. | Pandemic Influenza Plan fall update is complete for 2023. |
| | One Functional Exercise focusing on vaccination of at least one critical workforce group. | Requirement fulfilled. DHEC coordinated vaccination clinics for first responders including EMS and police during the COVID-19 pandemic. This requirement has been reset for a new 5- |

¹ Critical Workforce does not include vulnerable populations included in phase 1 of the COVID-19 pandemic.

² Analysis assumes that each provider has 2 vaccinators, working 5 days a week and 7 hours a day. The calculation is based on a CDC formula and planning recommendations. Large providers have higher throughput. The majority of providers remain small medical practices and pharmacies.

| <u>Planned Pandemic Influenza Activities</u> <u>July 1, 2019 - June 30, 2024</u> | | |
|---|---|--|
| | | year grant cycle beginning in 2024. |
| | Demonstrate operational readiness through the completion of a Distribution Full-Scale Exercise once every five years. | Requirement fulfilled. DHEC performed more than 780 days of consecutive distribution of pharmaceutical and non-pharmaceutical supplies during the COVID-19 pandemic. This requirement has been reset for a new 5-year grant cycle beginning in 2024. |
| | Complete three annual drills. | Requirement was fulfilled by daily COVID-19 activities. Sustainment drills will resume in 2024. |
| <u>Public Health Regions</u> | Vaccine clinic set-up checklist complete. | Requirements were fulfilled by daily COVID-19 activities. Vaccine clinic set up exercises will resume in 2024. |
| | Tabletop Exercises. | Regional tabletop exercises will resume in 2024. |
| | Vaccination Drill. | Requirement fulfilled. DHEC has the capacity to administer 14,500 vaccinations per week at agency specific locations. Drills will resume in 2024. |
| | One Functional Exercise. | Regional functional exercises requirements were met by COVID-19 activities. DHEC is planning an additional dispensing functional for January of 2024. This requirement has been reset for a new 5-year grant cycle beginning in 2024. |
| | Full Scale Exercise within five years. | Requirement fulfilled by DHEC's testing and COVID-19 vaccination sites. This requirement has been reset for a new 5-year grant cycle beginning in 2024. |

Improvement Planning: An After-Action Review (AAR) of the COVID-19 pandemic response was conducted in April 2022. An improvement plan was developed. Implementation has begun for recommended improvements.

Influenza Surveillance System

South Carolina maintains a year-round influenza surveillance system. Clinical providers and laboratories are required to report to DHEC all positive laboratory-confirmed influenza 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.

South Carolina participates in the CDC's U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), a voluntary surveillance system in which outpatient clinical providers report the aggregate number of visits attributed to influenza-like illness (ILI) weekly. During the 2022-23 influenza season, 40 South Carolina providers participated in ILINet. DHEC maintains data sharing agreements with 32 hospitals, allowing the use of electronic emergency department data for the purpose of ILINet surveillance. DHEC participates in the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) a syndromic surveillance system that utilizes hospital emergency department chief-complaint data to detect potential clusters of ILI.

DHEC's Public Health Laboratory (PHL) performs year-round influenza surveillance in accordance with the national Influenza Virologic Surveillance Right Size Roadmap developed by the CDC and the Association of Public Health Labs (APHL). Under this program, PHL provides collection supplies to clinical providers for submission of presumptive influenza specimens. PHL performs confirmatory testing and subtyping using a real-time PCR assay developed by the CDC. Results are submitted to the CDC daily through APHL's Public Health Laboratory Interoperability Project. PHL also sends selected subtyped specimens to the CDC National Influenza Reference Centers to aid in genomic surveillance, vaccine development and antiviral monitoring.

The Right Size Roadmap specifies the number of influenza-positive specimens required to maintain optimal surveillance based on South Carolina's population. To ensure adequate participation, PHL distributes an annual letter to clinical providers outlining the program and detailing instructions for submission. PHL also works with partners such as the South Carolina Hospital Association (SCHA) to increase awareness of the program among providers and care centers across the state.

Because novel human influenza viruses may emerge through mixing (reassortment) of human and animal influenza viruses, monitoring for illness in workers who are responding to outbreaks of influenza in animals is critical. DHEC maintains a relationship with Clemson University Livestock Poultry Health, which performs routine disease surveillance on animals. To assist the ongoing response to highly pathogenic avian influenza (HPAI) H5N1, between February 2022 and June 2023 38 South Carolina residents (including USDA responders, state responders, wildlife workers, and the general public) were actively monitored for symptoms after exposure. In partnership with the CDC, four specimens were sent for additional testing for HPAI. All results came back negative.

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>. A new report has been created for the 2023-24 respiratory season displaying data for influenza, COVID-19 and RSV. The Respiratory Disease Watch is posted weekly on the DHEC website and can be accessed at <https://scdhec.gov/health/respiratory-disease-watch>. Public health alerts are issued to clinical providers through the South Carolina Health Alert Network at the start of each influenza season, to advise providers of the predominant circulating influenza strains, current vaccination recommendations, and influenza reporting methods and requirement. DHEC releases additional health alerts as guidance changes or for emergent situations. Media releases are issued for the first influenza death of the season and at other times as deemed appropriate.



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October 31, 2023

Date