

South Carolina Pandemic Influenza Preparedness Report

November 1, 2024

This report is submitted by the South Carolina Department of Public Health ("DPH," 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 2023-24 influenza season, 78,569 laboratory-confirmed influenza cases, 5,006 influenza-associated hospitalizations, and 186 influenza-associated deaths were reported in South Carolina. Influenza activity was considered to be widespread for 18 consecutive weeks, with the highest period of influenza activity occurring between the weeks ending December 16, 2023, to January 6, 2024. Individuals 65 years of age and older accounted for the highest proportion of influenza-associated hospitalizations and influenza-associated deaths, at 48% and 65% respectively. Of the reported 186 influenza-associated deaths, four (4) occurred in individuals less than 18 years of age. Influenza activity reported during the 2023-24 influenza season was higher than the previous five (5) 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 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 1957 H2N2 and 1968 H3N2 pandemics 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 tests 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 vaccines 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 (PPE).
- Increased knowledge and research on the feasibility, public acceptability, and effects of non-pharmaceutical interventions, including school and childcare 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: DPH maintains the state's *Pandemic Influenza Plan* and *Medical Countermeasures Plan* to guide South Carolina's response to a pandemic influenza event. DPH is prepared to:

- Provide current public health information and guidance regarding the flu, trends observed through surveillance and testing, and pandemics.
- 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.
- Coordinate public vaccine and/or antiviral sites.
- Coordinate the distribution of pandemic influenza vaccines.

- Facilitate communication with response partners.

Medical Countermeasures Readiness: The *Medical Countermeasures (MCM) Plan* outlines how South Carolina stores, distributes, and dispenses public health resources, such as medications or vaccines, to the people of South Carolina during a public health emergency. The MCM Planning Team, led by DPH's Bureau of Emergency Preparedness and Response, includes representation from the agency's Immunization and Nursing Sections, as well as representation from the South Carolina Emergency Management Division (SCEMD) and the State Law Enforcement Division (SLED). In 2024, DPH approved an initiative that aims to make MCMs more accessible during disasters by formalizing key public-private partnerships and expanding service-site delivery mechanisms through DPH's point of dispensing program.

Stores: DPH maintains a cache of antiviral medications to fully treat 500 individuals, 175,000 items of PPE, and a preparedness warehouse to quickly support early public health response during a flu pandemic.

The federal 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, SCEMD established a state PPE stockpile. More than 7 million products are managed in the stockpile, including:

- 1.2 million N95 masks
- 1.3 million surgical masks
- 1 million gowns
- 3.3 million nitrile gloves
- When there is an excess of inventory, SCEMD transfers to eligible public sector entities. Those organizations include emergency managers, EMS agencies, fire departments, law enforcement departments, public health facilities, coroners, animal control offices, and public schools.

Dispense: The U.S. Center for Disease Control and Prevention's (CDC) 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 **have reached** 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 32 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	4,200,000			32

Training and Exercise: As part of the preparedness cycle, DPH continually exercises response capabilities. The following matrix outlines the status of planned activities relating to pandemic influenza preparedness over five years beginning July 1, 2024, to align with the federal Public Health Emergency Preparedness (PHEP) Cooperative Agreement.

<u>Planned Pandemic Influenza Activities</u> <u>July 1, 2024 – June 30, 2028</u>	
Update and maintain state Pandemic Influenza Plan.	Pandemic Influenza Plan was last updated in 2023 and an update is planned for December 2024.
Develop and maintain agency Integrated Preparedness Plan (IPP).	Development of the DPH IPP is ongoing with completion estimated June 2025. IPPs utilize internal and external stakeholder input to prepare for threats by identifying priorities as developing a multi-year plan to optimize resources.
One Discussion Based Exercise on a biological incident.	Exercise planned for 2026.
One drill focusing on a biological incident.	Exercise planned for 2027.
One Functional Exercise focusing on a biological incident. This exercise must demonstrate readiness to perform MCM distribution.	Exercise planned for 2028.

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

² Analysis assumes that each provider has two vaccinators, working five days a week and seven 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.

Influenza Surveillance System

South Carolina maintains a year-round influenza surveillance system. Clinical providers and laboratories are required to report to DPH 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. Laboratory-confirmed influenza test results do not include rapid, point-of-care or at-home, test results. Suspected novel strains of influenza are immediately reportable to DPH by phone 24 hours a day, seven days a week. In the event of a pandemic, surveillance components will be modified or added (i.e., increase frequency of reporting, monitoring of school absenteeism, etc.) in consultation with state and federal partners, including the CDC.

South Carolina participates in 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. Influenza-like illness is a respiratory infection with fever (temperature greater than 100 degrees Fahrenheit) with cough and/or sore throat. During the 2023-24 influenza season, 39 South Carolina providers participated in ILINet. DPH maintains data sharing agreements with 32 hospitals, allowing the use of electronic emergency department data for the purpose of ILINet surveillance. DPH participates in the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) a syndromic surveillance system that utilizes a combination of hospital emergency department chief-complaint data and discharge diagnosis codes to detect potential clusters of ILI.

DPH's Public Health Laboratory (PHL) performs year-round influenza surveillance in accordance with the national Influenza Virologic Surveillance Right Size Roadmap developed by CDC and the Association of Public Health Labs (APHL). As part of the Laboratory Respiratory Virus Surveillance System, 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 CDC. Results are submitted to CDC daily through APHL's Public Health Laboratory Interoperability Project. In accordance with national surveillance guidelines, PHL also submits specimens to 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.

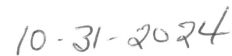
Because novel human influenza viruses may emerge through mixing (reassortment) of human and animal influenza viruses, monitoring for illness in workers who are responding

to outbreaks of influenza in animals is critical. DPH maintains a partnership 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, DPH actively monitors South Carolina residents (including the U.S. Department of Agriculture responders, state responders, wildlife workers, and the public) for symptoms after exposure. In partnership with CDC, specimens from symptomatic individuals are sent for additional testing for HPAI.

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



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Date