



North Carolina Influenza Surveillance Summary: 2020-2021 Season

Key Findings

Statewide Updates	<p>Flu activity during 2020-21 was historically low. Influenza-like illness (ILI) was low and remained below regional and national baselines all season.</p> <p>There were 7 influenza associated deaths during the 2020-2021 influenza season, all adults.</p> <p>51 influenza tests from PHE sentinel sites as well as the North Carolina State Laboratory of Public Health (NC SLPH), were positive during the 2020-21 season. 2009 A(H1N1) represented most influenza viruses subtyped during this season.</p> <p>The primary respiratory virus circulating during the 2020-2021 influenza season was SARS-CoV-2, the virus that causes COVID-19.</p>
Regional Updates	<p>The proportion of outpatient visits due to ILI in Region 4 (Southeastern US) was low and below regional baseline all season. The regional baseline for ILI is 3.1%.</p>
National Updates	<p>The proportion of outpatient visits due to ILI nationwide was low and below national baseline all season. The national baseline for ILI is 2.5%.</p>
International Updates	<p>In worldwide influenza laboratories, seasonal influenza B viruses accounted for a majority of detections. More country specific details can be found here.</p>

Introduction

The North Carolina Department of Health and Human Services (NCDHHS) uses multiple surveillance systems to monitor influenza activity across the state. These surveillance systems include information related to outpatient visits, emergency department visits, laboratory data, as well as hospital data from epidemiologists at seven of the state's largest healthcare systems. Data sources used to gather the information presented here are described below.

NC DETECT

The [North Carolina Disease Event Tracking and Epidemiologic Collection Tool](#) (NC DETECT) is North Carolina's statewide, electronic, real-time public health surveillance system. NC DETECT was created to provide early event detection and timely public health surveillance using a variety of secondary data sources, including data from the NC Emergency Departments (EDs). Each ED visit is grouped into syndromes based on keywords in several different fields and/or diagnosis codes. The syndrome used to track influenza-like illness (ILI) is presented in this report. ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

ILI data track the number and percent of emergency department visits that are for illnesses compatible with influenza. This includes visits that do not have positive test results.

NC DETECT was created by the North Carolina Division of Public Health (NCDPH) in collaboration with the [Carolina Center for Health Informatics](#) (CCHI) in the [UNC Department of Emergency Medicine](#).

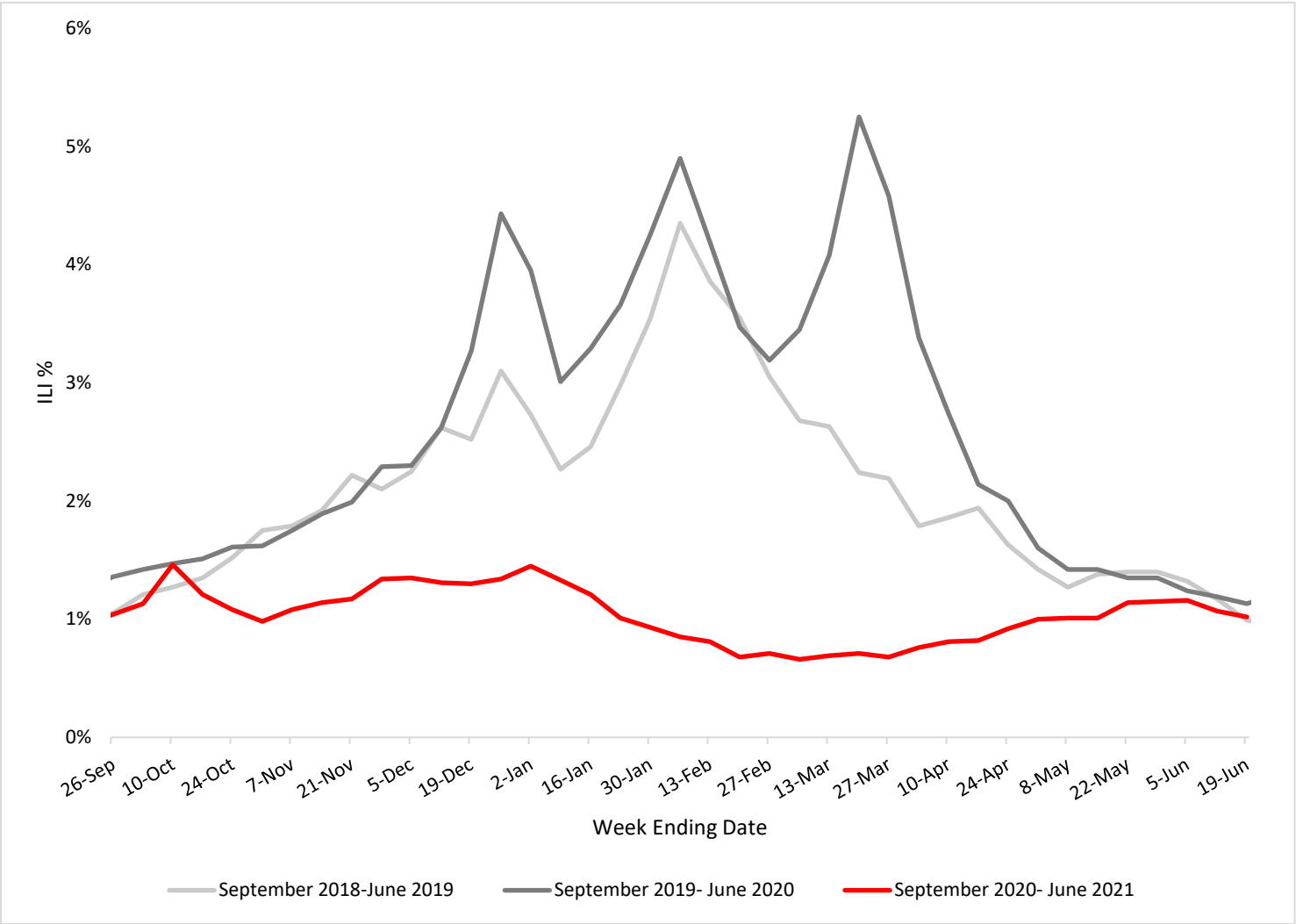
Public Health Epidemiologists Program

In 2003, the North Carolina Department of Public Health (NCDPH) created a hospital-based Public Health Epidemiologist (PHE) program to strengthen coordination and communication between hospitals, health departments, and the state. The PHE program covers approximately 38 percent of general/acute care beds and 40 percent of ED visits in the state. PHEs play a critical role in assuring routine and urgent communicable disease control, hospital-based reporting of communicable diseases, outbreak identification and management as well as case finding during community outbreaks. More information can be found [here](#).

Influenza-like Illness Network

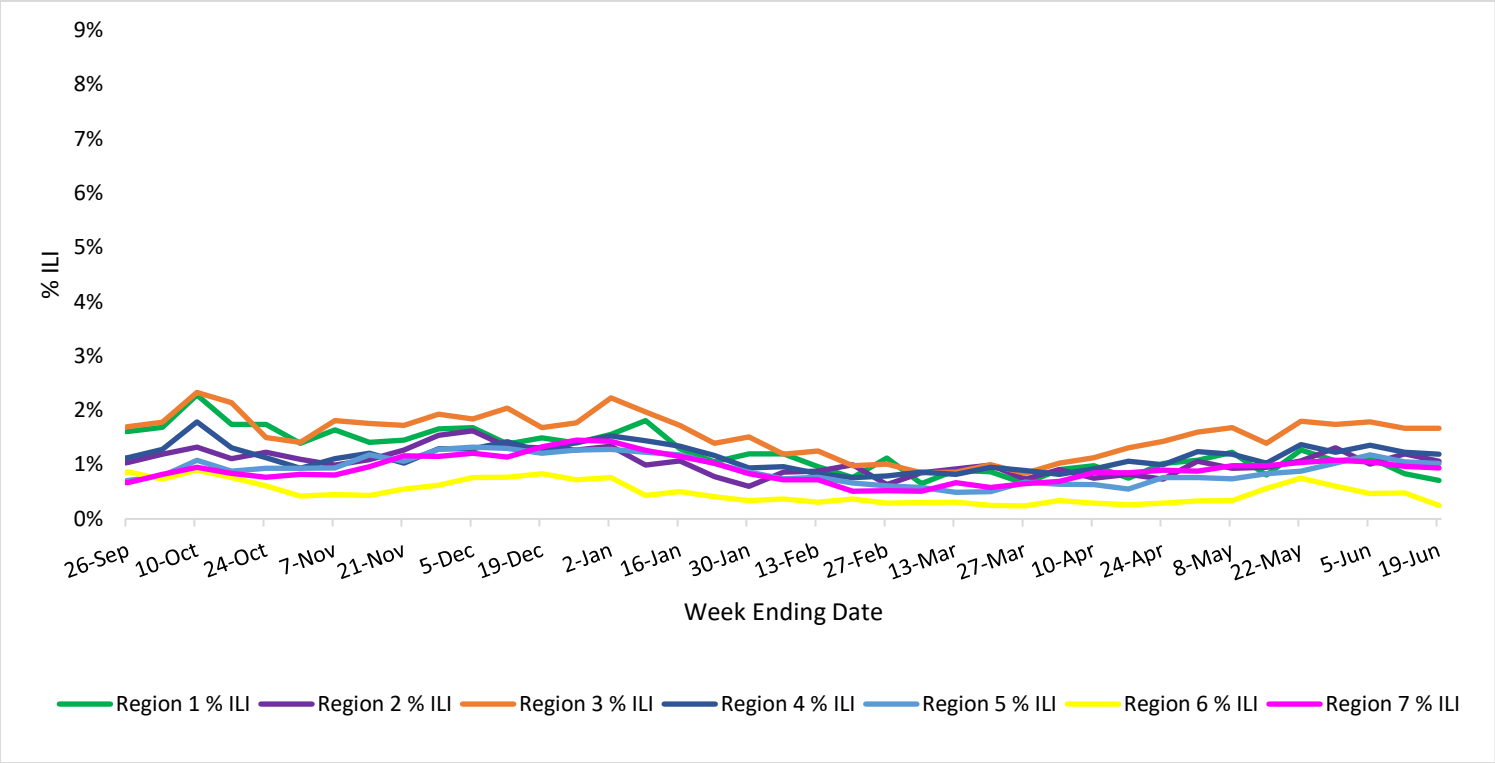
The U.S. Outpatient Influenza-like Illness Surveillance Network ([ILINet](#)), is a collaboration with providers, state health departments, and CDC to conduct surveillance for influenza-like illness. ILINet providers in primary care clinics and hospitals across the state send samples collected from patients with influenza-like illness to the North Carolina State Laboratory of Public Health for testing. With the current COVID-19 pandemic, ILINet has been expanded to include testing for SARS-CoV-2. Providers are asked to submit up to 10 samples from symptomatic patients each week. For ILINet surveillance purposes, symptomatic ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. More information about ILINet can be found at flu.nc.gov.

What percent of ED visits this season are for influenza-like illness compared to previous seasons?

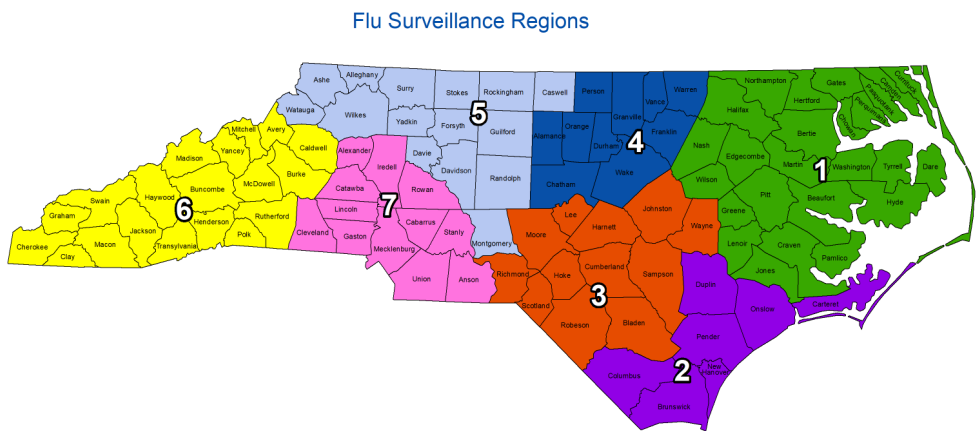


The above graph shows how the percentage of ED visits for influenza-like illness (ILI) this season compares to previous seasons. ILI includes key words including fever, cough, and sore throat. Many respiratory diseases share similar symptoms. ILI surveillance may capture other respiratory diseases.

How does the percentage of ED visits for influenza-like illness compare between regions of the state?



Diseases, including influenza, do not spread across the state evenly. The above graph shows the differences between regions in the percentage of ED visits for influenza-like illness. The colors of the lines correspond to the colors on the region map below.

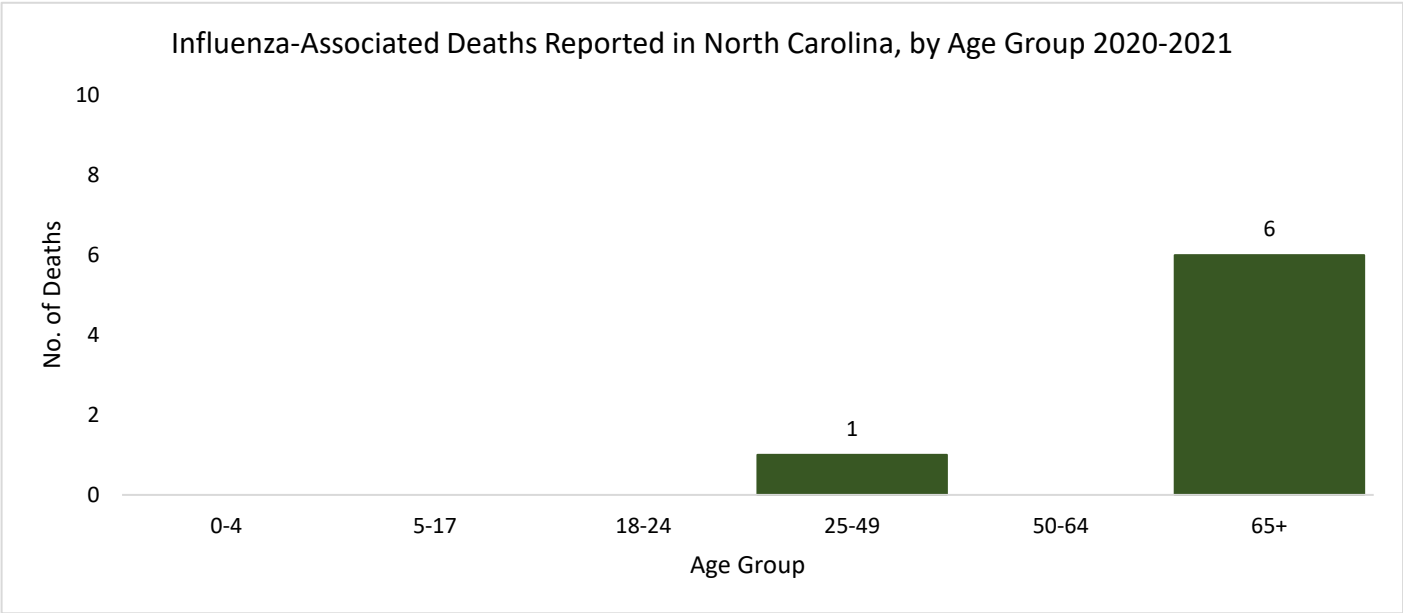
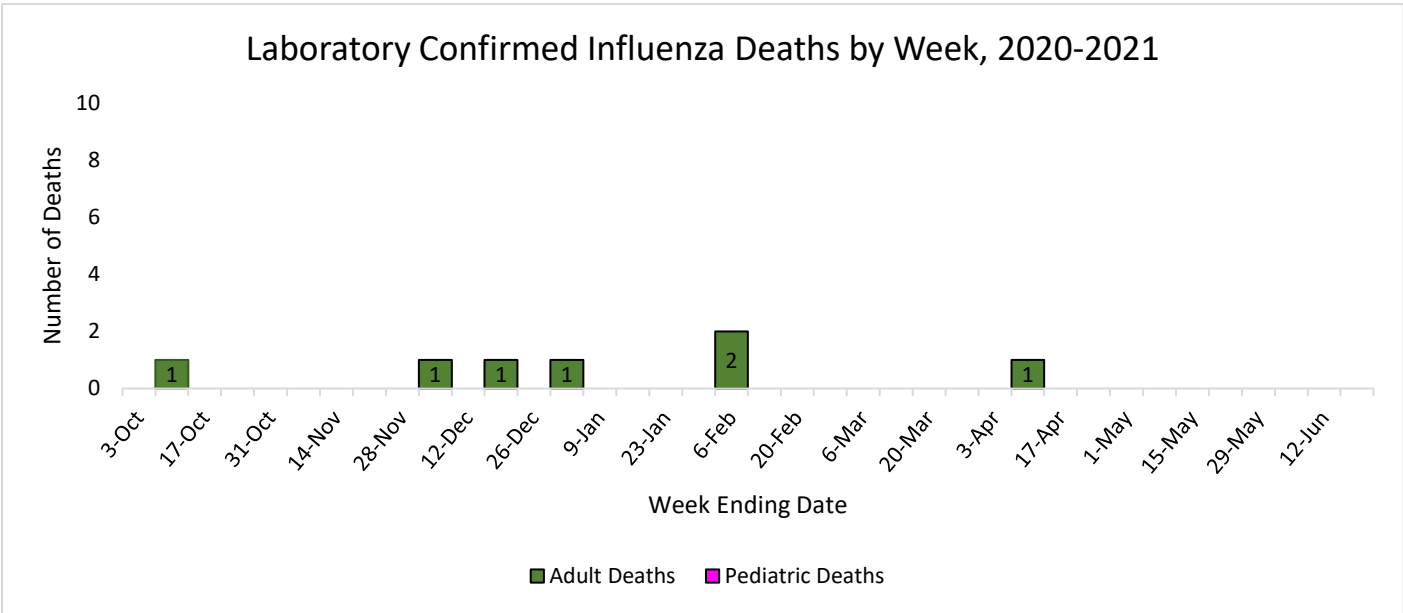


How many patients had an influenza-associated death this flu season?

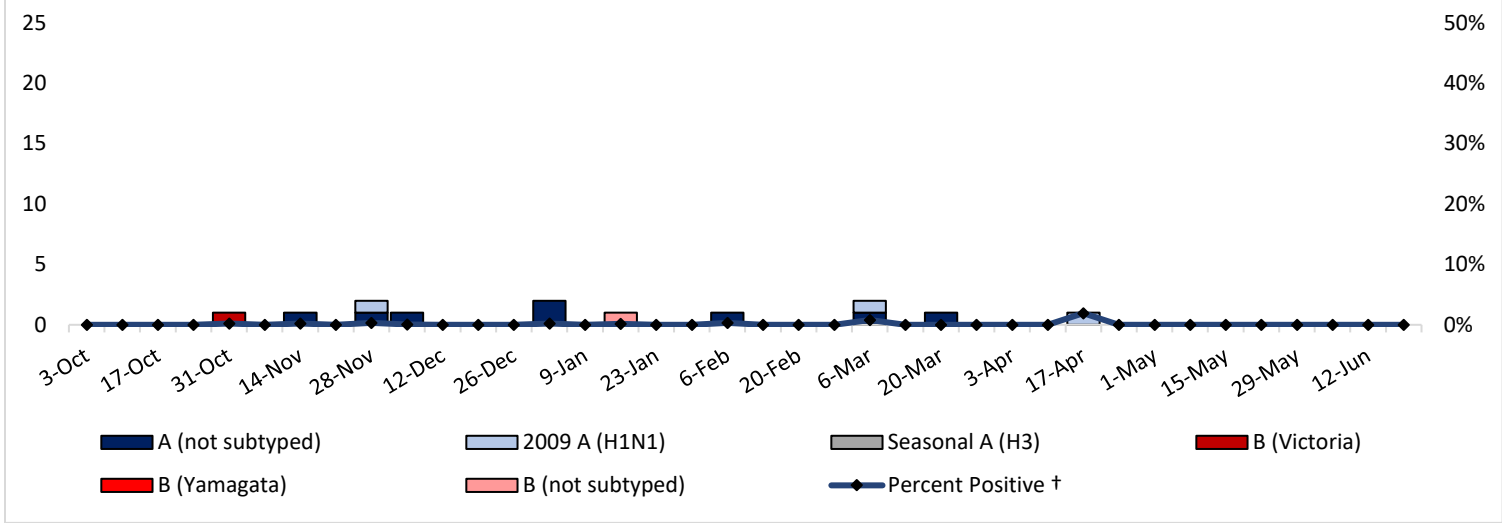
An influenza-associated death is defined for surveillance purposes as a death (adult or pediatric) resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test with no period of complete recovery between the illness and death.

Influenza-Associated Deaths Reported in North Carolina (10/3/20-6/19/21)

Total Flu Deaths
7



Influenza Positive Tests Reported by SLPH

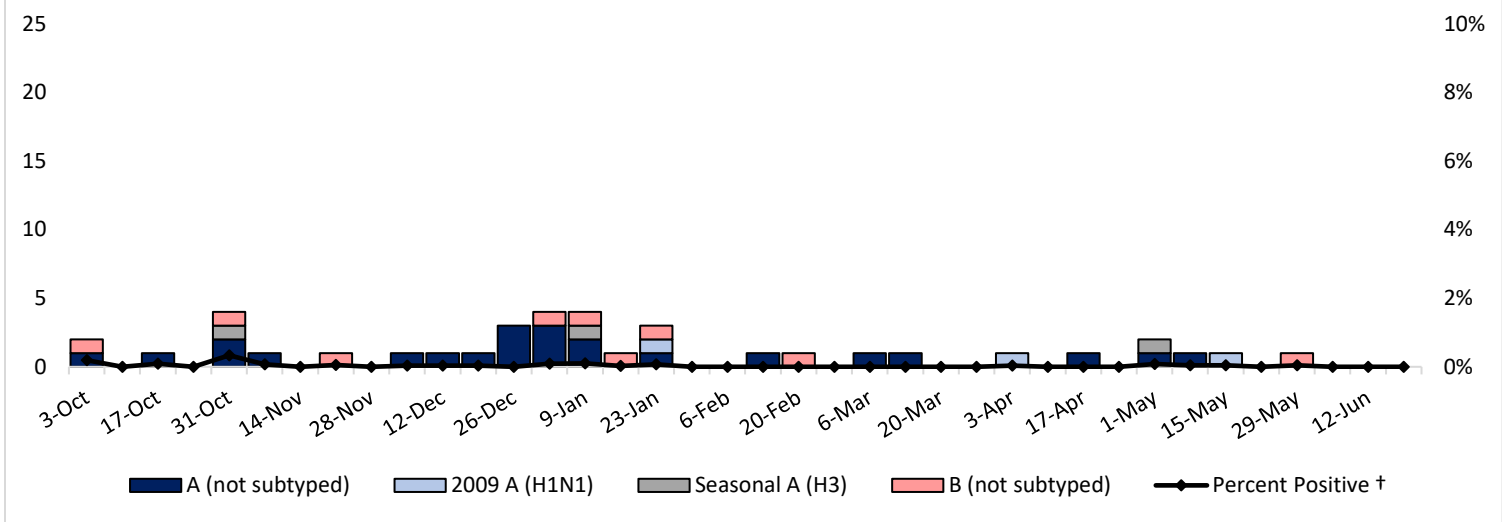


Influenza Virus Isolate Results for 2020–2021*

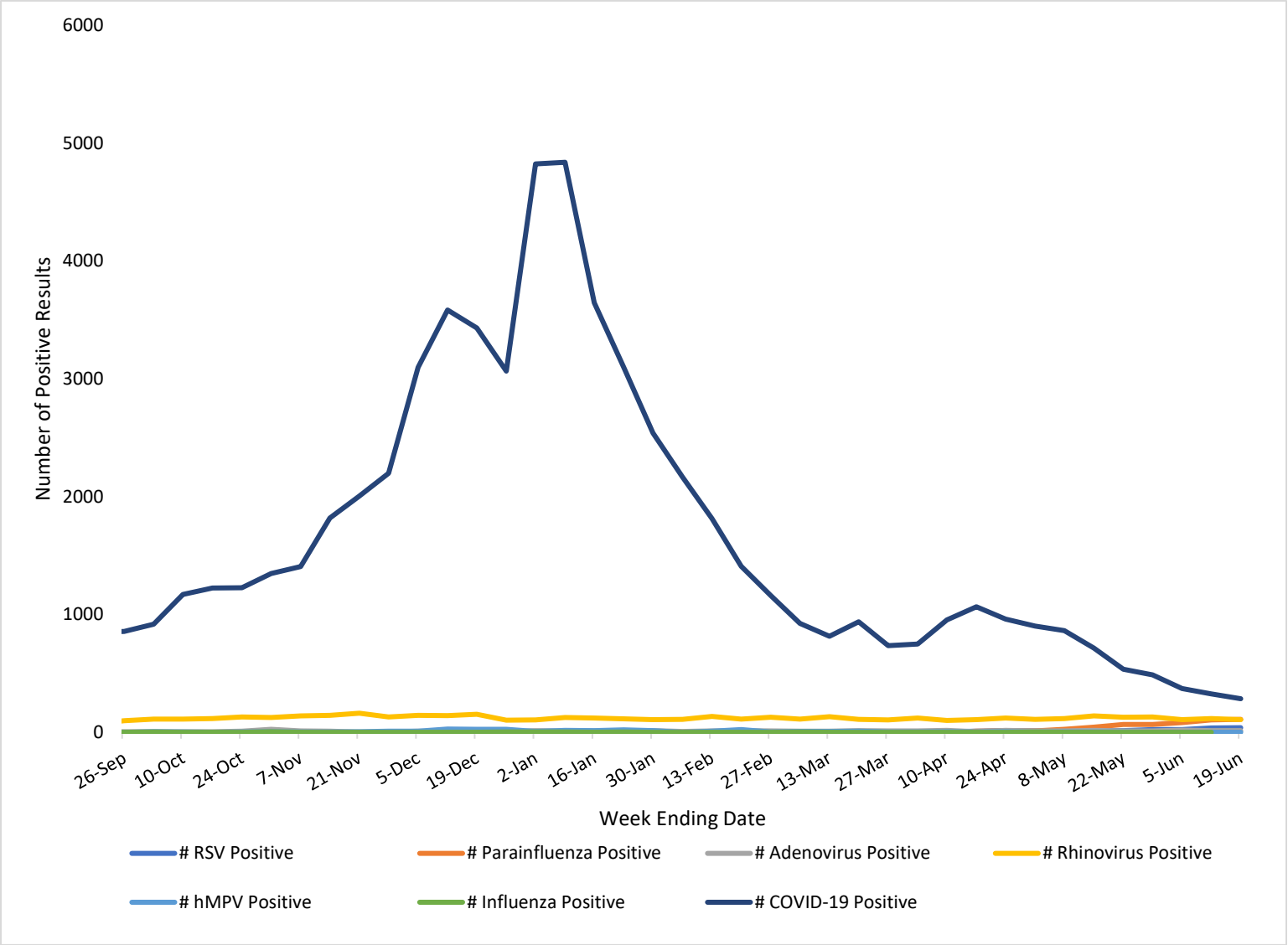
Virus Type	Total Positive for SLPH (09/27/20-06/19/2021)	Total Positive for PHE (09/27/20-06/19/2021)
A (unknown)	8	23
2009 A(H1N1)	3	3
A(H3)	0	3
B (unknown)	1	9
B (Victoria)	1	N/A
B (Yamagata)	0	N/A
Total	13	38

* 2020-2021 influenza season began September 27, 2020

Influenza Positive Tests Reported by PHE Facilities

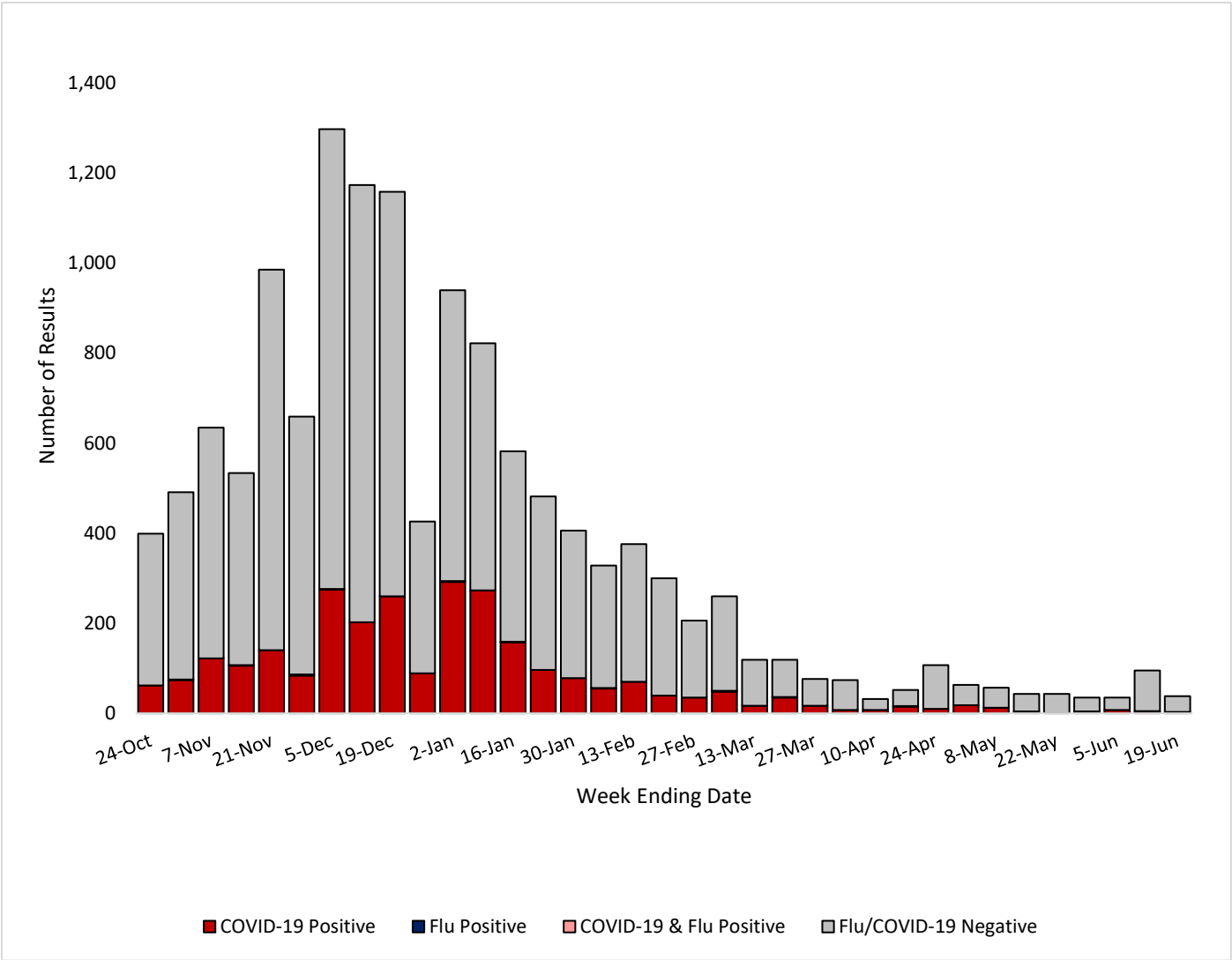


What respiratory viruses are being found in patients tested at hospitals in the PHE network?



Many viruses can cause respiratory illness. The graph above shows all tests for the listed respiratory viruses done at hospital laboratories in the PHE network. Tracking test results for patients in this network of health systems can help us to understand what other viruses are making people sick. It is important to remember that the number of positive tests depends on how many tests are done, so will change based on access to testing and testing priorities.

What respiratory viruses are being found in symptomatic patients tested at the State Laboratory of Public Health?



The State Laboratory of Public Health (SLPH) tests specimens submitted from symptomatic patients for influenza and COVID-19 using a multiplex assay. The graph shows the results from all tests for the respiratory viruses listed above and performed at SLPH on specimens from symptomatic patients. Tracking test results for patients at SLPH can help us to understand the distribution of COVID-19 and influenza as well as potential co-infections. Because testing at SLPH focuses on prioritized populations at increased risk for COVID-19 and all results in the graph came from specimens collected from symptomatic patients, the percentage of positive tests for COVID-19 is likely to be higher than the state average.

Who are the non-hospital participants in North Carolina's Influenza sentinel surveillance program reporting data and samples?

Local Health Departments	Private Practices	Colleges and Universities Student Health Programs
Alamance County Health Department	ECU Department of Pediatrics	Elizabeth City State U Student Health Services
Northampton County Health Department	Duke Primary Care Oxford	NC A&T State University Student Health Center
Franklin County Health Department	Sisters of Mercy Urgent Care South	Wake Forest University
Pender County Health Department	Dilworth Pediatrics	ASU Health Services
Stokes Family Health Center		UNC-Charlotte Student Health Center
Craven County Health Department		UNC Chapel Hill
Johnston County Health Department		ECU Student Health Services
Cabarrus Health Alliance Wilkes County Health Department		Meredith College Student Health
Rockingham County Division of Public Health		
Stanly County Health Department		

