NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

Additional Data Sources: Weekly Summary

COVID-19 Respiratory Surveillance: April 4 – April 10, 2021
Updated April 15, 2021

COVID-19 Key Findings

Statewide Updates	During the week ending April 10, 2021, the percentage of emergency department visits for COVID-like illness decreased from the previous week. The percent of people seen in the emergency department for COVID-like illness who had to stay in the hospital decreased. The total number of people admitted to hospitals in the Public Health Epidemiologist (PHE) network for COVID-19 went up, and the percentage admitted to the ICU went up. 1 new case of MIS-C meeting the CDC case definition was reported this week.
Regional Updates	Among neighboring states (SC, GA, VA, TN), no states saw a decrease in COVID-19 activity while SC, GA, VA, and TN saw an increase based on total case numbers and rate of new cases per 100,000 population over the last 7 days (04/07/21-04/13/21). https://covid.cdc.gov/covid-data-tracker/#compare-trends_newcasesper100k
National Updates	The national percent positive was 8.45% on 04/12. The nationwide rate of new cases per 100,000 population has increased over the past 7 days (04/07/21-04/13/21). https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html
International Updates	Worldwide the Americas (North America, Central America, and South America) accounted for a majority of COVID-19 infections. For more country specific details please visit: https://covid19.who.int/

Influenza Key Findings

Statewide Updates	Influenza-like illness (ILI) remained low the week ending April 10, 2021. The geographic spread of flu was NO ACTIVITY this week. Of the 32 specimens submitted to the State Laboratory of Public Health (SLPH) for viral testing this week, none were positive for influenza. PHEs reported no positive influenza results out of 2,623 samples tested during the week ending 04/10/2021.
Regional Updates	The proportion of visits due to ILI in Region 4 (Southeastern US) was at 1.23% for week 13 (ending 04/03/2021). The regional baseline for ILI is 3.1%.
National Updates	The proportion of visits due to ILI nationwide was at 0.96% for week 13 (ending 04/03/2021). The national baseline for ILI is 2.6%.
International Updates	In worldwide influenza laboratories seasonal influenza B viruses accounted for a majority of detections (64.8%) followed by influenza A viruses (35.2%) from March 1, 2021 to March 14, 2021. For more country specific details please visit: https://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/

Introduction

The North Carolina Department of Health and Human Services (NCDHHS) uses multiple surveillance systems to monitor respiratory diseases 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. Two syndromes used to track COVID-like illness (CLI) and influenza-like illness (ILI) are presented in this report.

CLI and ILI data track the number and percent of emergency department visits that are for illnesses compatible with COVID-19 or influenza. This includes visits that do not have positive test results for either disease.

The CLI and ILI syndromes have similarities because COVID-19 and influenza share many of the same symptoms. However, there a few key distinctions between the two syndrome definitions. ILI includes the key word term "sore throat" while CLI does not. CLI contains keyword terms that ILI does not, including ones regarding the loss of taste and smell, pneumonia, and specific terms like "COVID" and "corona." CLI also includes ICD-10-CM diagnosis codes[1] specific to COVID-19 and ILI does not include any ICD-10-CM codes. The syndrome definitions are as follows:

[1] The International Classification of Disease, Tenth Edition, Clinical Modification (ICD-10-CM) system is used by physicians and healthcare providers to code diagnoses for all patient visits.

CLI and ILI Syndrome Definitions

	Influenza-like illness (ILI)	COVID-19-like illness (CLI)
Chief complaint only	N/A	COVID or corona or coronavirus
Chief complaint or triage notes	((fever OR febrile OR FUO OR temperature OR Documented Initial ED Temp > 38C) AND (cough or sore throat))	loss of sense of smell / taste or no taste / smell or unable to smell / taste or loss sense of smell / taste or lost taste / smell OR ((Chief complaint or triage notes: (cough or shortness of breath or SOB or SHOB or respiratory distress or cannot breathe or cyanosis or difficulty breathing or dyspnea or hypoxia or pleural effusion or pneumon or stridor) AND (Febrile or fev* or fvr or temp or chills or rigor or shivers or initial ED temp > 38)) OR Specific ICD-10-CM codes
ICD-10-CM Codes	N/A	B97.2% OR B34.2 OR J12.81 OR U07.1 OR U07.2

In order to better differentiate between CLI and ILI, the CLI syndrome definition has been modified to exclude any visits that contain a diagnosis code for influenza.

- If an ED visit has the signs and symptoms of CLI or a diagnosis of COVID-19 they are included.
- If an ED visit has the signs and symptoms of CLI and receives a diagnosis of influenza AND COVID they are included.
- If an ED visit has the signs and symptoms of CLI but receives an influenza diagnosis without also receiving a COVID diagnosis they are excluded.

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.

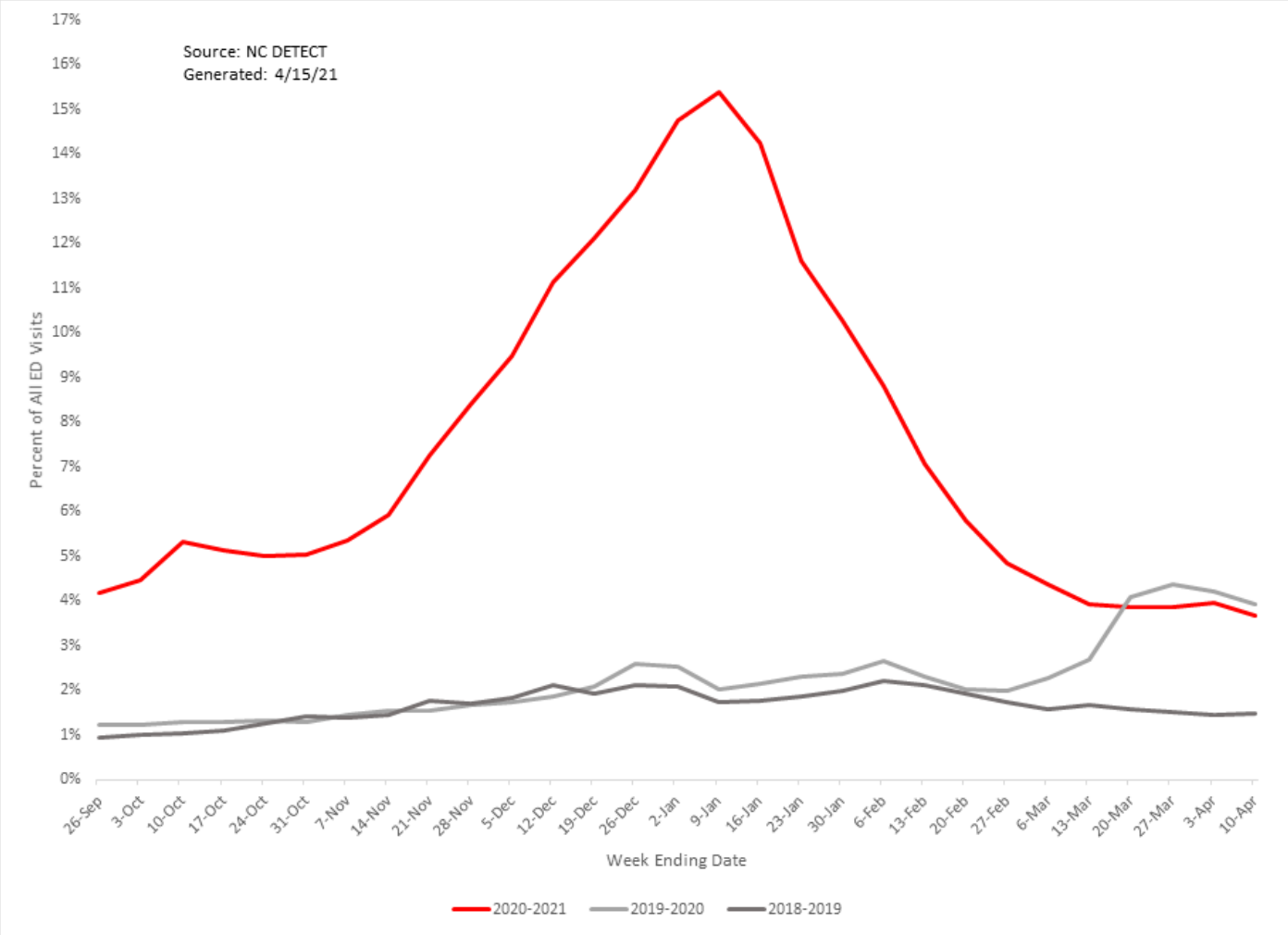
Public Health Epidemiologists Program

In 2003, 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 reporting of communicable diseases, outbreak management and case finding during community wide outbreaks.

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 is defined as fever (>100°F) and cough or sore throat. More information about ILINet can be found at flu.nc.gov.

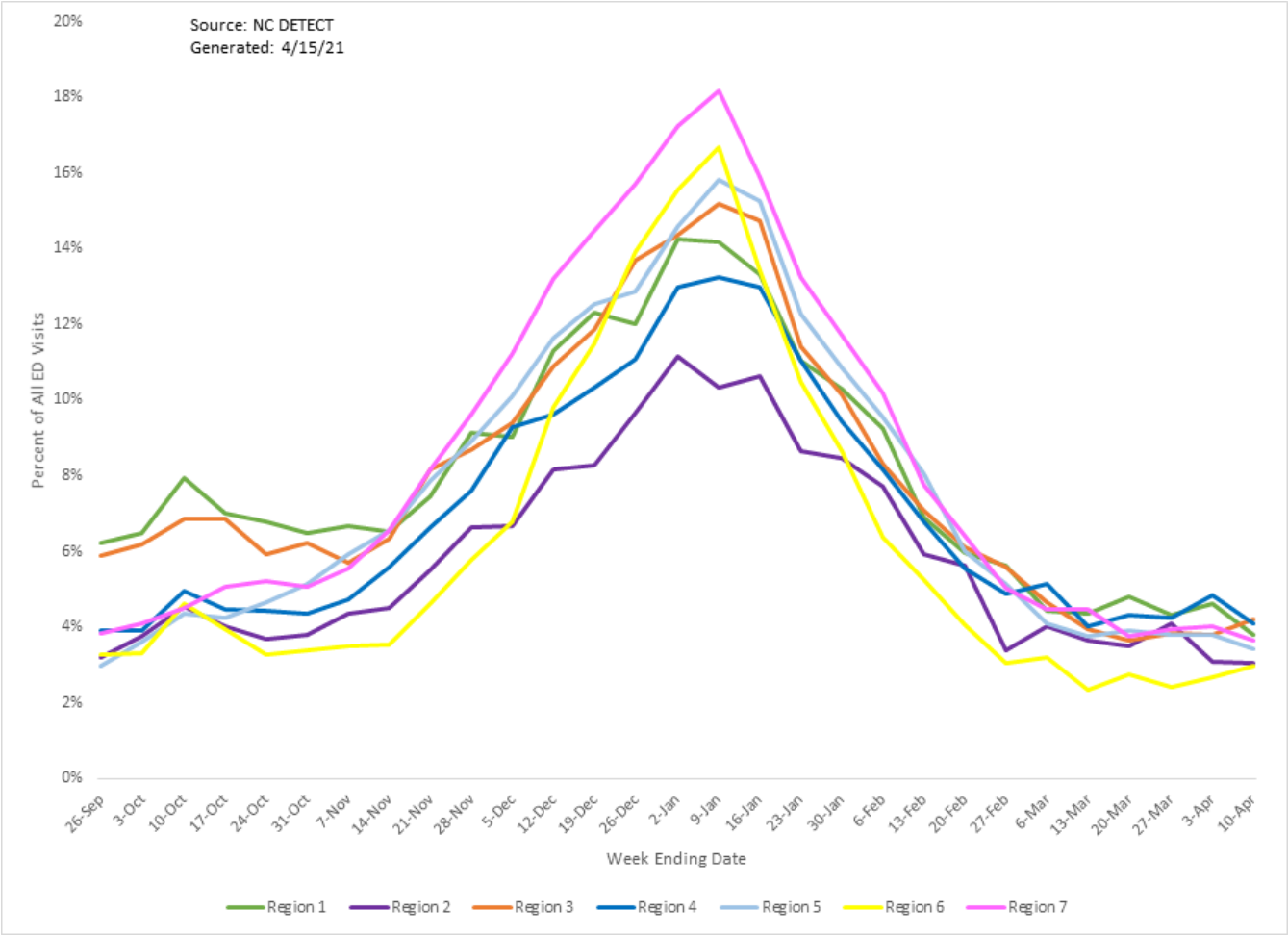
What percent of ED visits this season are for COVID-like illness compared to previous seasons?



The above graph shows how the percentage of ED visits for CLI this season compares to previous seasons. COVID-19 and influenza can both cause fever and respiratory illness, so CLI syndrome and ILI syndrome detect some of the same ED visits.

The percentage of ED visits for COVID-like illness **DECREASED** the week ending April 10, 2021.

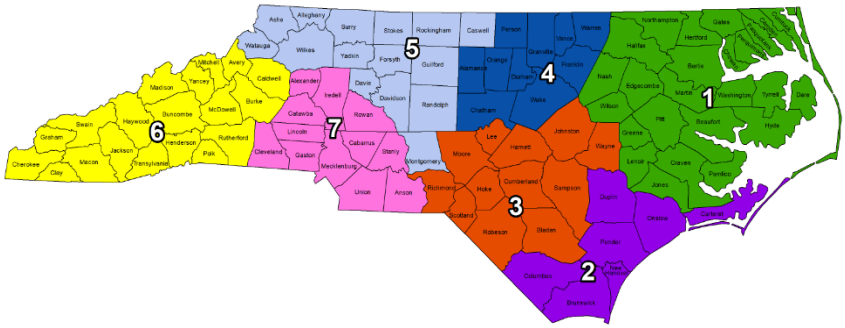
How does the percentage of ED visits for COVID-like illness compare between regions of the state?



Diseases, including COVID-19, do not spread across the state evenly. The above graph shows the differences between regions in the percentage of ED visits for CLI. The colors of the lines correspond to the colors on the region map below.

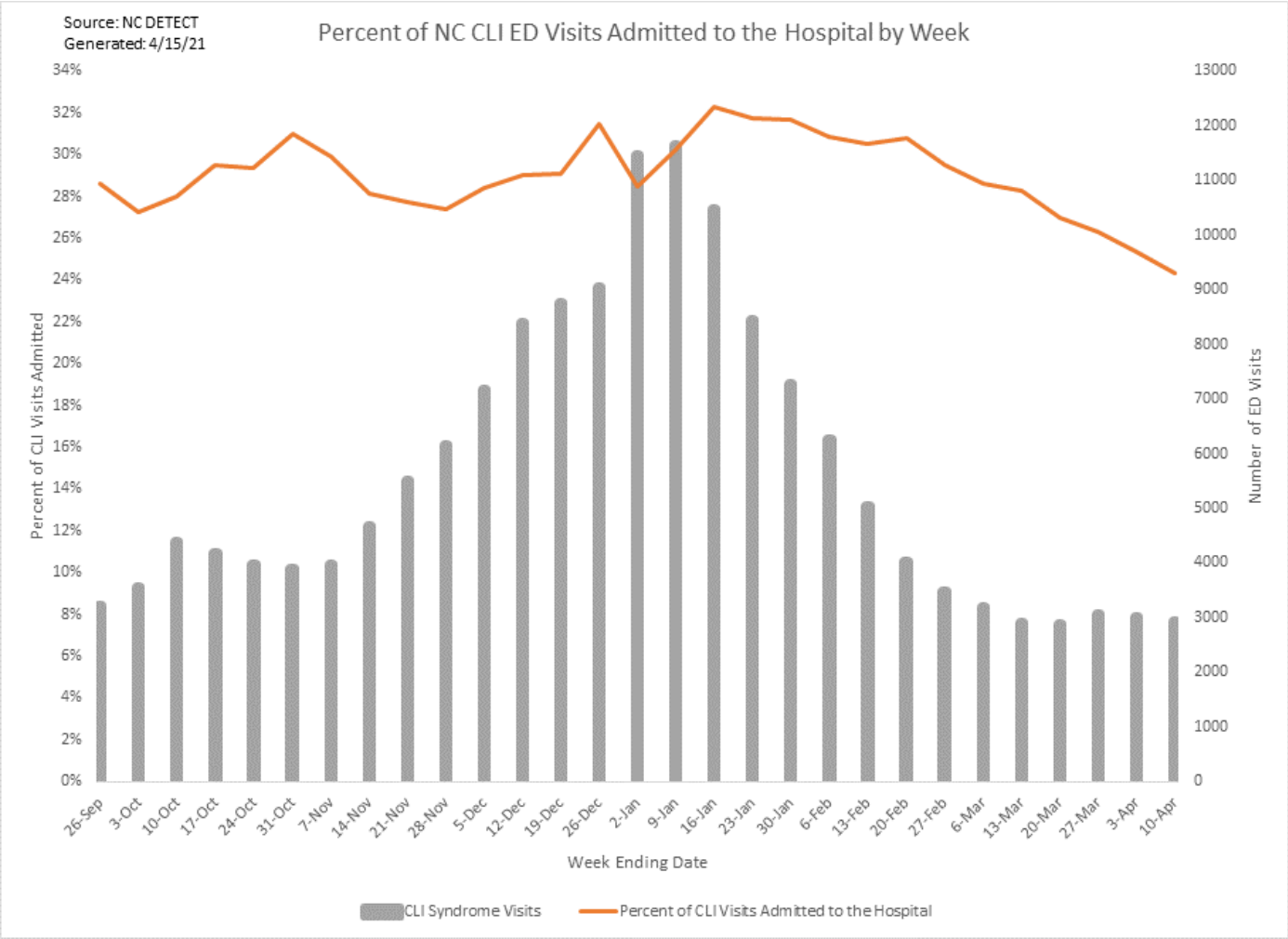
Regions 1, 4, 5, and 7 showed a DECREASE in the percent of ED visits for CLI the week ending April 10, 2021. **Regions 3, and 6 showed an INCREASE** in the percent of ED visits for CLI the week ending April 10, 2021. **Region 2 DID NOT CHANGE SIGNIFICANTLY*** in the percent of ED visits for CLI the week ending April 10, 2021.

Flu Surveillance Regions



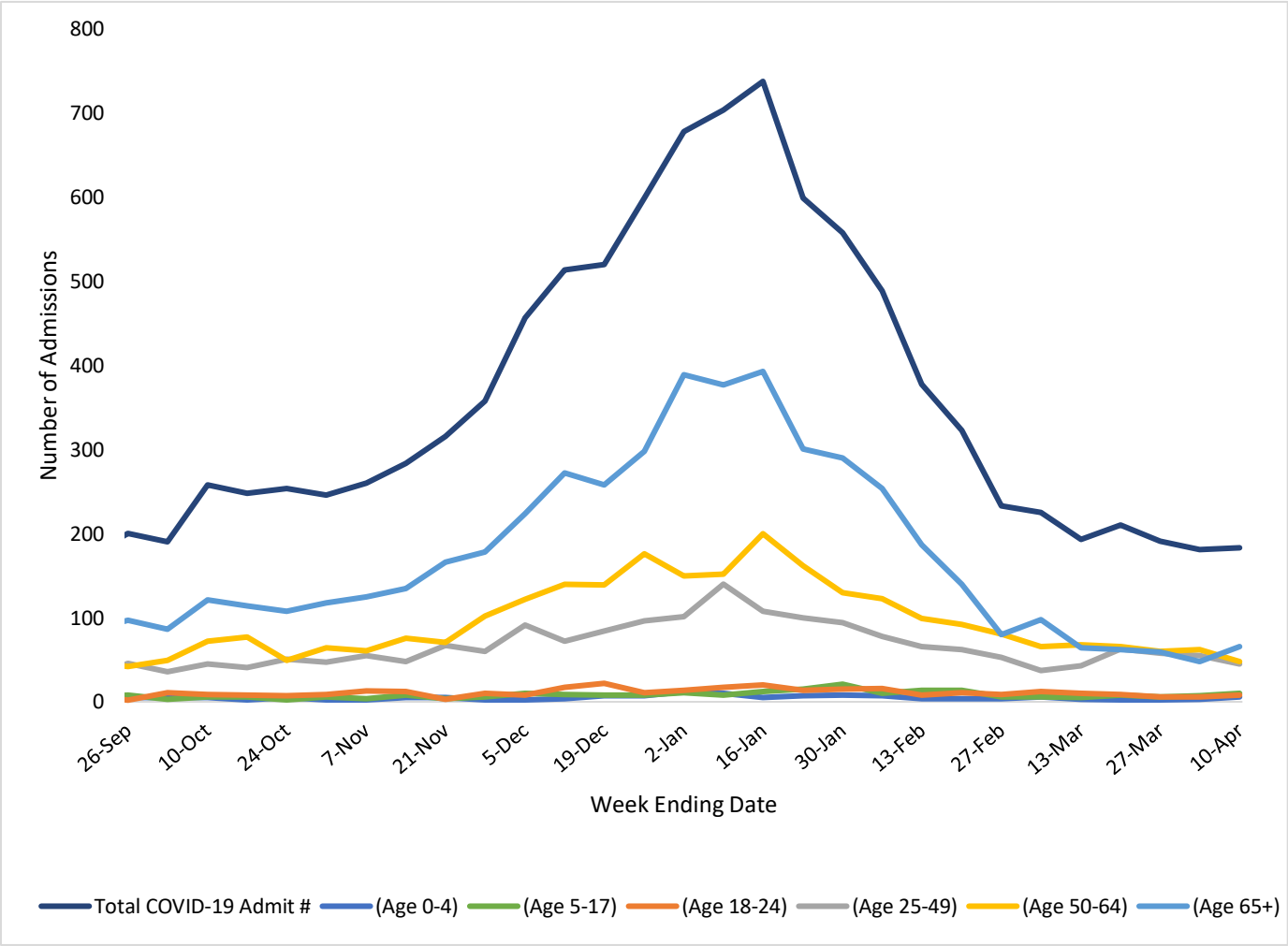
*Region 2 experienced <0.1% change

What percentage of people who go to the ED for COVID-like illness have to stay in the hospital?



The percentage of patients seen in the ED for CLI who were admitted to the hospital **DECREASED** the week ending April 10, 2021.

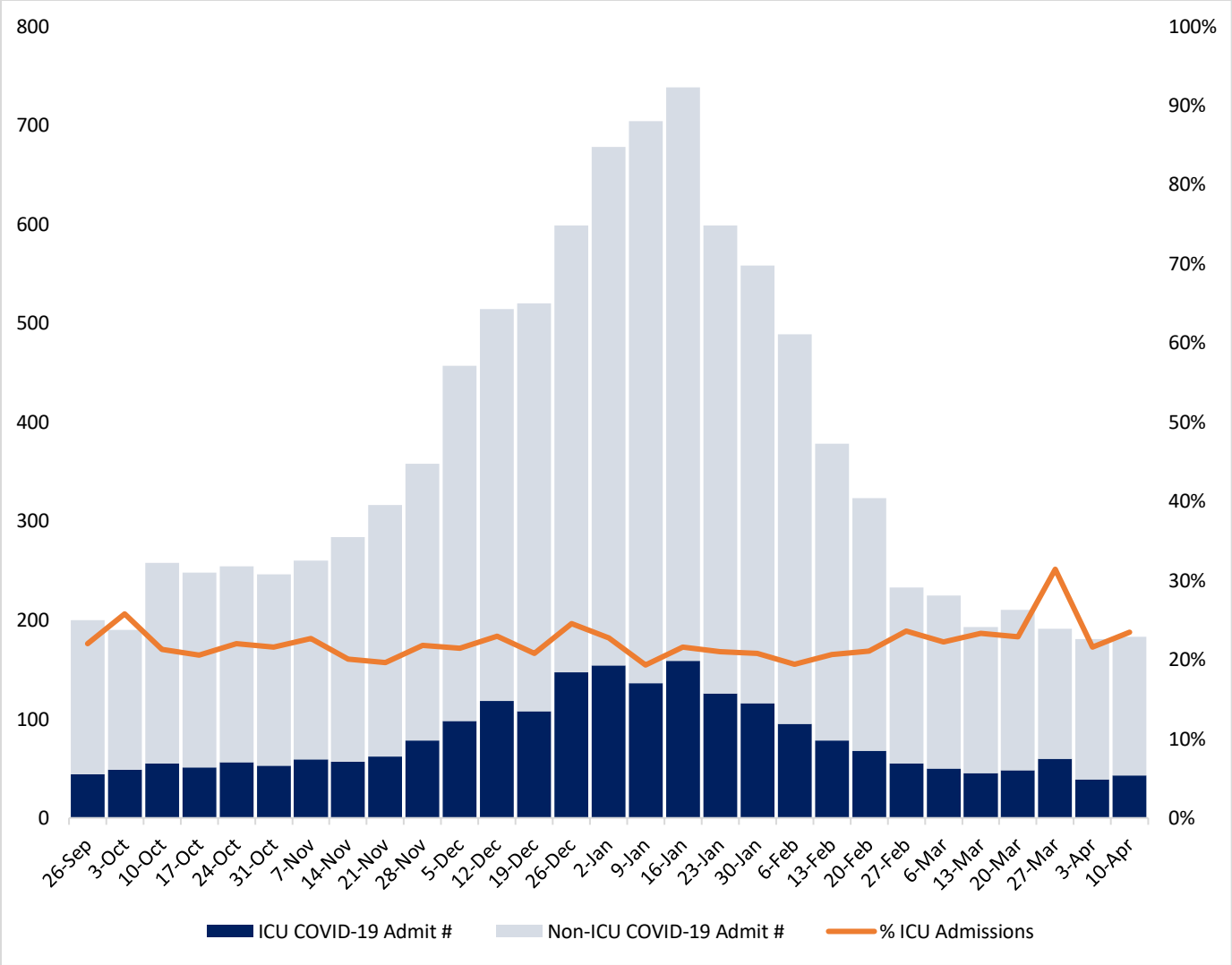
How many people were admitted to a hospital in the PHE network with COVID-19? What age groups were admitted most often?



The number of people admitted to hospitals in the PHE network for COVID-19 **INCREASED** the week ending April 10, 2021.

The most hospital admissions were among those **65+ years old** the week ending April 10, 2021.

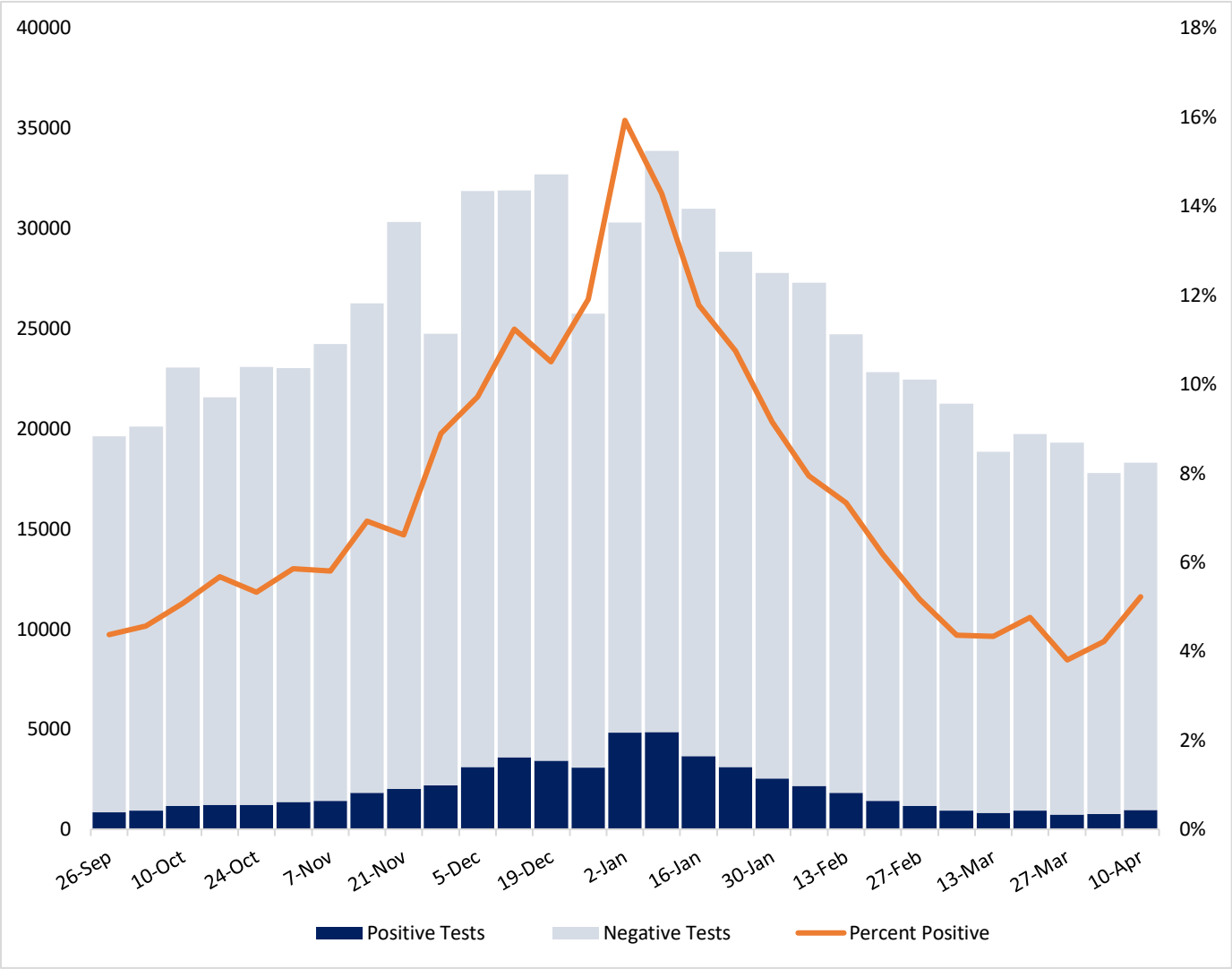
What level of care did COVID-19 patients admitted to a hospital in the PHE network require?



Patients who are admitted to the ICU versus other parts of the hospital require a higher level of care, may require a ventilator to help them breath, and are more likely to die from their illness.

The percentage of patients with COVID-19 requiring ICU level of care **INCREASED** the week ending April 10, 2021.

What percentage of people tested for the virus that causes COVID-19 at PHE facilities are positive?

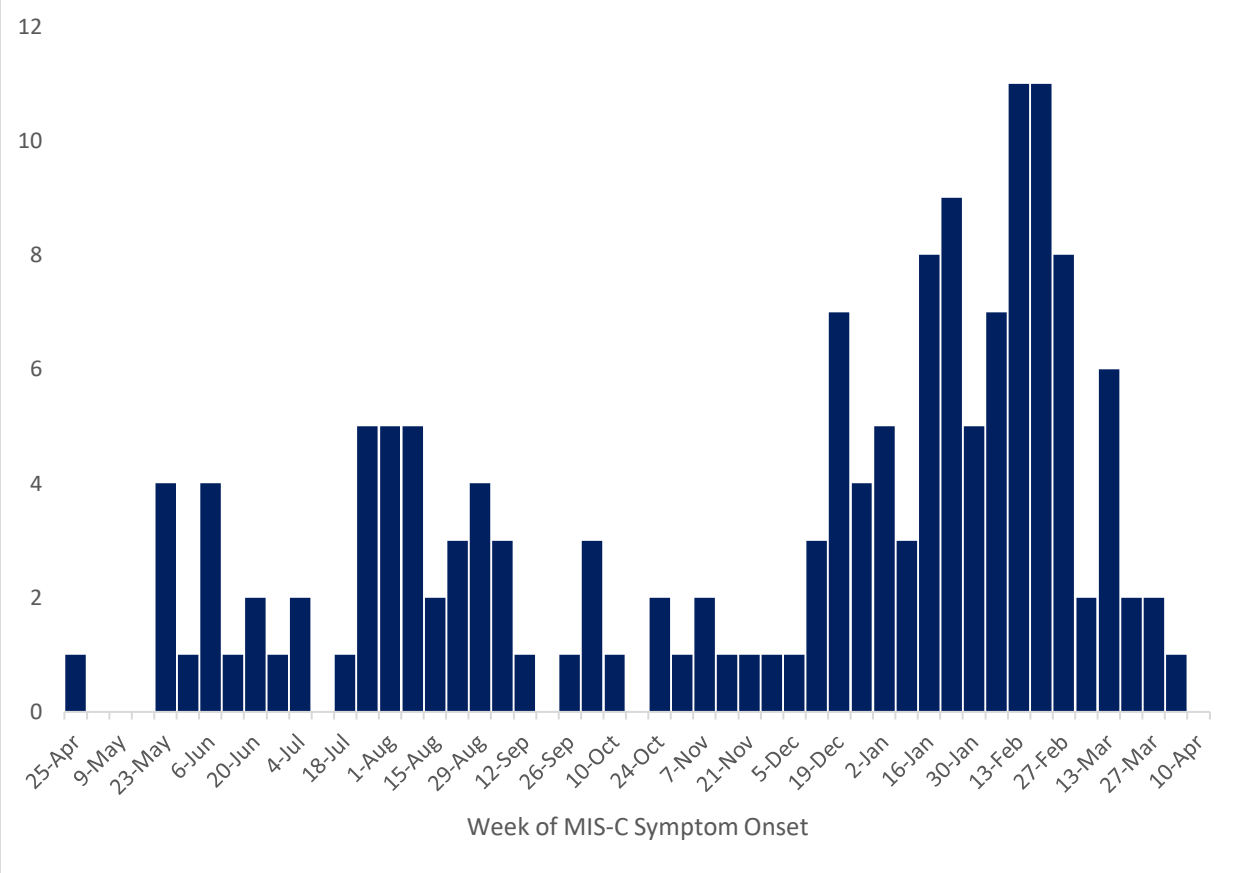


In the week ending April 10, 2021 a total of **18,312** people were tested for the virus that causes COVID-19 at PHE facilities of which **955** were positive. The percentage of people who were tested and were positive helps us to understand how common the virus is in people who get tested for COVID-19.

The percentage of people tested who were positive for the virus that causes COVID-19 **INCREASED** the week ending April 10, 2021.

How many cases meeting the CDC case definition for Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19 have been reported in North Carolina?

Number of New Cases Reported Week Ending April 10, 2021	Total Reported Cases in NC
1	153

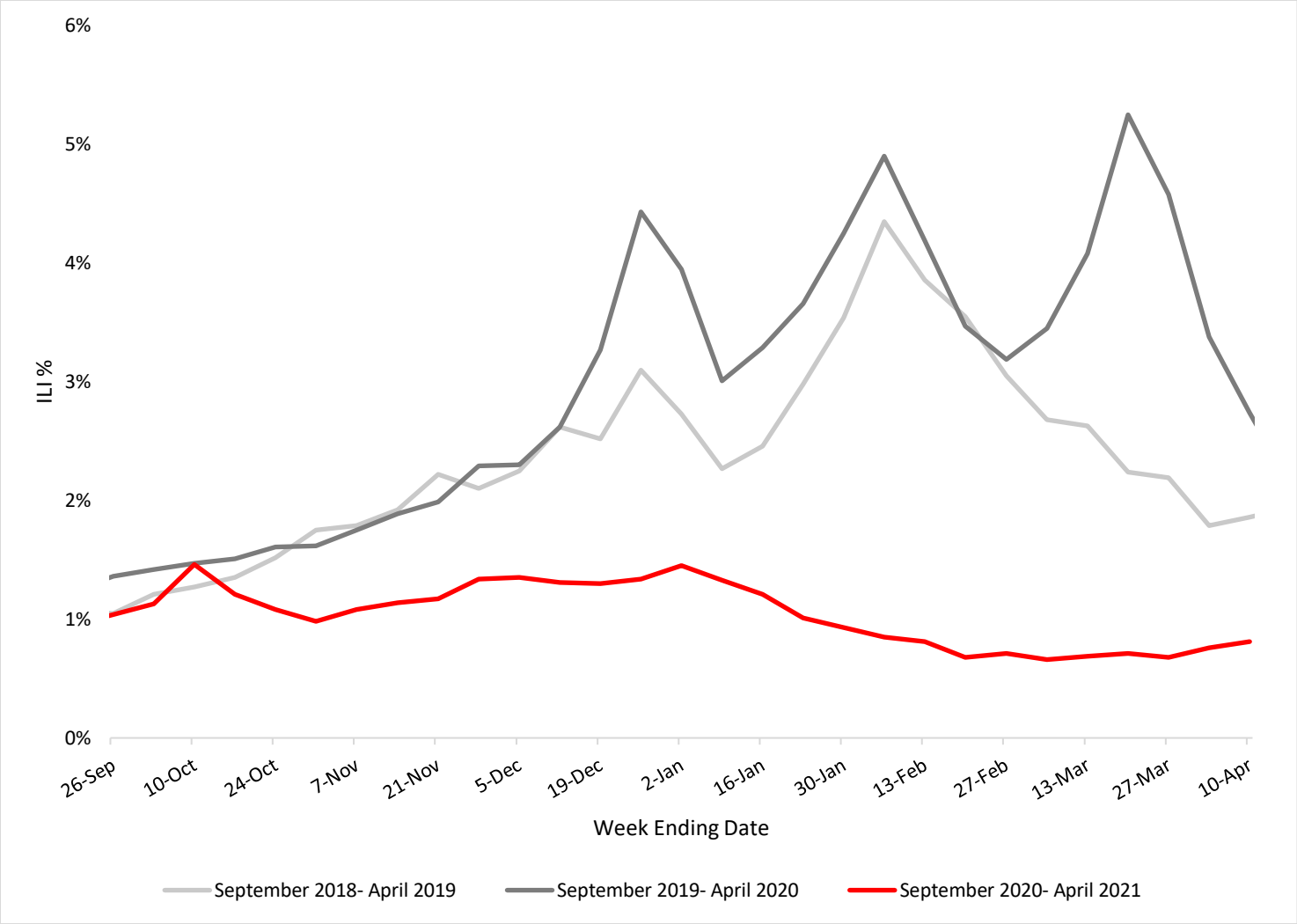


Multisystem inflammatory syndrome in children (MIS-C) is a rare health condition that has been identified in a small subset of children with current or recent COVID-19. MIS-C is similar to other serious inflammatory conditions such as Kawasaki disease and toxic shock syndrome. Children with MIS-C can have problems with their heart and other organs and need to receive medical attention.

NCDPH is looking for cases of this new syndrome is three different ways:

1. Physicians directly report suspect cases to NCDPH
2. PHEs report suspect cases to NCDPH
3. NC DETECT does surveillance for children with compatible symptoms
4. The graph above shows the number of cases that met the CDC case definition for MIS-C by the week their MIS-C symptoms first started. More information on MIS-C is available from CDC here.

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

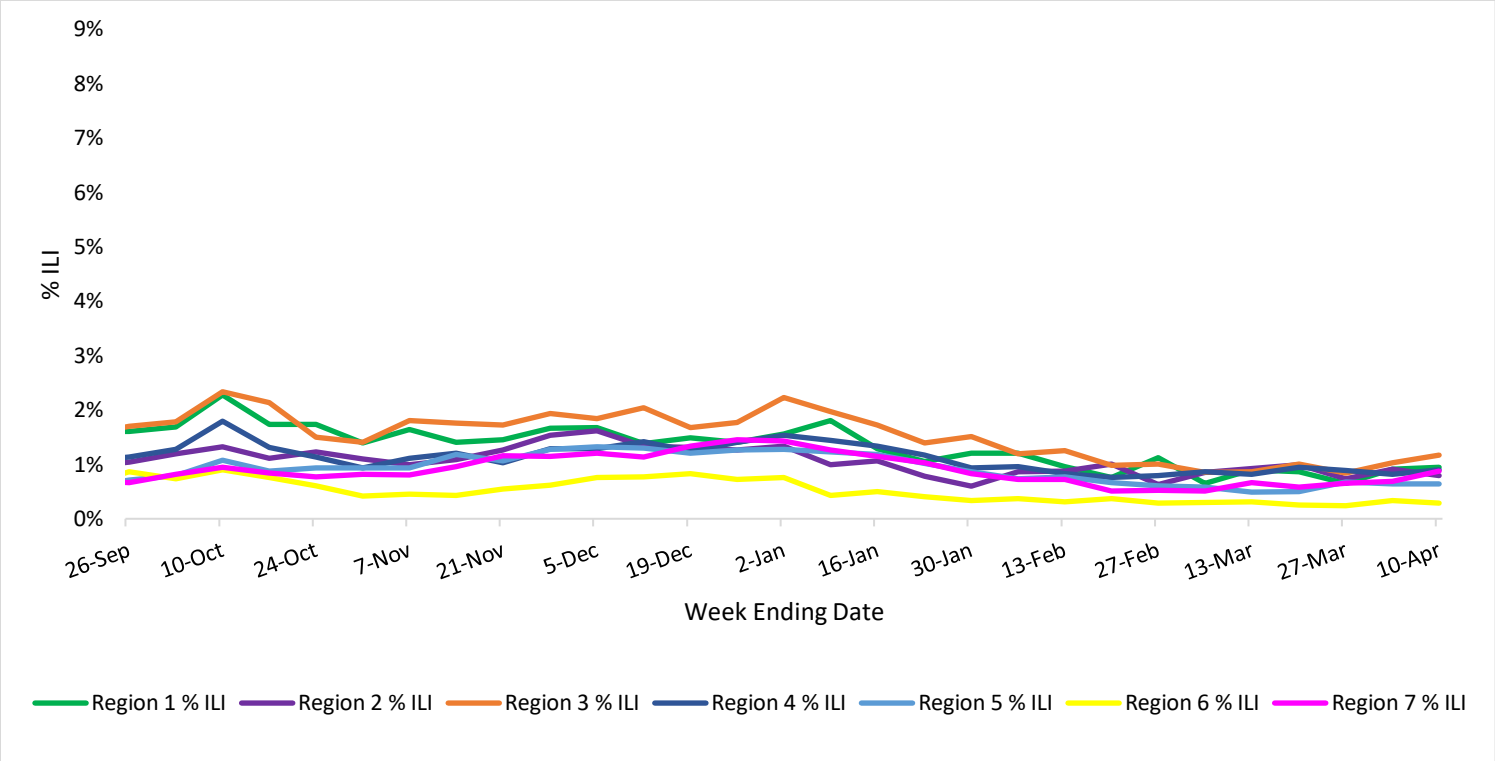


The above graph shows how the percentage of ED visits for influenza-like illness this season compares to previous seasons. Influenza and COVID-19 can both cause fever and respiratory illness, so influenza-like illness syndrome and COVID-like illness syndrome detect some of the same ED visits.

The percentage of ED visits for influenza-like illness **DID NOT CHANGE SIGNIFICANTLY*** the week ending April 10, 2021.

*The state experienced <0.1% change

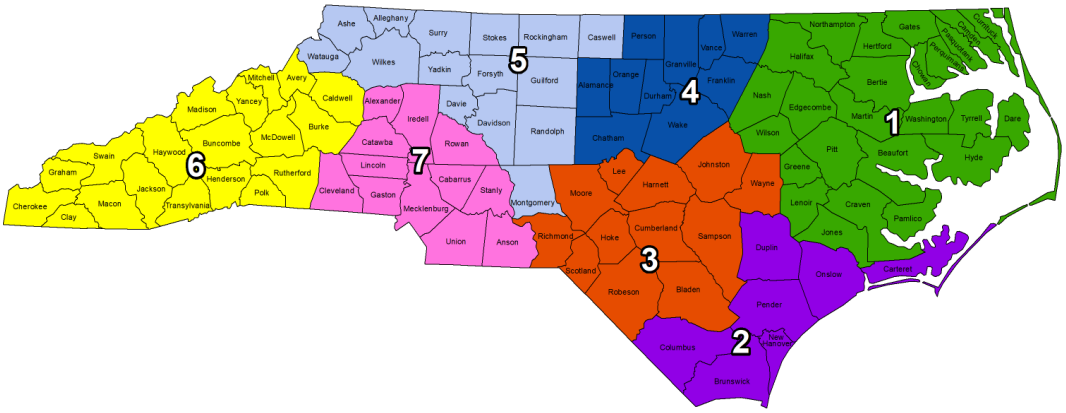
How does the percentage of ED visits for influenza-like illness compare between regions of the state?



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.

Region 2 showed a DECREASE in the percent of ED visits for influenza-like illness the week ending April 10, 2021. **Regions 3 and 7 showed an INCREASE** in the percent of ED visits for influenza-like illness the week ending April 10, 2021. **Regions 1, 4, 5, and 6 DID NOT CHANGE SIGNIFICANTLY*** in the percent of ED visits for influenza-like illness the week ending April 10, 2021.

Flu Surveillance Regions



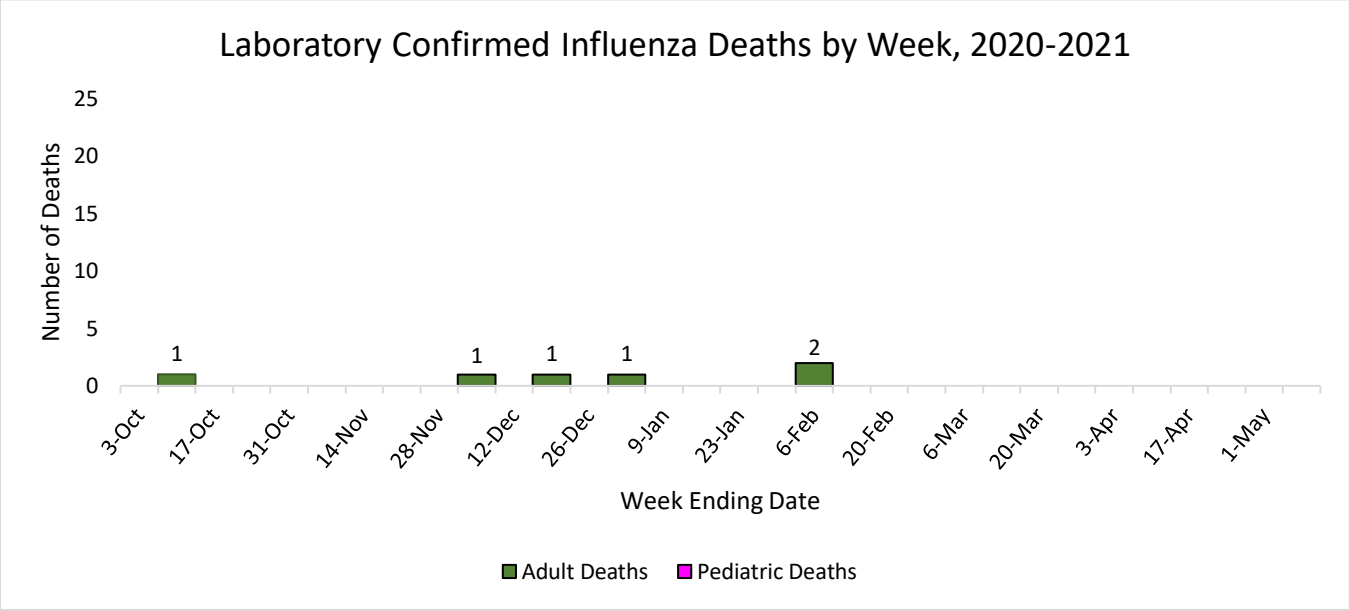
*Regions 1, 4, 5, and 6 experienced <0.1% change

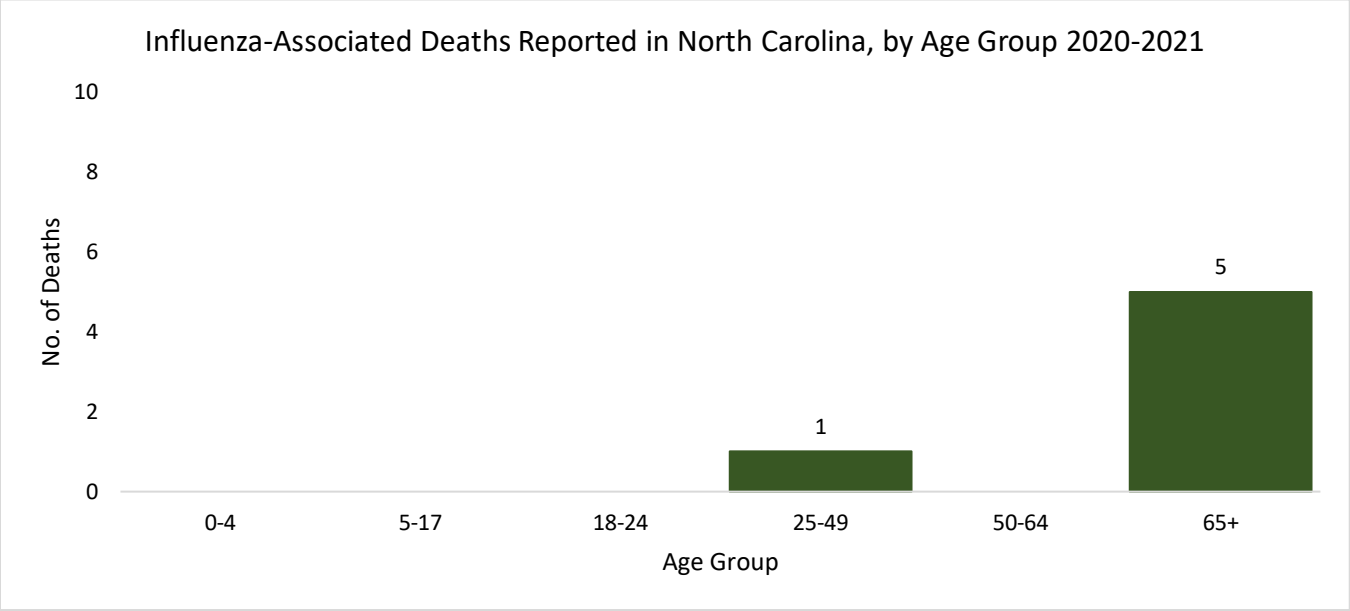
How many patients had an influenza-associated death this flu season?

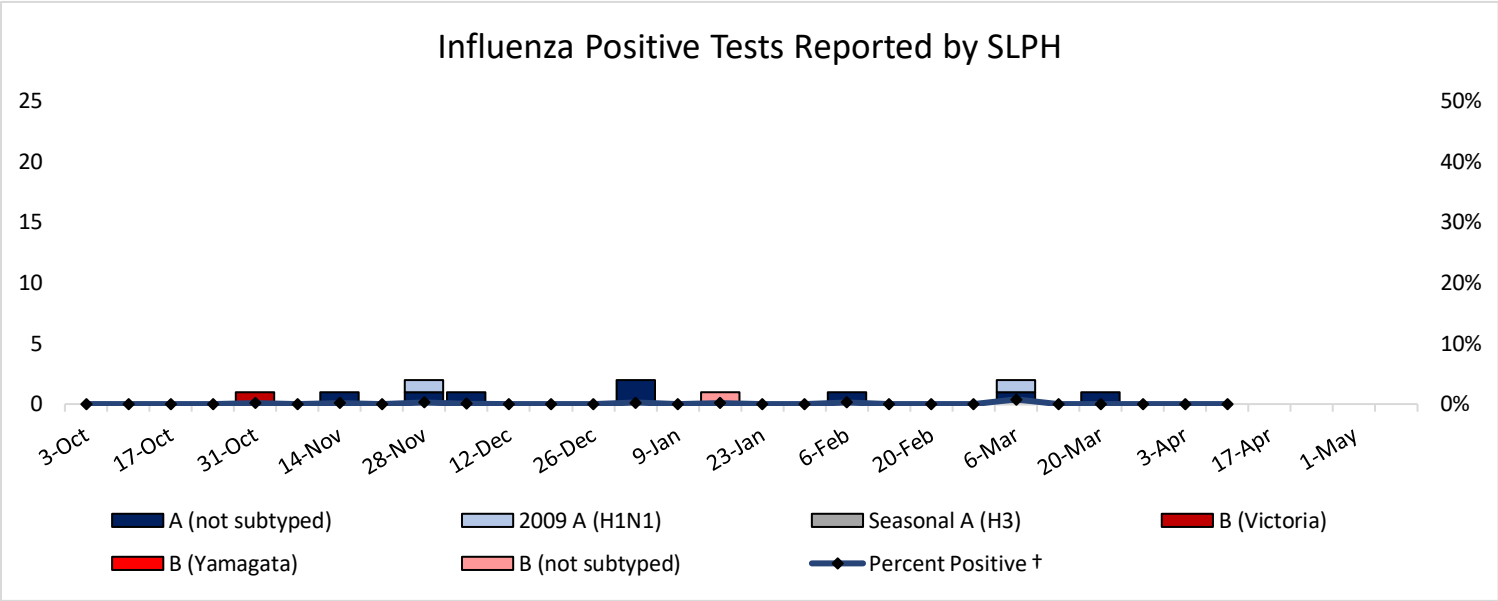
An influenza-associated death is defined for surveillance purposes as a death (adult or pediatric) resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test with no period of complete recovery between the illness and death.

Influenza-Associated Deaths Reported in North Carolina (10/3/20-5/8/21)

Flu Deaths Week Ending in 04/10	Total Flu Deaths
0	6

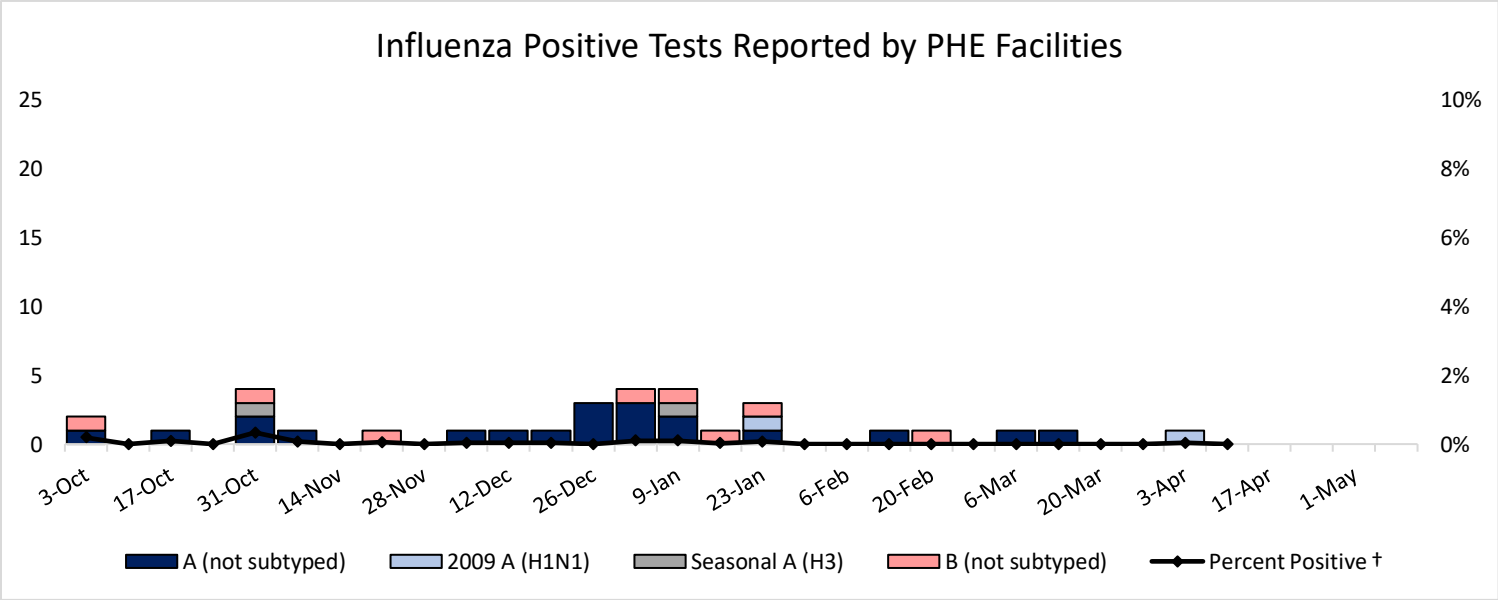




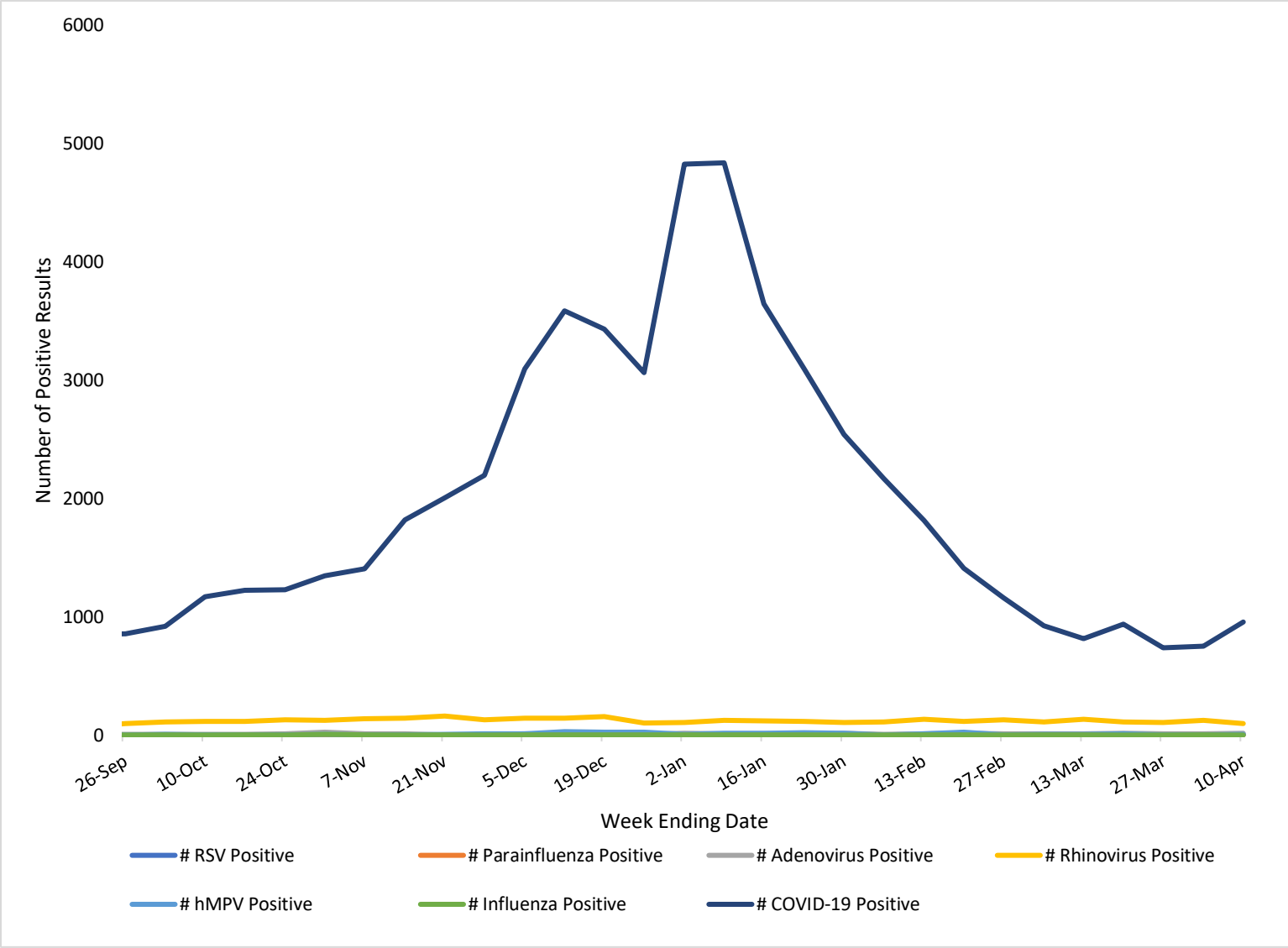


Influenza Virus Isolate Results for 2020–2021 Season*				
Virus Type	**# Positive from SLPH (04/04/21-04/10/21)**	**Total Positive for SLPH (09/27/20-05/08/2021)**	**# Positive from PHE (04/04/21-04/10/21)**	**Total Positive for PHE (09/27/20-05/08/2021)**
A (unknown)	0	8	0	20
2009 A(H1N1)	0	2	0	2
A(H3)	0	0	0	2
B (unknown)	0	1	0	8
B (Victoria)	0	1	N/A	N/A
B (Yamagata)	0	0	N/A	N/A
Total	0	12	0	32

* 2020-2021 influenza season began September 27, 2020
NOTE: PHE facilities cannot differentiate Flu B, SLPH data may change due to the COVID-19 response.



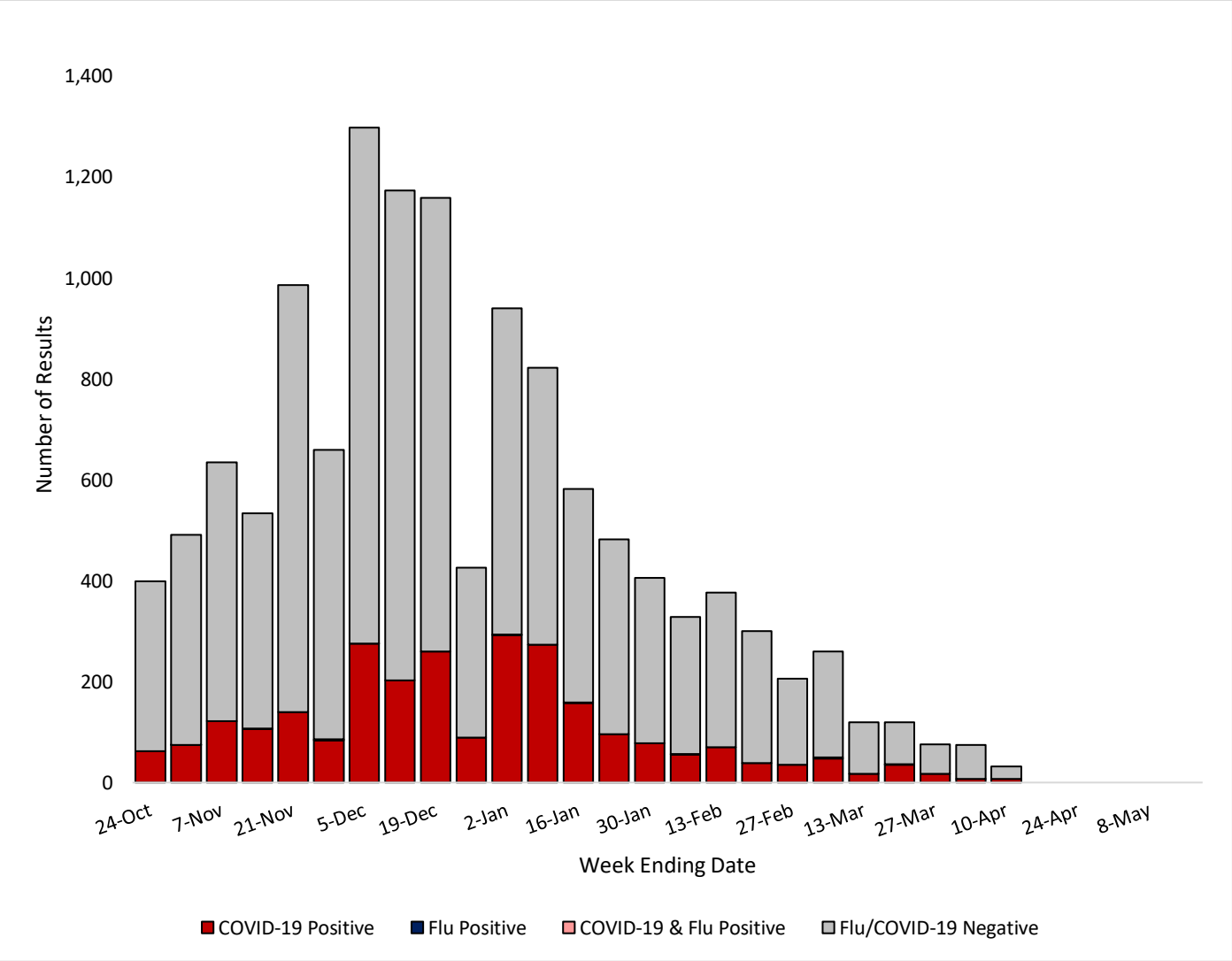
What respiratory viruses are being found in patients tested at hospitals in the PHE network?



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.

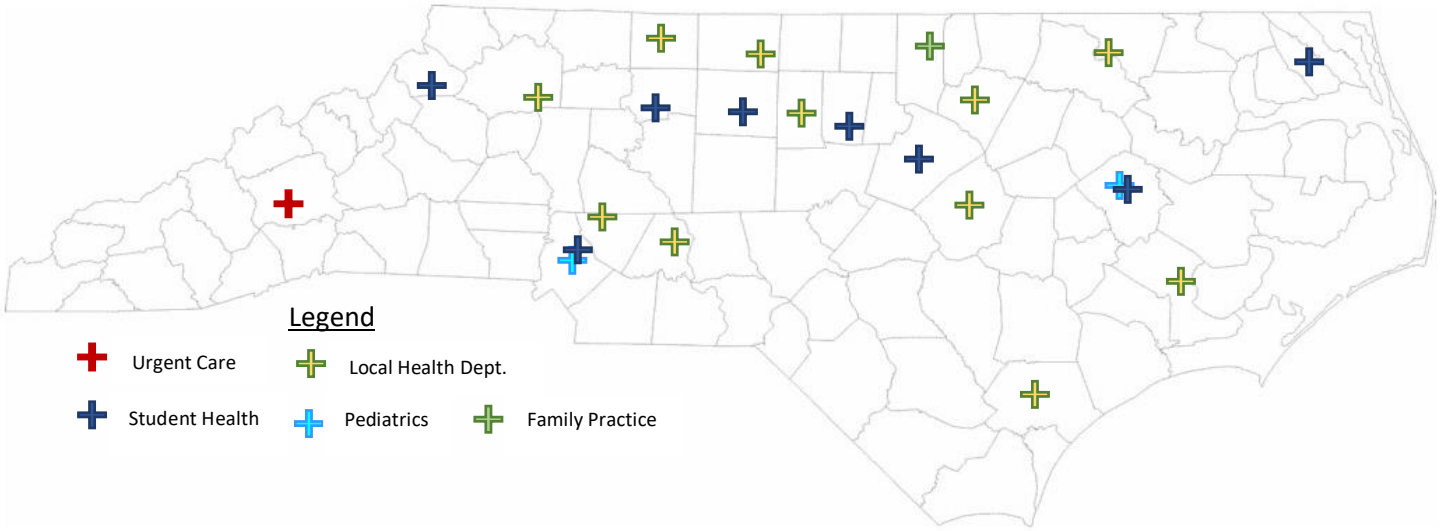
The most common respiratory virus seen in PHE facilities was **SARS-CoV-2, the virus that causes COVID-19** the week ending April 10, 2021.

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. Depending on laboratory capacity, a small number of nasopharyngeal specimens may also be tested for other respiratory viruses if they are negative for both influenza and COVID-19. 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.

There were **7** specimens positive for COVID-19, **no** specimens positive for influenza, and **no** co-infections out of **32** specimens tested with the multiplex assay at the SLPH the week ending in April 10, 2021.

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