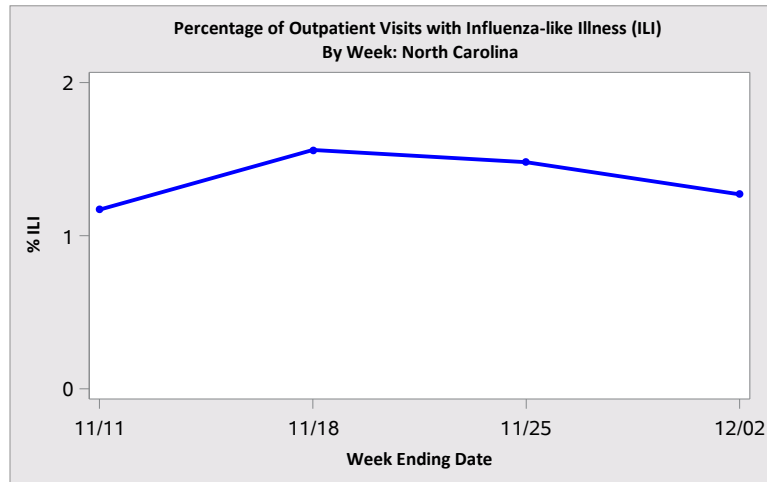


NORTH CAROLINA WEEKLY INFLUENZA SURVEILLANCE SUMMARY
 2017-2018 INFLUENZA SEASON
 WEEK 48: ENDING DECEMBER 2, 2017



Statewide Updates

Influenza-like illness (ILI) slightly decreased during week 48.

The geographic spread of flu was LOCAL for the week ending 12/2/2017.

Of the 11 samples submitted to the State Laboratory of Public Health (SLPH) for viral testing this week, 4 were positive for influenza A(H3).

Hospital-based Public Health Epidemiologists (PHEs) reported 70 positive influenza results out of 1,368 samples tested during week 48 (ending 12/2/2017); 31 were positive for influenza A(unknown), 26 were positive for influenza B, 11 were positive for influenza A(H3) and 2 were positive for influenza A(H1).

Regional Updates

The proportion of visits due to ILI in Region 4 (Southeastern US) was above baseline at 2.16% for week 47 (ending 11/25/2017). The baseline for the region is 1.9%.

National Updates

The proportion of outpatient visits due to ILI nationally was 2.25% for week 47 (ending 11/25/2017). The national baseline for ILI is 2.2%.

International Updates

November 27, 2017 - Influenza activity increased slightly in the temperate zone of the northern hemisphere while in the temperate zone of the southern hemisphere activity decreased to inter-seasonal levels. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections. In Central America and the Caribbean, influenza activity remained low but respiratory syncytial virus (RSV) activity remained high in several countries. In North America, overall influenza activity continued to increase, with detections of predominantly influenza A(H3N2) viruses. In Europe, influenza activity remained low, with detections of predominantly influenza A(H3N2) and B viruses. In Western Asia, influenza activity was low in general. In East Asia, influenza activity remained low in general. In Northern China, influenza A(H3N2) detections increased slightly. In Southern Asia, influenza activity remained low in general. In India, influenza A(H1N1) and A(H3N2) detections continued to be reported. In Northern Africa, sporadic influenza A virus detections were reported in Morocco and Tunisia. In Eastern, Middle and Western Africa, influenza detections continued to be reported, with all seasonal influenza subtypes present in the regions. In the tropical countries of South America, influenza and RSV activity remained at low levels overall.

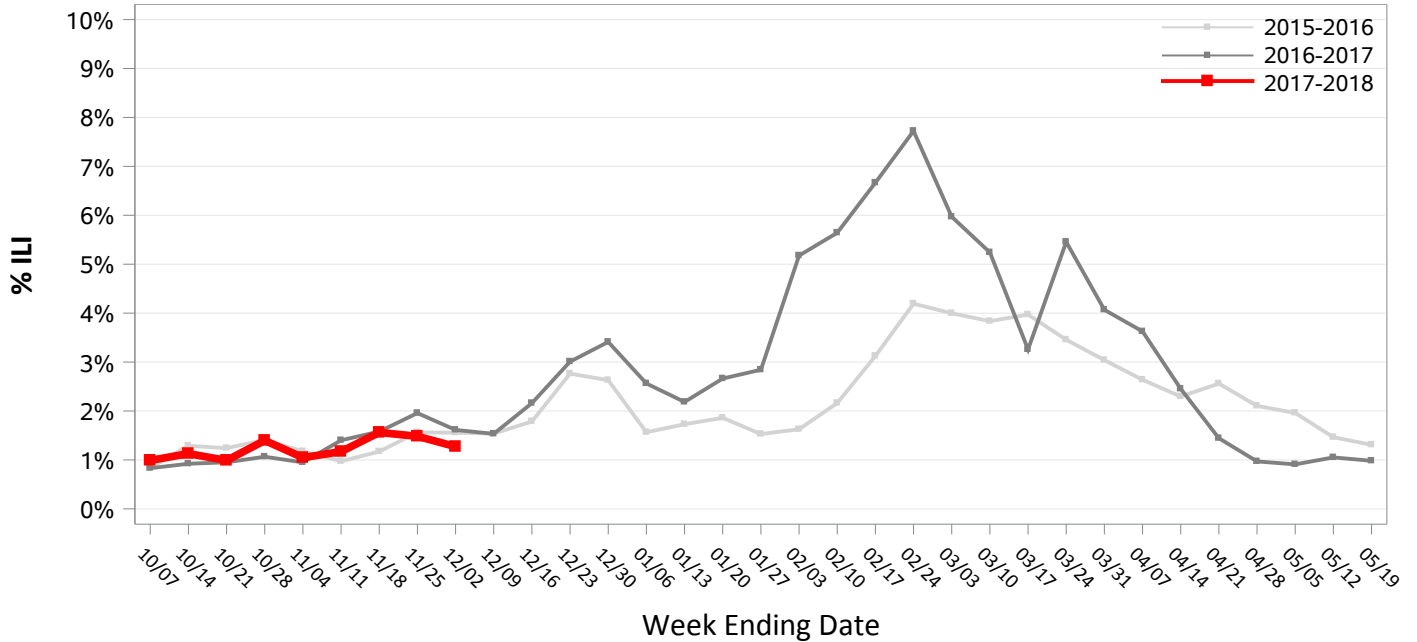
Flu Information and Guidance	
North Carolina www.flu.nc.gov	CDC www.cdc.gov/flu

INFLUENZA-LIKE ILLNESSES REPORTED BY SENTINEL SITES, 2017-2018

Week # - Ending	(Sentinels Reporting)	# ILI	# Patients	% ILI
#40 - 10/07/2017	37	109	11,008	0.99
#41 - 10/14/2017	40	143	12,675	1.13
#42 - 10/21/2017	38	132	13,343	0.99
#43 - 10/28/2017	38	209	14,964	1.40
#44 - 11/04/2017	36	156	14,907	1.05
#45 - 11/11/2017	37	145	12,394	1.17
#46 - 11/18/2017	34	219	14,028	1.56
#47 - 11/25/2017	31	102	6,881	1.48
#48 - 12/02/2017	27	159	12,504	1.27

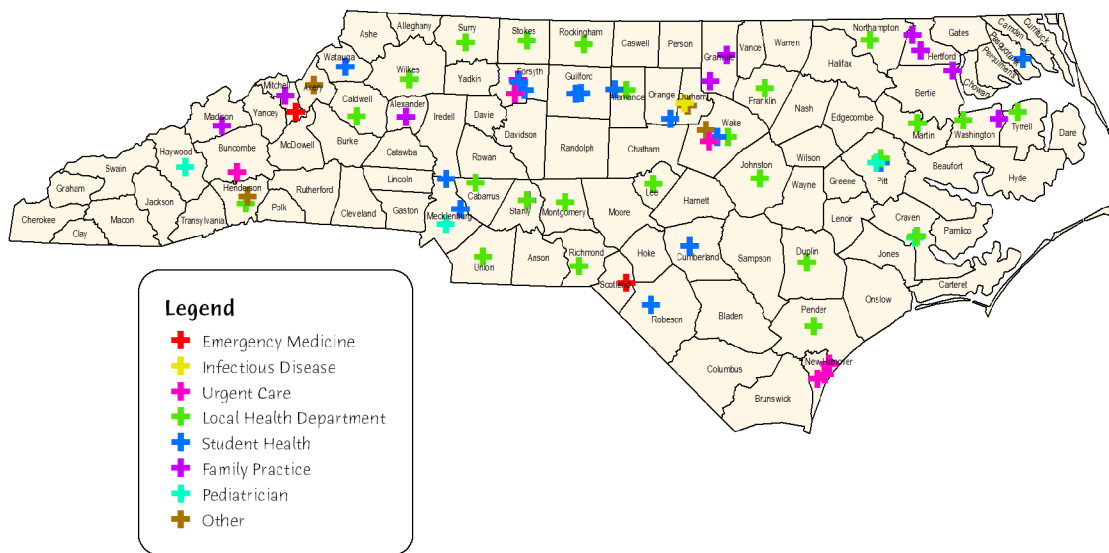
INFLUENZA SURVEILLANCE, NC 2015-2018

Influenza-Like Illness in ILINET Outpatient Visits



For more information about comparable national data, visit www.cdc.gov/ncidod/diseases/flu/weekly.htm and in particular, click on the link "View Chart Data" below "Percentage of Visits for Influenza-like Illness Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet)".

North Carolina ILI Network Provider Locations 2017-2018



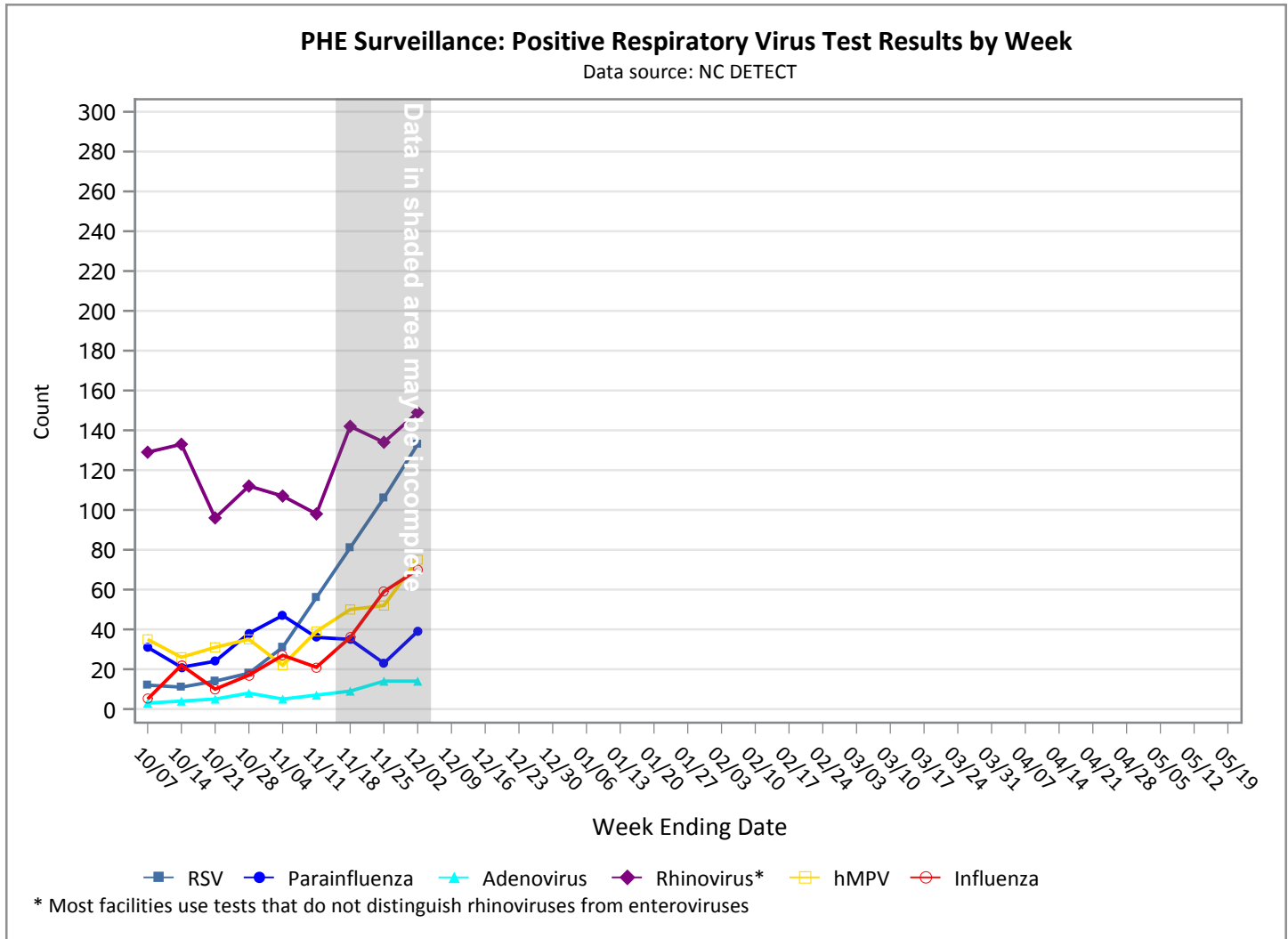
STATE CENTER FOR HEALTH STATISTICS



PHE Respiratory Viral Pathogen Surveillance

Positive test results for selected respiratory viruses are reported on a weekly basis by Public Health Epidemiologists (PHEs) located in seven of the largest hospital networks across North Carolina. The graph below shows the number of positive tests for respiratory syncytial virus (RSV), parainfluenza, adenovirus, rhinovirus, and human metapneumovirus (hMPV) by week.

These data provide a useful indication of which other respiratory viruses are circulating and possibly contributing to ILI in the state. Please note that the total number of tests performed is not available from all hospital networks, so the overall proportion testing positive cannot be calculated. Also, testing protocols and practices differ among hospitals. Finally, these numbers reflect test results from participating hospitals only and might not be reflective of the entire state.



- Rhinovirus* was the most frequently identified respiratory viral pathogen during week 48 (ending 12/02/2017) followed by RSV.

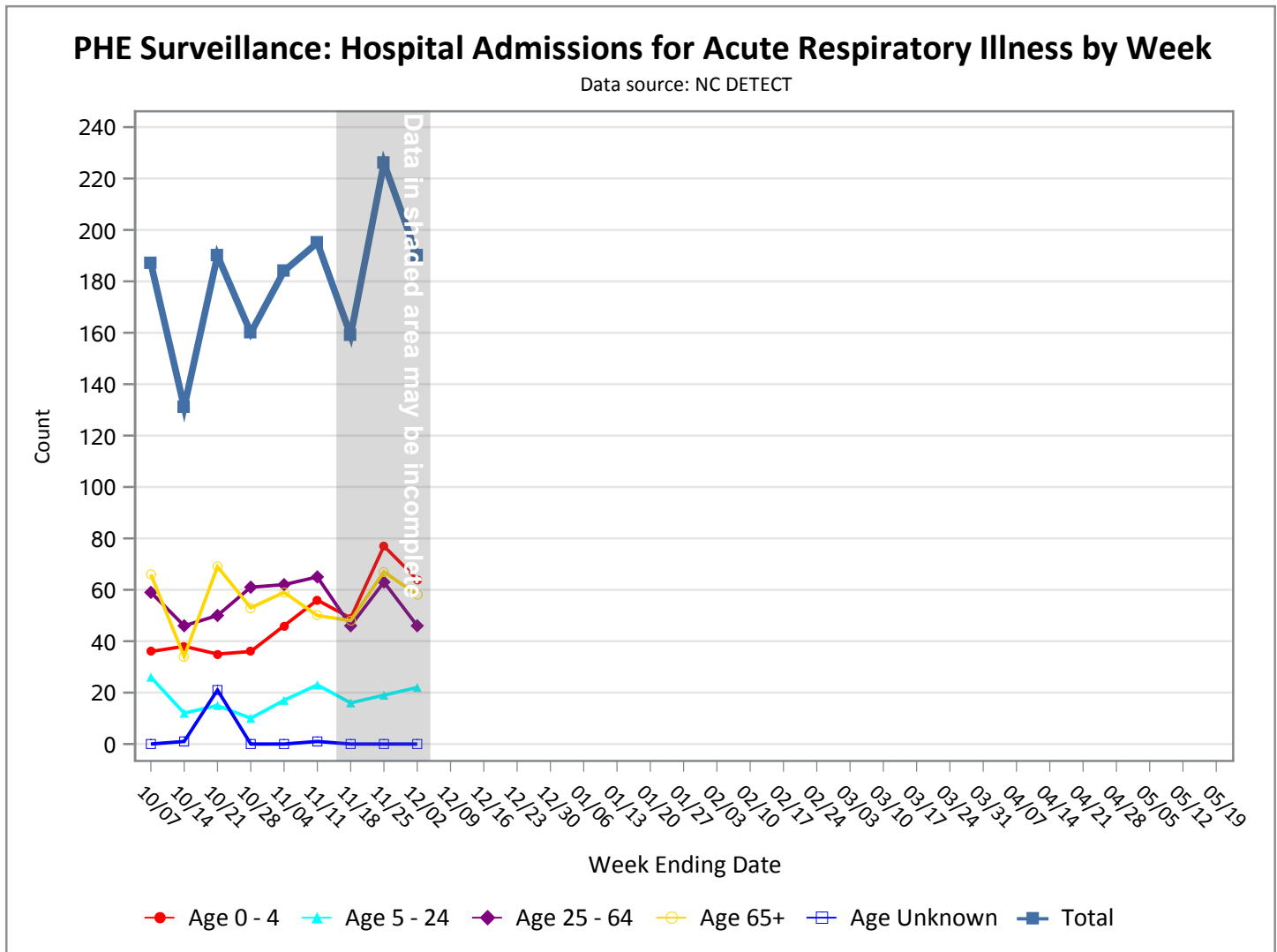
INFLUENZA VIRUS ISOLATES IDENTIFIED BY PHE FACILITIES FOR 2017–2018 SEASON*

Virus Type	# New positive results (11/26/2017-12/2/2017)	# Cumulative positive results (10/1/2017-5/19/2018)
A(H1)	2	6
A/H3	11	38
A (subtype unknown)	31	147
B	26	77
Total	70	268

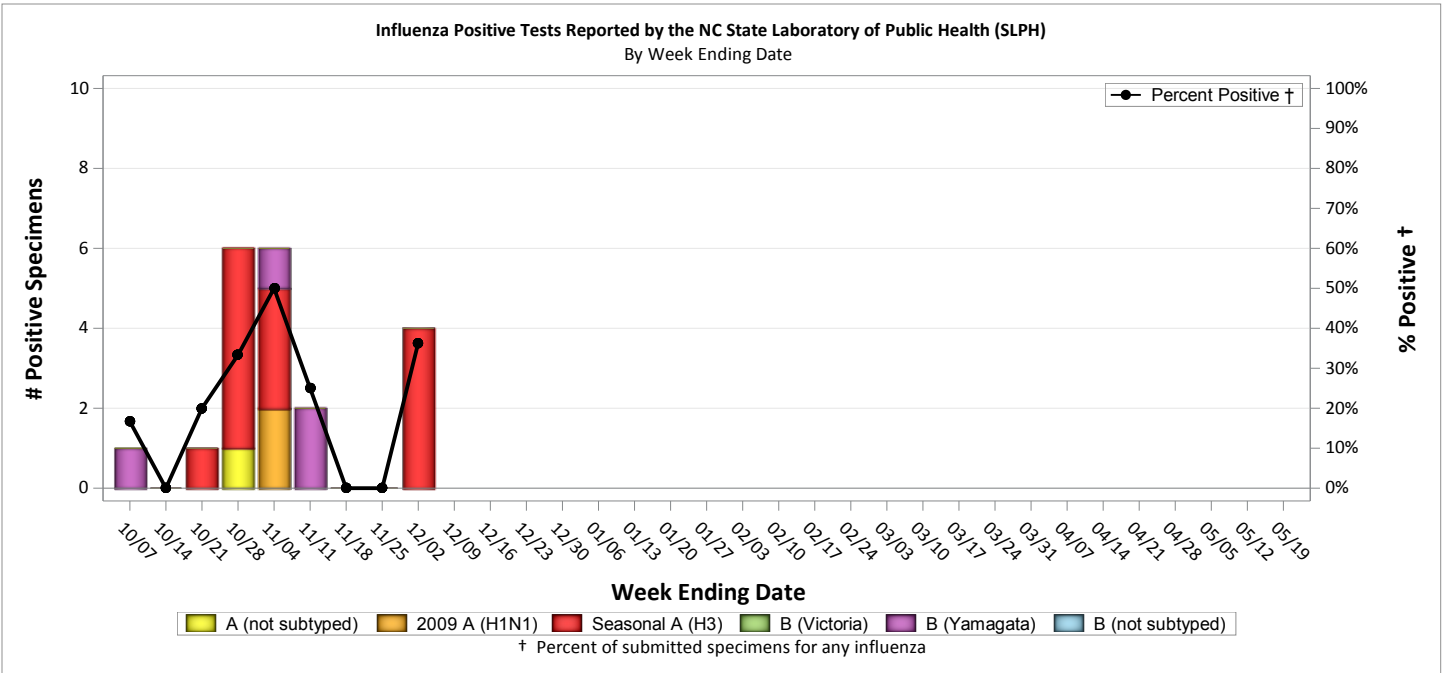
PHE Acute Respiratory Admissions Surveillance

The number of patients admitted to the hospital with fever plus respiratory symptoms in the absence of a known cause other than influenza is reported on a weekly basis by Public Health Epidemiologists (PHEs) located in seven of the largest hospital networks across North Carolina. The graph below shows the number of acute respiratory illness admissions to participating hospitals by age group.

In conjunction with other surveillance information, these data help us monitor for changes in severity of respiratory illness during periods when influenza is circulating. Please note that these reports are not limited to patients with laboratory-confirmed influenza infection. Also, these numbers reflect admissions to participating hospitals only and are not be reflective of the entire state.



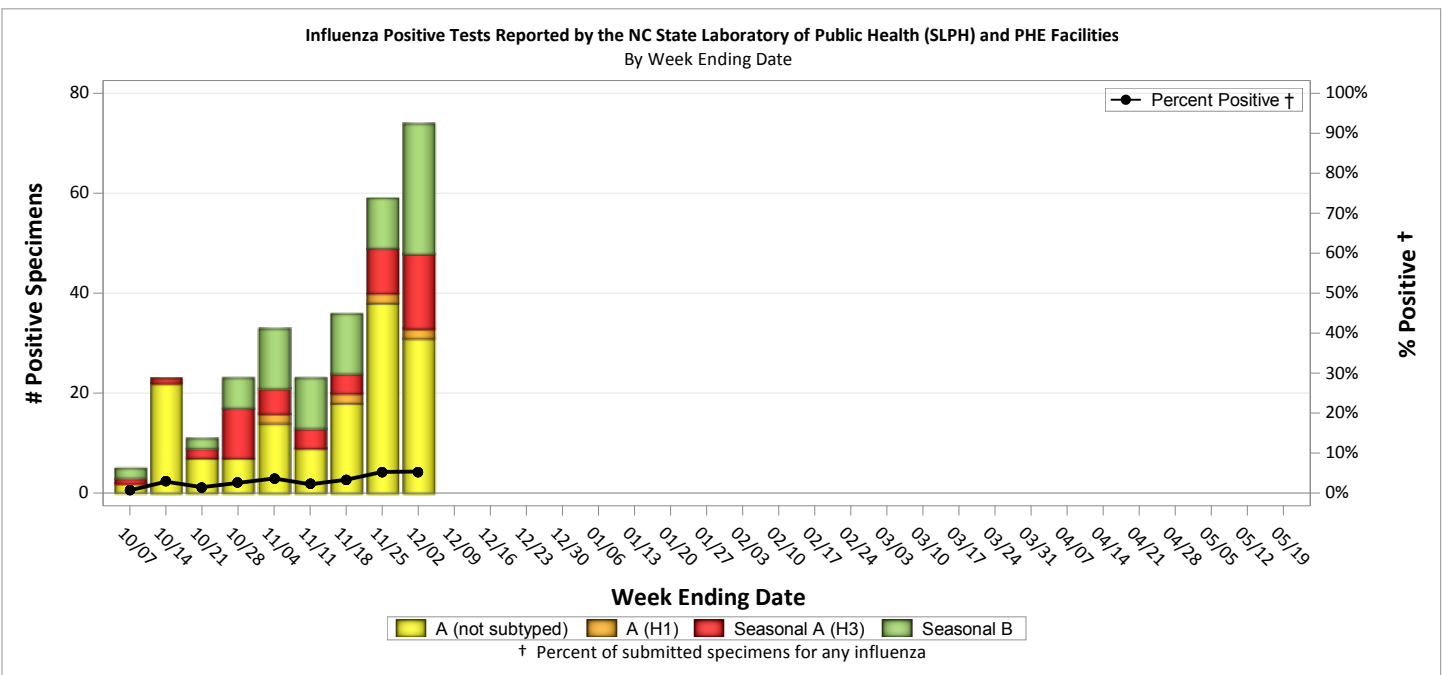
- Acute respiratory admissions decreased during week 48 (ending 12/02/2017).
- The highest number of acute respiratory admissions during week 48 was for patients Age 0 - 4 followed by Age 65+.



INFLUENZA VIRUS ISOLATES FROM IN-STATE PATIENTS IDENTIFIED BY THE STATE LABORATORY OF PUBLIC HEALTH 2017–2018 SEASON*

Virus Type	# New Positive Results (11/26/17-12/2/17)	# Cumulative Positive Results (10/1/17 - 5/19/18)
A (unknown)	0	1
2009 A(H1N1)	0	2
A(H3)	4	13
B (unknown)	0	0
B (Victoria)	0	0
B (Yamagata)	0	4
Total	4	20

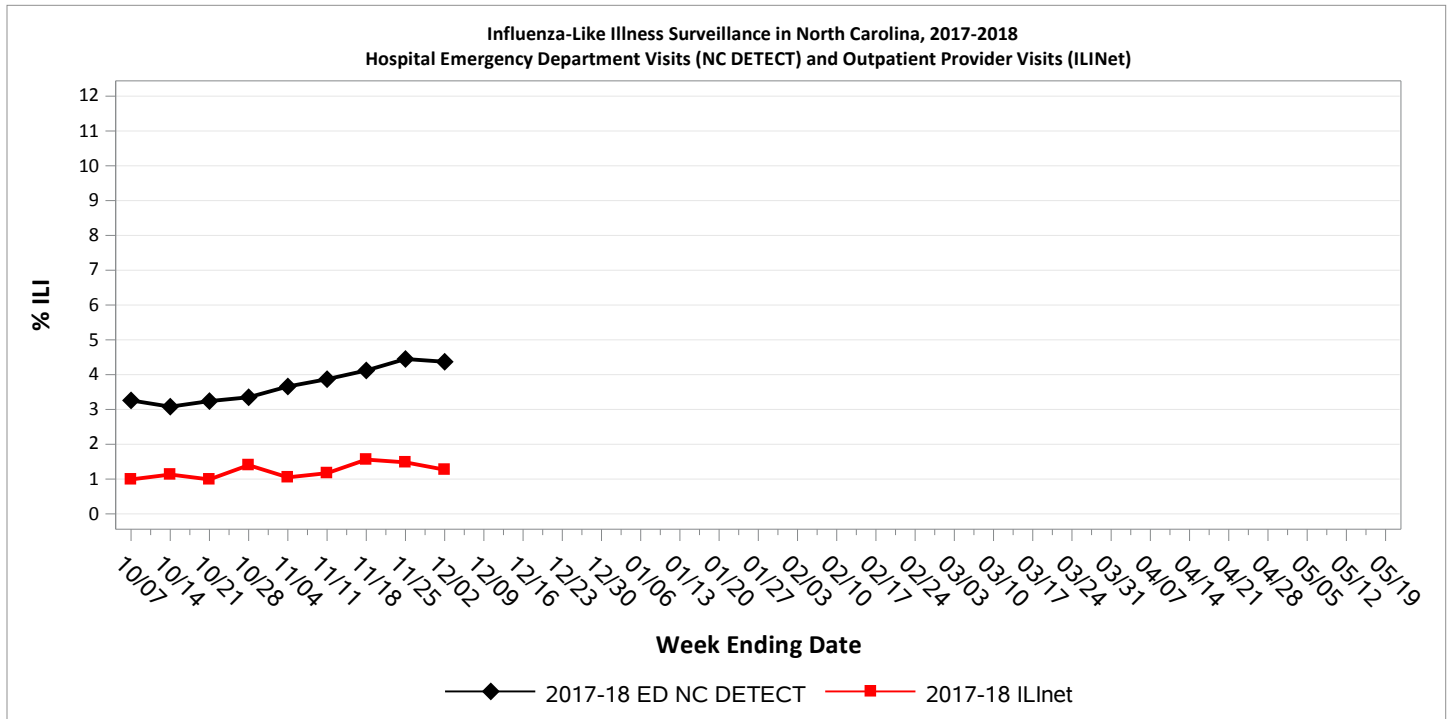
* 2017-2018 influenza season began October 1, 2017.
 NOTE: This table includes isolates tested as of 10/01/2017
 This table does not include influenza isolates identified by other laboratories



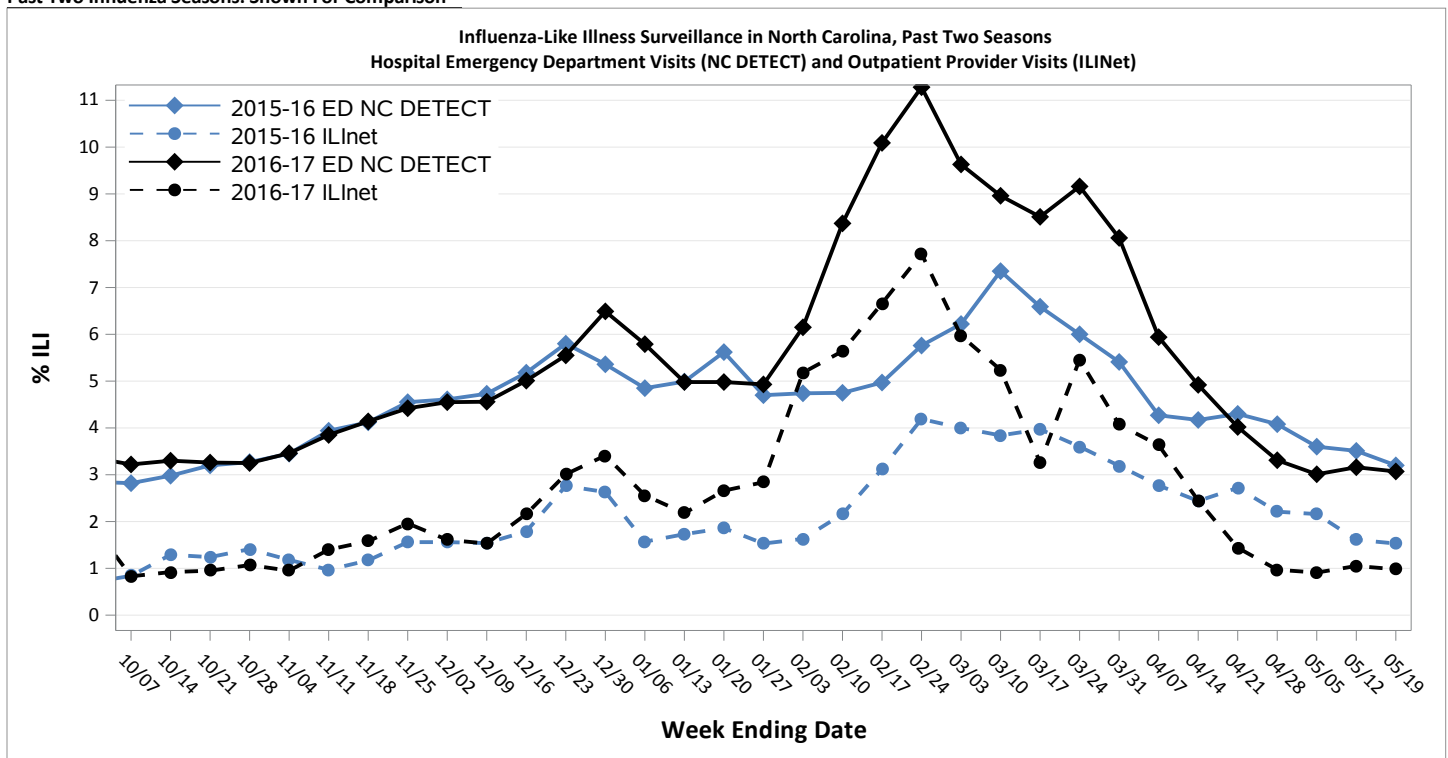
North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) ILI Surveillance

Near real-time syndromic surveillance for ILI is conducted through the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). This system uses a variety of data sources including emergency departments (EDs). NC DETECT is currently receiving data daily from 122 of the 123 24/7 EDs in North Carolina. The NC DETECT ILI syndrome case definition includes any case with the term 'flu' or 'influenza', or at least one fever term and one influenza-related symptom.

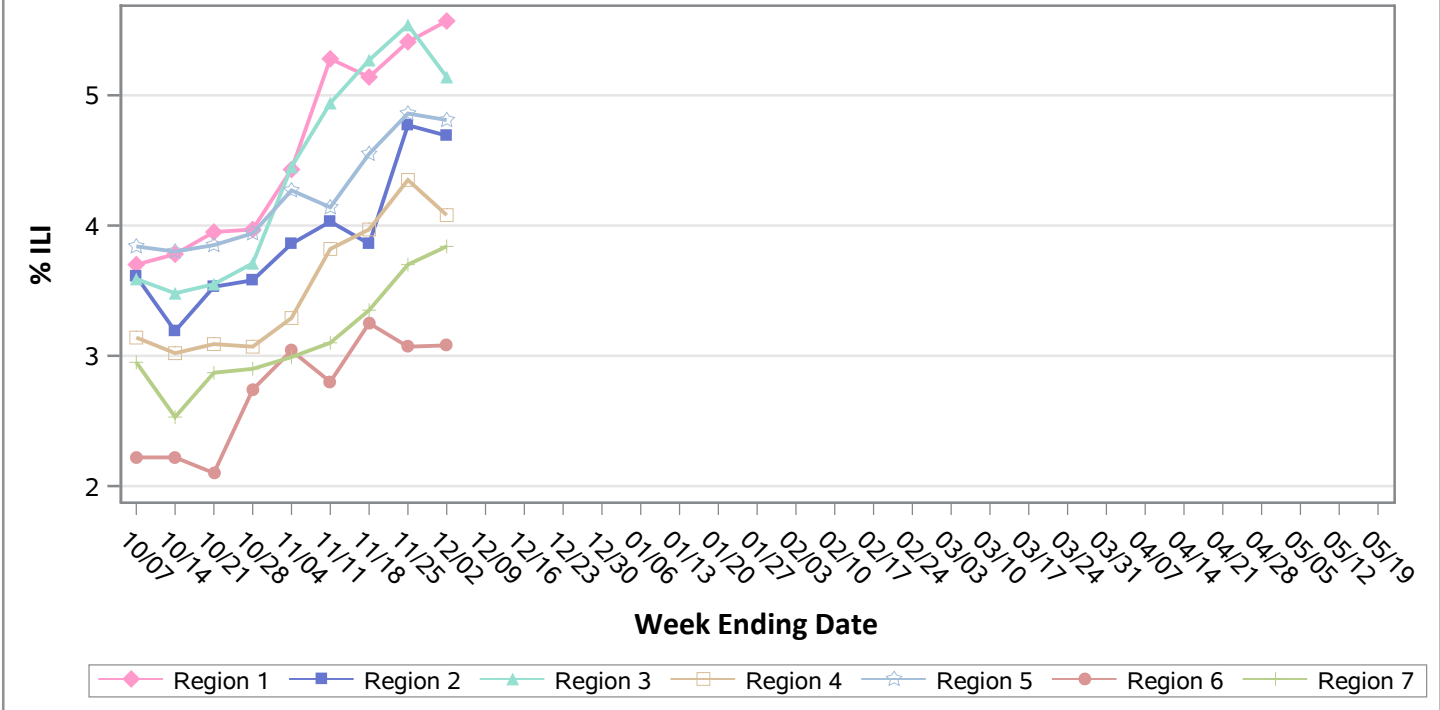
The proportion of ED visits meeting the ILI syndrome definition is monitored throughout the year and compared to data obtained from Influenza-like Illness Surveillance Network (ILINet). In past years, data from the two systems have shown similar trends (below). The higher proportion of ILI seen in NC DETECT compared to ILINet reflects differences in the case definitions and patient populations rather than a difference in the sensitivity of these surveillance systems.



Past Two Influenza Seasons: Shown For Comparison

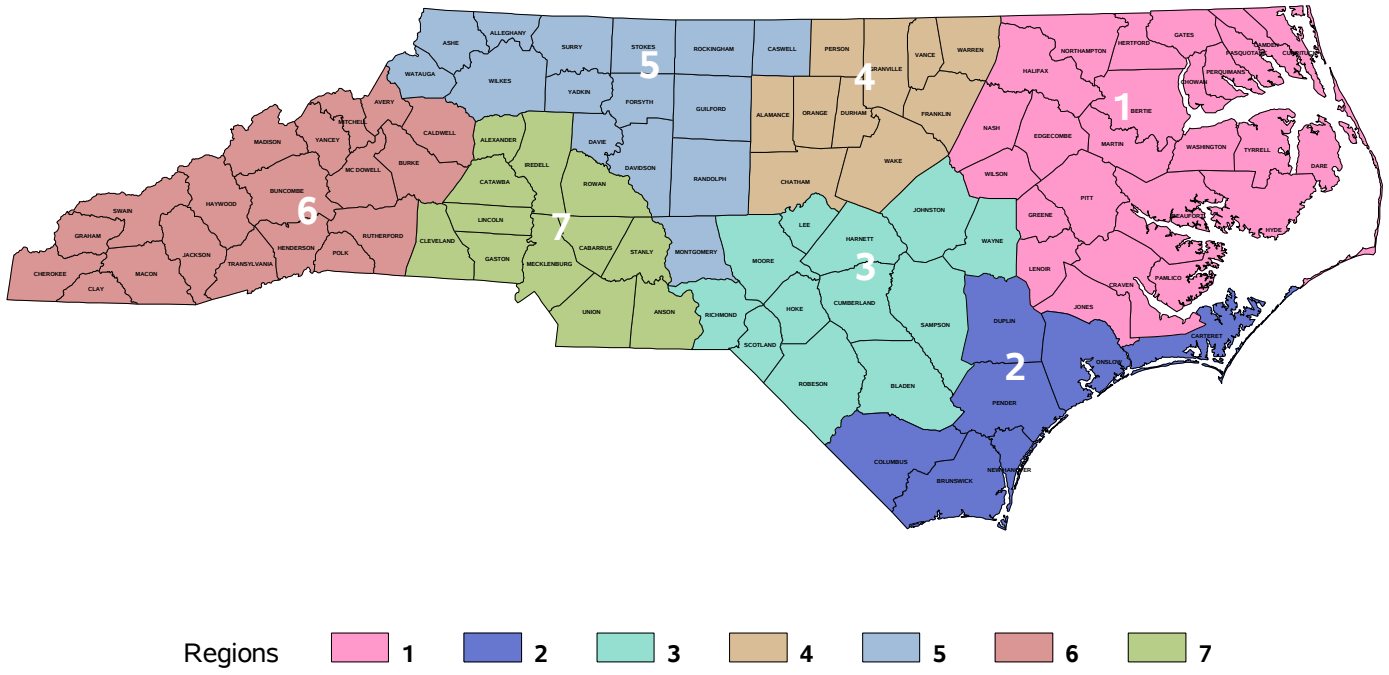


Percentage of Total Visits by Week, Grouped by Flu Surveillance Regions: NC DETECT ED Influenza-Like Illness (ILI), 2017-2018



NOTE: This graph begins with data starting week ending October 7, 2017 for the 2017-2018 influenza season.

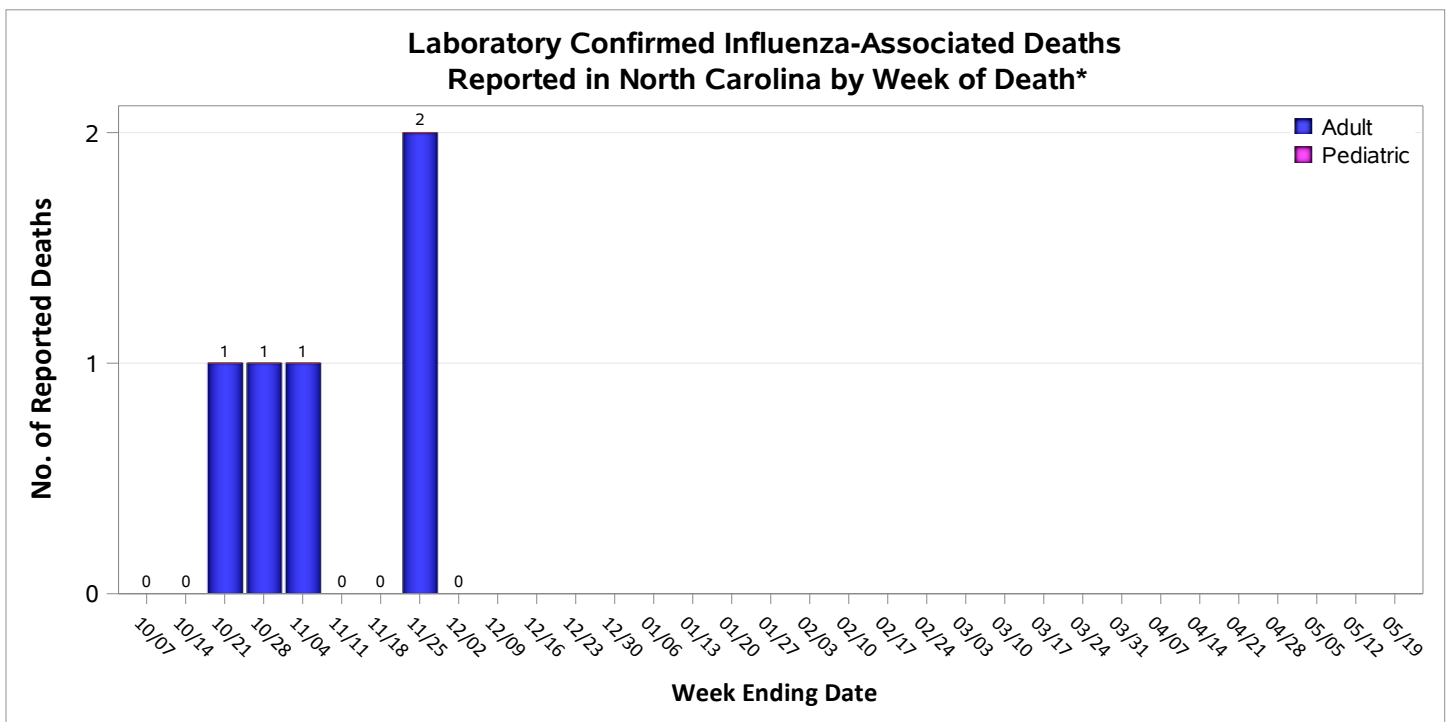
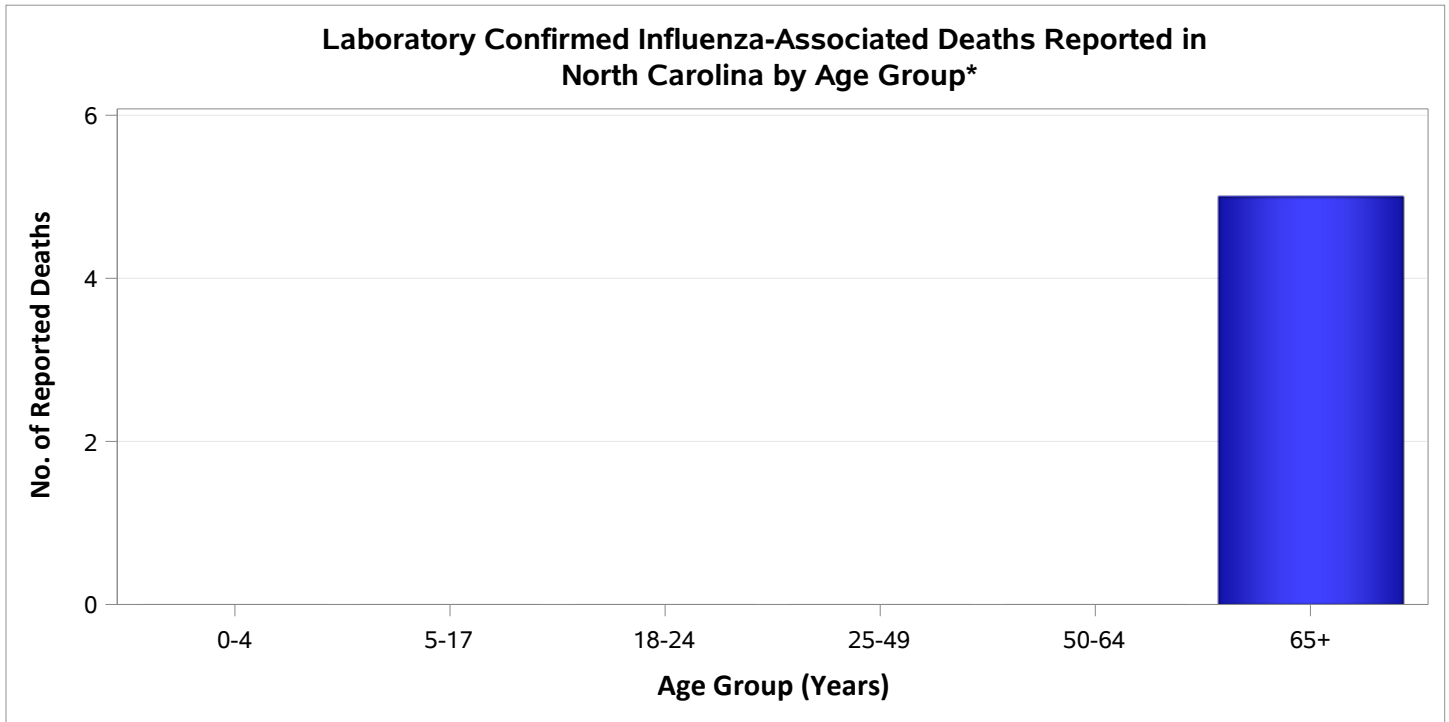
Flu Surveillance Regions



NC Influenza-Associated Deaths*

Influenza-Associated Deaths This Week (11/26/2017 – 12/02/2017)	Total Influenza-Associated Deaths This Season (starting 10/01/2017)
0	5

***Influenza-associated Deaths** – This number is based on reports submitted by providers to the NC Division of Public Health. 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. Deaths that occurred on or after 10/01/2017 will be reflected in this report for the 2017-2018 season.



PARTICIPANTS IN NORTH CAROLINA'S INFLUENZA SENTINEL SURVEILLANCE PROGRAM THAT HAVE REPORTED DATA TO CDC

LOCAL HEALTH DEPARTMENT/DISTRICT OFFICES - 22

Alamance County Health Department
 Cabarrus Health Alliance
 Caldwell County Health Department
 Craven County Health Department
 Duplin County Health Department
 Franklin County Health Department
 Henderson County Health Department
 Johnston County Health Department
 Lee Primary Care
 Montgomery County Health Department
 Northampton County Health Department
 Pender County Health Department
 Pitt County Public Health Center
 Richmond County Health Department
 Rockingham County Health Department
 Rowan County Health Department
 Stanly County Health Department
 Stokes Family Health Center
 Surry County Health and Nutrition Center
 Union County Health Department
 Wake County Health Department, Children's Clinic
 Wilkes County Health Department

COLLEGES AND UNIVERSITIES STUDENT HEALTH PROGRAMS - 15

Appalachian State University Student Health Services
 Davidson College Student Health Center
 ECU Student Health Services
 Elizabeth City State University Student Health Services
 Elon University R. N. Ellington Health and Counseling Center
 Fayetteville State University
 Meredith College Student Health Center
 NC Agricultural & Technical State University Student Health Services
 NC State University Student Health Services
 UNC-Chapel Hill Student Health Services
 UNC-Charlotte Student Health Services
 UNC-Greensboro Student Health Services
 UNC-Pembroke Student Health Services
 Wake Forest University Student Health Services
 Winston-Salem State University

PRIVATE PRACTITIONERS - 24

Bakersville Community Medical Center
 Blue Cross and Blue Shield of N.C.
 Blue Ridge Community Health Services
 Butner-Creedmoor Family Medicine
 Coastal Childrens Clinic
 Colerain Primary Care
 Creswell Primary Care
 Dilworth Pediatrics
 ECU Brody School of Medicine – Department of Pediatrics
 Family Care Center
 Haywood Pediatric and Adolescent Medicine Group, PA
 Hot Springs Health Program
 MEDAC Health Services at Shipyard Blvd.
 MEDAC Health Services at Porter's Neck
 MEDAC Health Services at Military Cutoff
 Minute Clinic - Cary
 Murfreesboro Primary Care
 Novant Health Urgent Care
 Oxford Family Physicians
 PrimeCare of Northpoint
 Roanoke Chowan Community Health Center
 SAS Institute Health Care Center
 Sisters of Mercy Urgent Care, South
 Stanly Family Care Clinic

HOSPITALS - 3

Blue Ridge Regional Hospital
 Durham VAMC
 Scotland Healthcare System

Total Sentinels Enrolled - 64

Counties Covered - 42:

Alamance (2), Alexander (1), Bertie (1), Buncombe (1), Cabarrus (1), Caldwell (1), Craven (2), Cumberland (1), Duplin (1), Durham (2), Forsyth (4), Franklin (1), Granville (2), Guilford (2), Haywood (1), Henderson (2), Hertford (2), Johnston (1), Lee (1), Madison (1), Mecklenburg (3), Mitchell (2), Montgomery (1), New Hanover (3), Northampton (1), Orange (1), Pasquotank (1), Pender (1), Pitt (3), Richmond (1), Robeson (1), Rockingham (1), Rowan (1), Scotland (1), Stanly (2), Stokes (1), Surry (1), Union (1), Wake (5), Washington (1), Watauga (1), Wilkes (1)