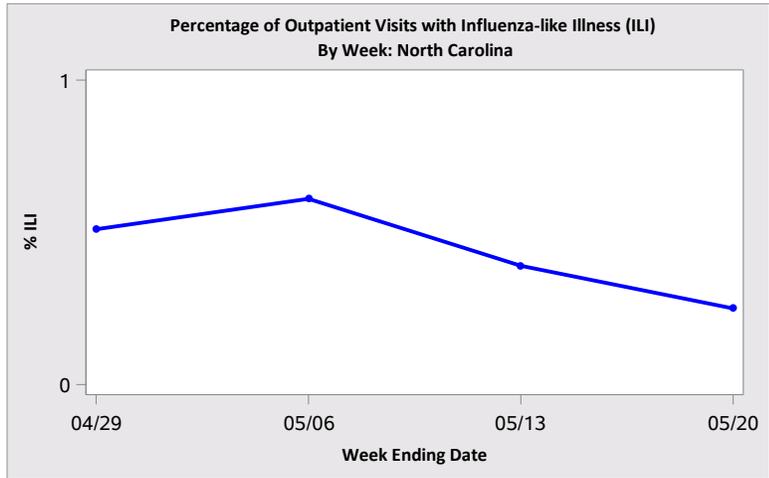


**Final Summary 2016-2017**

**NORTH CAROLINA WEEKLY INFLUENZA SURVEILLANCE SUMMARY  
2016-2017 INFLUENZA SEASON  
WEEK 20: ENDING MAY 20, 2017**



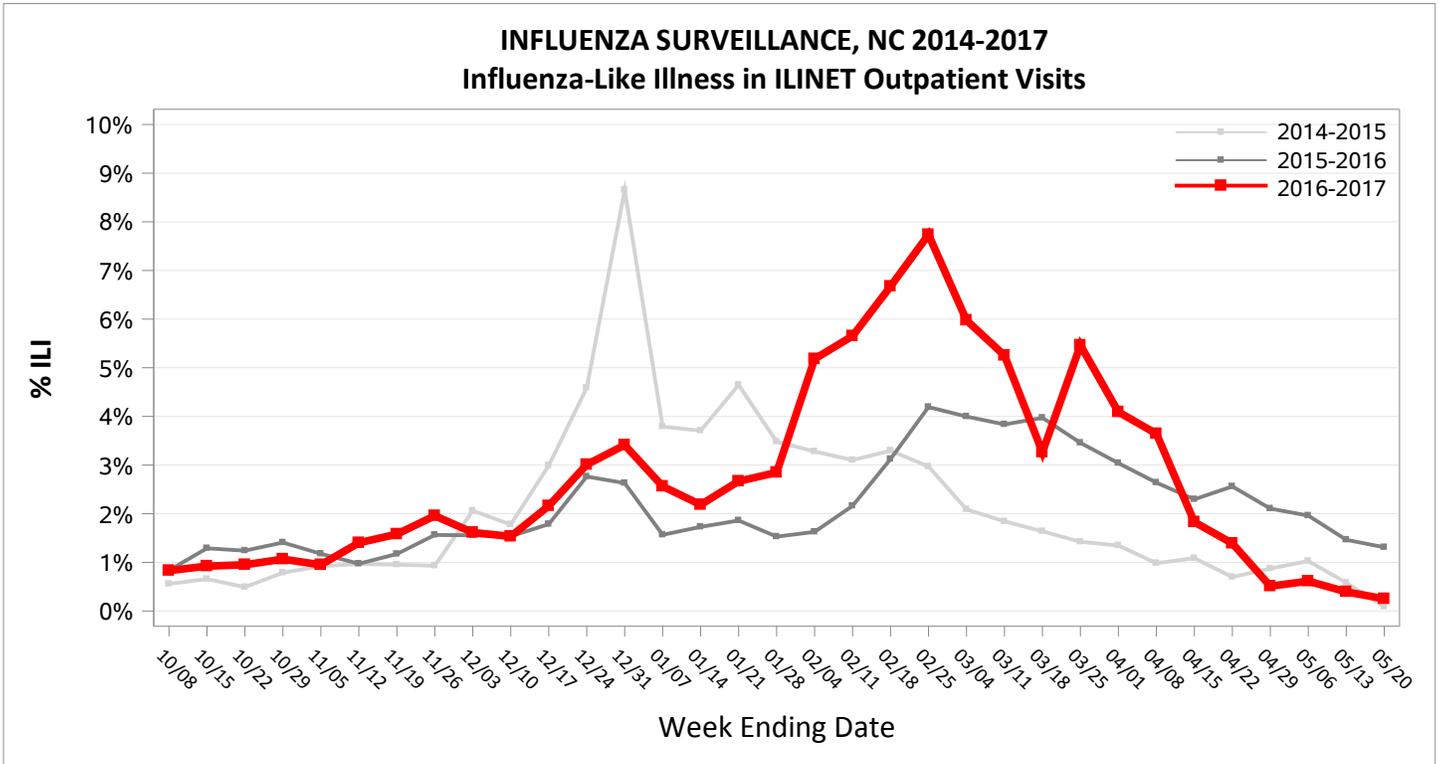
Statewide Updates	<p>Influenza-like illness (ILI) decreased during week 20.</p> <p>The geographic spread of flu was SPORADIC for week 20 ending 5/20/2017.</p> <p>Of the 4 samples submitted to the State Laboratory of Public Health (SLPH) for viral testing this week; 1 was positive for influenza A(H3) and 3 positive for influenza B.</p> <p>Hospital-based Public Health Epidemiologists (PHEs) reported 4 positive influenza results out of 251 samples tested during week 20 (ending 5/20/2017); 2 positive for influenza B and 2 positive for influenza A(H3).</p>
Regional Updates	<p>The proportion of visits due to ILI in Region 4 (Southeastern US) was below baseline at 0.5% for week 19 (ending 5/13/2017). The baseline for the region is 1.7%.</p>
National Updates	<p>The proportion of outpatient visits due to ILI nationally was at 1.3% for week 19 (ending 5/13/2017). The national baseline for ILI is 2.2%.</p>
International Updates	<p>May 15, 2017 - Influenza activity in the temperate zone of the northern hemisphere continued to decrease. In the temperate zone of the southern hemisphere, influenza activity reached seasonal thresholds in some countries, but remained low in general. In tropical South America, influenza activity remained low in most of the region. Other respiratory virus activities remained low in general, except in Colombia where elevated activity of respiratory syncytial virus (RSV) continued to be reported. In the Caribbean and Central America countries, respiratory virus activity remained low. In East Asia, influenza activity continued to be reported with all seasonal influenza types/subtypes detected. In Southern Asia, influenza activity decreased. In Western Asia, low influenza activity was reported with influenza B viruses predominant. In East and West Africa, low influenza activity was reported in recent weeks, with all seasonal influenza types/subtypes detected. In Northern Africa, influenza activity remained low. In Europe, influenza activity continued to decrease. In Northern and Eastern Europe, influenza activity continued to decrease with influenza B viruses predominant. In North America, overall influenza activity continued to decrease with predominantly influenza B viruses reported in recent weeks. In Mexico, low levels of all seasonal influenza types/subtypes continued to be detected.</p>

Flu Information and Guidance	
North Carolina <a href="http://www.flu.nc.gov">www.flu.nc.gov</a>	CDC <a href="http://www.cdc.gov/flu">www.cdc.gov/flu</a>

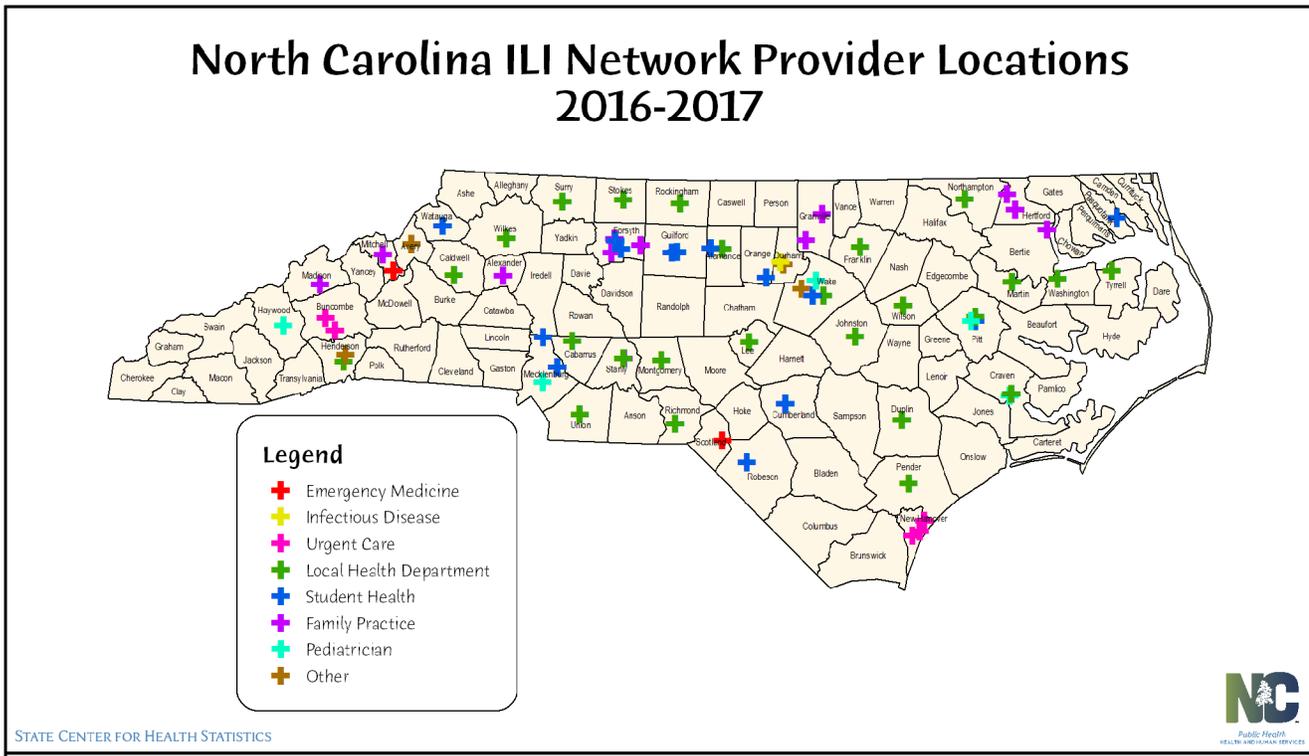
**Final Summary 2016-2017**

**INFLUENZA-LIKE ILLNESSES REPORTED BY SENTINEL SITES, 2016-2017**

<b>Week # - Ending</b>	<b>(Sentinels Reporting)</b>	<b># ILI</b>	<b># Patients</b>	<b>% ILI</b>
#40 - 10/08/2016	38	122	14,693	0.83
#41 - 10/15/2016	41	129	13,992	0.92
#42 - 10/22/2016	45	154	16,190	0.95
#43 - 10/29/2016	44	184	17,269	1.07
#44 - 11/05/2016	47	171	18,014	0.95
#45 - 11/12/2016	47	243	17,343	1.40
#46 - 11/19/2016	45	265	16,777	1.58
#47 - 11/26/2016	47	218	11,138	1.96
#48 - 12/03/2016	48	280	17,358	1.61
#49 - 12/10/2016	50	252	16,435	1.53
#50 - 12/17/2016	47	294	13,609	2.16
#51 - 12/24/2016	45	273	9,073	3.01
#52 - 12/31/2016	44	194	5,687	3.41
#1 - 01/07/2017	50	293	11,433	2.56
#2 - 01/14/2017	48	290	13,276	2.18
#3 - 01/21/2017	48	397	14,885	2.67
#4 - 01/28/2017	48	431	15,138	2.85
#5 - 02/04/2017	47	773	14,918	5.18
#6 - 02/11/2017	46	877	15,516	5.65
#7 - 02/18/2017	45	1044	15,644	6.67
#8 - 02/25/2017	47	1178	15,227	7.74
#9 - 03/04/2017	48	994	16,634	5.98
#10 - 03/11/2017	45	670	12,758	5.25
#11 - 03/18/2017	47	423	12,958	3.26
#12 - 03/25/2017	47	848	15,523	5.46
#13 - 04/01/2017	44	603	14,739	4.09
#14 - 04/08/2017	43	560	15,368	3.64
#15 - 04/15/2017	41	217	11,869	1.83
#16 - 04/22/2017	42	190	13,107	1.45
#17 - 04/29/2017	35	60	11,754	0.51
#18 - 05/06/2017	29	64	10,438	0.61
#19 - 05/13/2017	27	31	7,855	0.39
#20 - 05/20/2017	22	15	5,997	0.25



For more information about comparable national data, visit [www.cdc.gov/ncidod/diseases/flu/weekly.htm](http://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)".

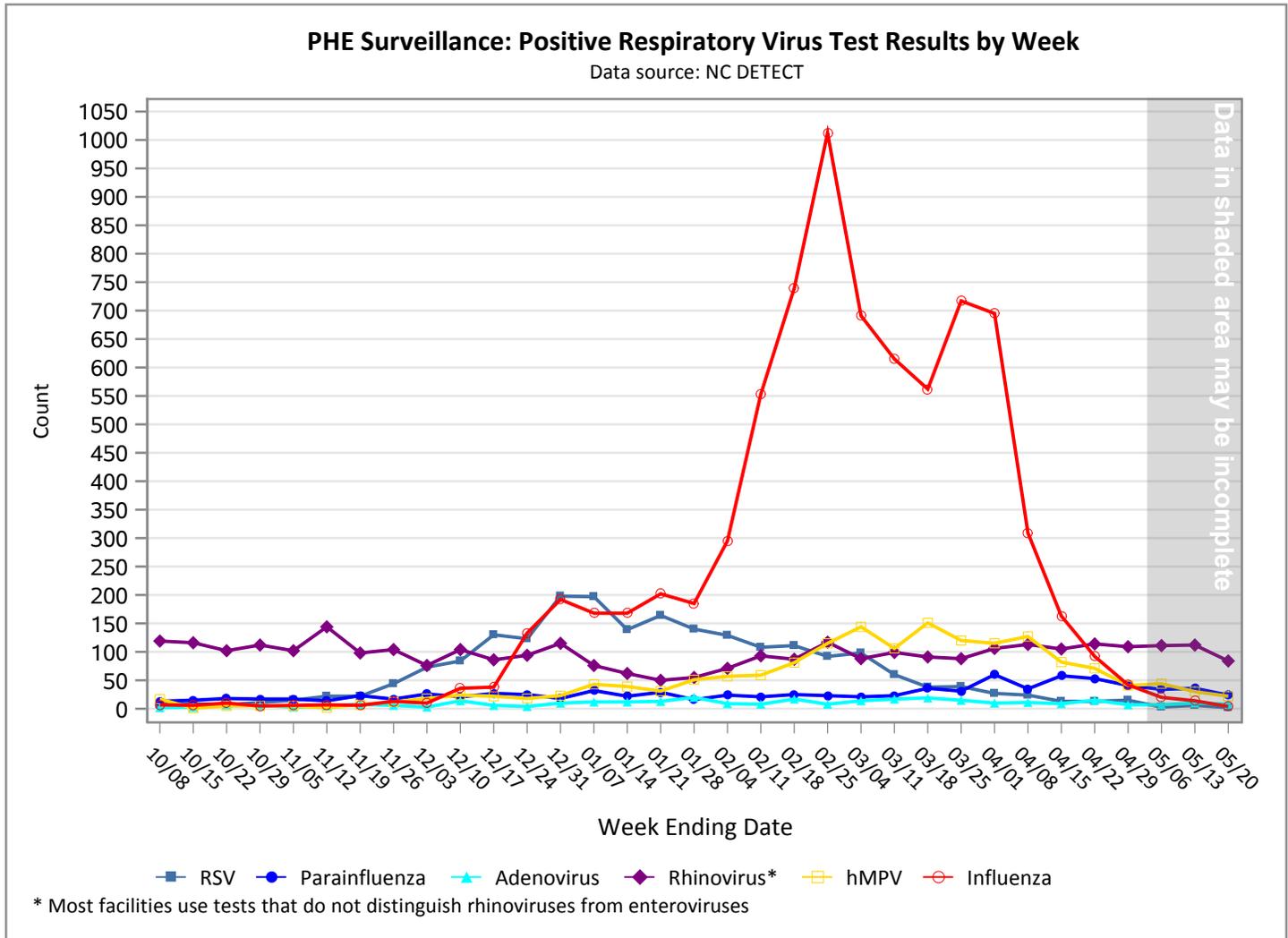


## Final Summary 2016-2017

### 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 20 (ending 05/20/2017) followed by Parainfluenza.

#### INFLUENZA VIRUS ISOLATES IDENTIFIED BY PHE FACILITIES FOR 2016–2017 SEASON\*

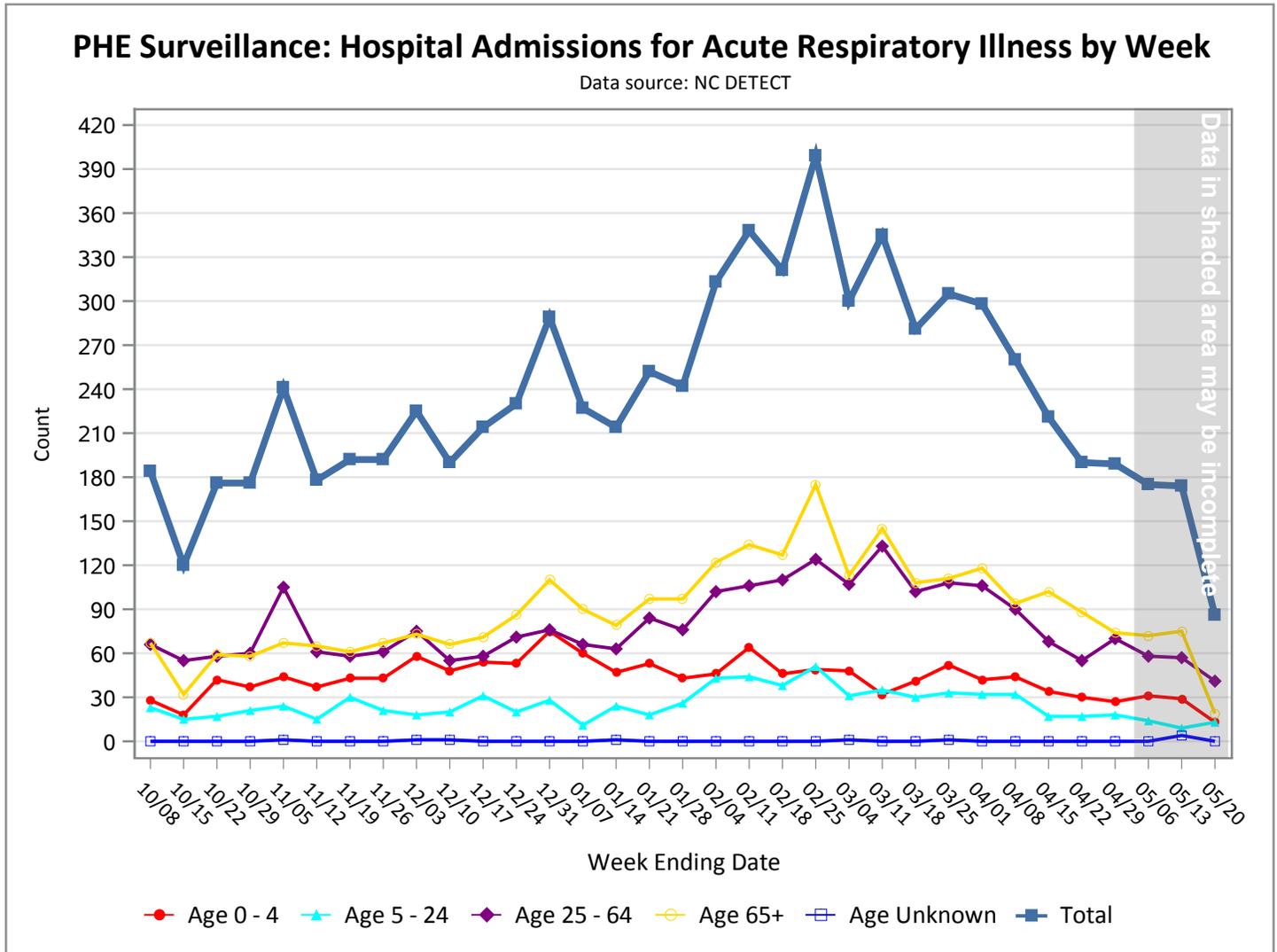
Virus Type	# New positive results (5/14/2017-5/20/2017)	# Cumulative positive results (10/2/2016-5/20/2017)
A(H1)	0	254
A(H3)	2	1772
A (subtype unknown)	0	3269
B	2	2418
<b>Total</b>	<b>4</b>	<b>7713</b>

## Final Summary 2016-2017

### PHE Acute Respiratory Admissions Surveillance

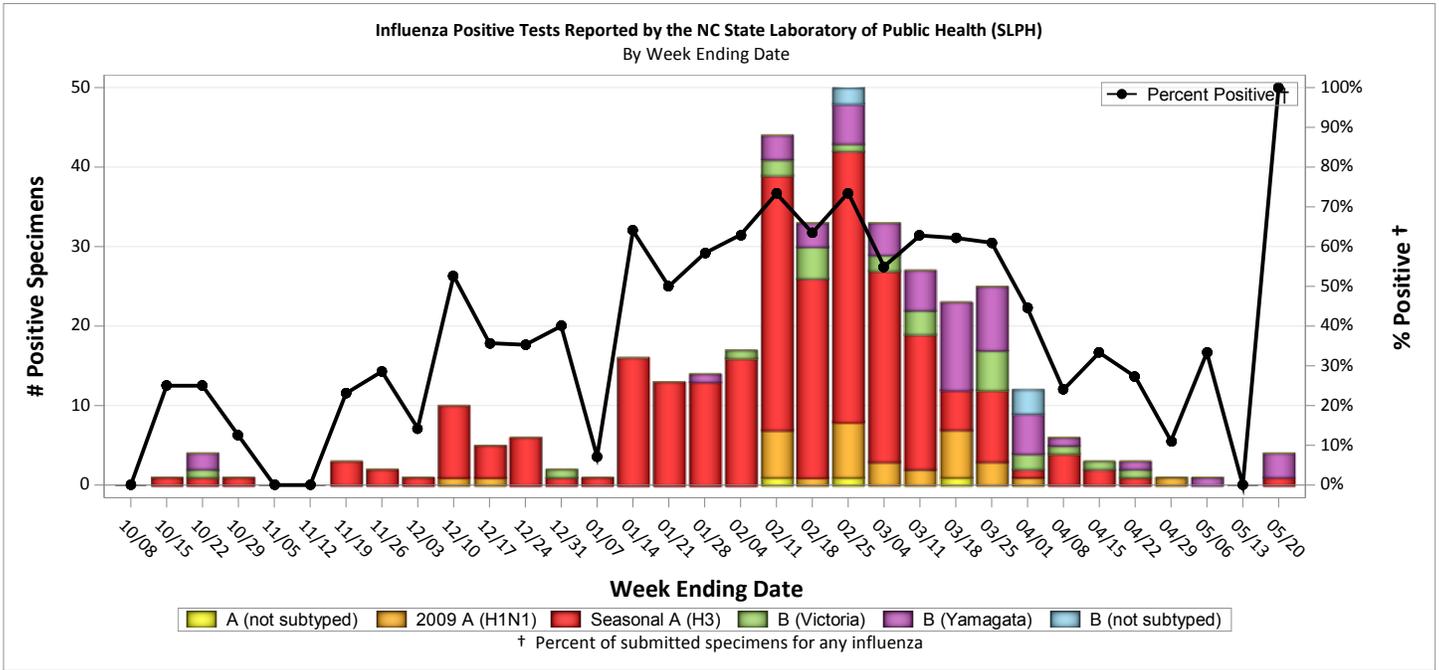
The number of patients admitted to the hospital with fever plus respiratory symptoms in the absence of a known cause other than influenza is reported on a weekly basis by Public Health Epidemiologists (PHEs) located in seven of the largest hospital networks across North Carolina. The graph below shows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



- Acute respiratory admissions decreased during week 20 (ending 05/20/2017).
- The highest number of acute respiratory admissions during week 20 was for patients Age 25 - 64 followed by Age 65+.

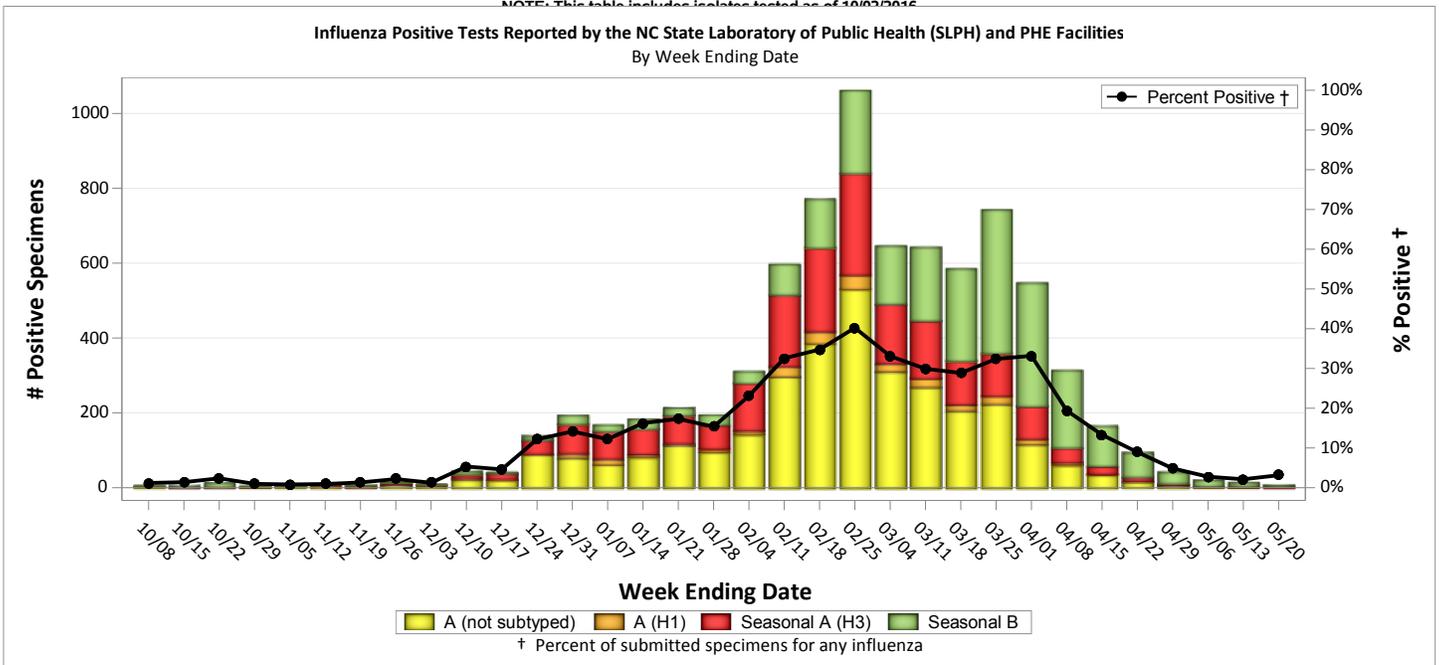
## Final Summary 2016-2017



### INFLUENZA VIRUS ISOLATES FROM IN-STATE PATIENTS IDENTIFIED BY THE STATE LABORATORY OF PUBLIC HEALTH 2016-2017 SEASON\*

Virus Type	# New Positive Results (5/14/2017 - 5/20/2017)	# Cumulative Positive Results (10/2/16 - 5/20/17)
A (unknown)	0	3
2009 A(H1N1)	0	32
A(H3)	1	243
B (unknown)	0	5
B (Victoria)	0	25
B (Yamagata)	3	53
<b>Total</b>	<b>4</b>	<b>361</b>

\* 2016-2017 influenza season began October 2, 2016.  
NOTE: This table includes isolates tested as of 10/20/2016

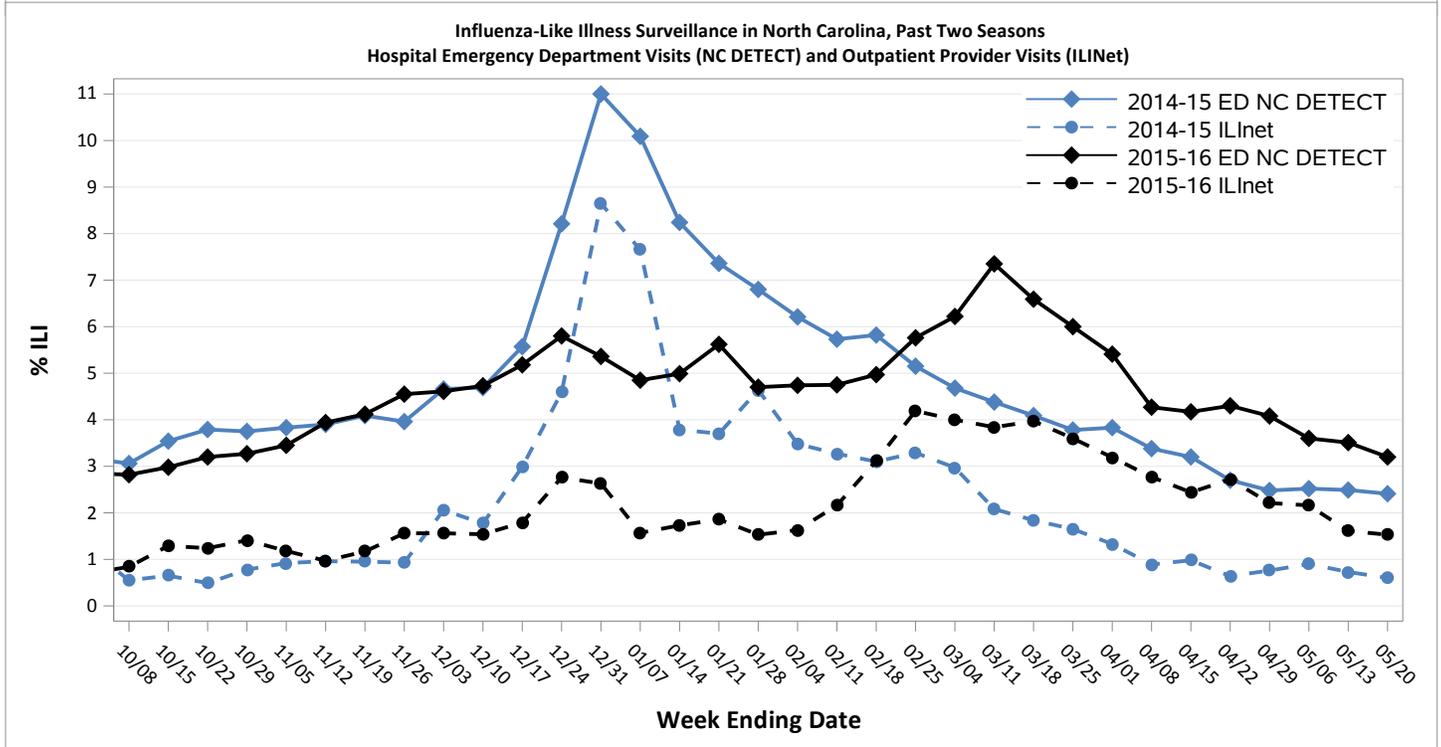
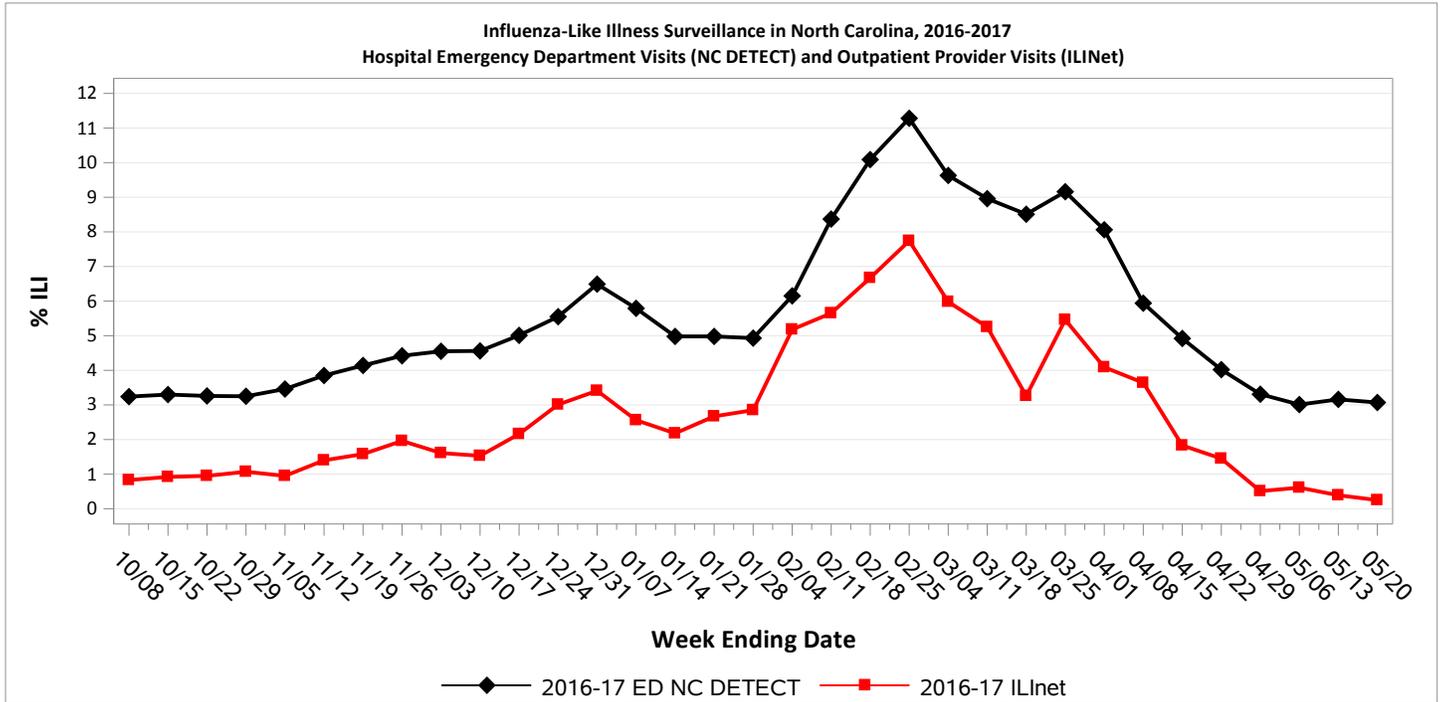


## Final Summary 2016-2017

### 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.





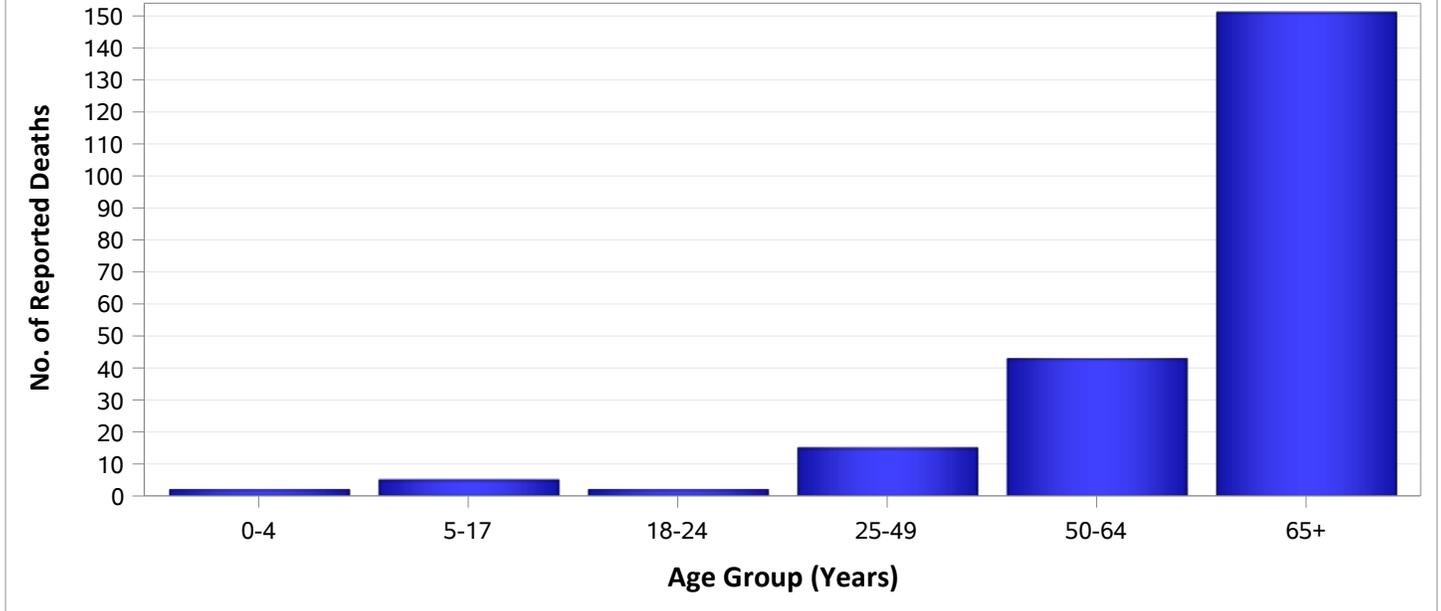
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**NC Influenza-Associated Deaths\***

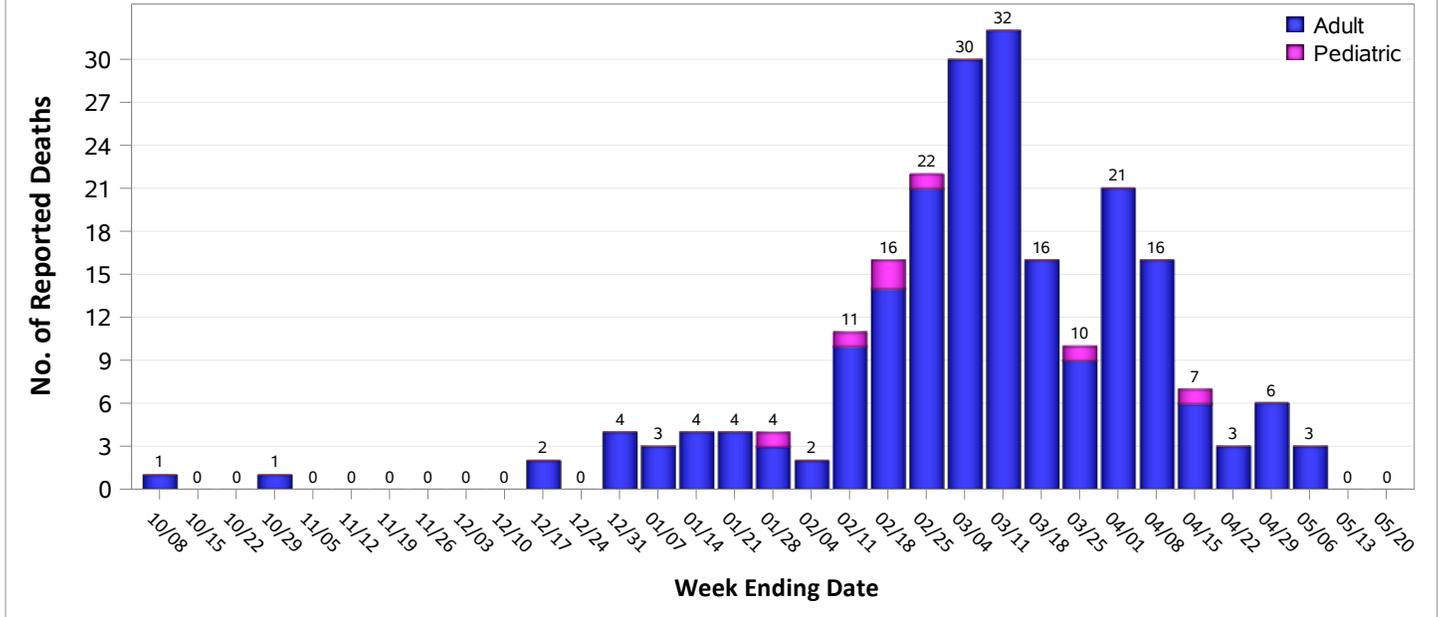
Influenza-Associated Deaths This Week (05/14/2017 – 05/20/2017)	Total Influenza-Associated Deaths This Season (starting 10/02/2016)
0	218

**\*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 10/02/2016 will be reflected in this report for the 2016-2017 season.

**Laboratory Confirmed Influenza-Associated Deaths Reported in North Carolina by Age Group\***



**Laboratory Confirmed Influenza-Associated Deaths Reported in North Carolina by Week of Death\***



## Final Summary 2016-2017

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

#### LOCAL HEALTH DEPARTMENT/DISTRICT OFFICES - 25

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  
Martin County Office [Martin-Tyrrell-Washington County Health District]  
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  
Stanly County Health Department  
Stokes Family Health Center  
Surry County Health and Nutrition Center  
Tyrrell County Office [Martin-Tyrrell-Washington County Health District]  
Union County Health Department  
Wake County Health Department, Children's Clinic  
Washington County [Martin-Tyrrell-Washington County Health District]  
Wilkes County Health Department  
Wilson County Health Department

#### COLLEGES AND UNIVERSITIES STUDENT HEALTH PROGRAMS - 14

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  
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 - 26

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  
Dilworth Pediatrics  
ECU Brody School of Medicine – Department of Pediatrics  
Family Care Center  
Growing Child Pediatrics  
Haywood Pediatric and Adolescent Medicine Group, PA  
High Country Community Health  
Hot Springs Health Program  
MEDAC Health Services at Shipyard Blvd.  
MEDAC Health Services at Porter's Neck  
MEDAC Health Services at Military Cutoff  
Murfreesboro Primary Care  
Oxford Family Physicians  
PrimeCare  
PrimeCare of Kernersville  
PrimeCare of Northpoint  
Roanoke Chowan Community Health Center  
SAS Institute Health Care Center  
Sisters of Mercy Urgent Care, South  
Sisters of Mercy Urgent Care, West  
Stanly Family Care Clinic

#### HOSPITALS - 3

Blue Ridge Regional Hospital  
Durham VAMC  
Scotland Healthcare System

Total Sentinels Enrolled - 68

#### Counties Covered - 45:

Alamance (2), Alexander (1), Avery (1), Bertie (1), Buncombe (2), Cabarrus (1), Caldwell (1), Craven (2), Cumberland (1), Duplin (1), Durham (2), Forsyth (5), Franklin (1), Granville (2), Guilford (2), Haywood (1), Henderson (2), Hertford (2), Johnston (1), Lee (1), Madison (1), Martin (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), Scotland (1), Stanly (2), Stokes (1), Surry (1), Tyrrell (1), Union (1), Wake (4), Washington (1), Watauga (1), Wilkes (1), Wilson (1)