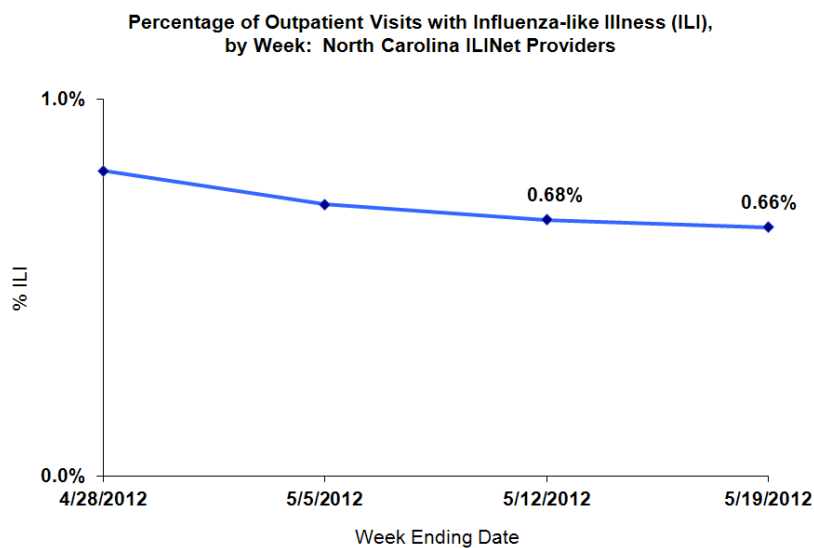


NORTH CAROLINA WEEKLY INFLUENZA SURVEILLANCE SUMMARY #33
2011–12 INFLUENZA SEASON
WEEK 20: ENDING MAY 19, 2012

Statewide Updates

- The geographic spread of flu was SPORADIC for week ending 5/19/12.
- ILI activity reported from both ED visits as well as outpatient facilities remained approximately the same during week 20.
- No flu-associated deaths occurred during week 20.
- Of the 9 samples submitted to the State Laboratory of Public Health (SLPH) for viral testing none were positive for influenza during the past week.
- Hospital-based Public Health Epidemiologists (PHEs) reported 7 positive influenza results for week ending 5/19/12: four influenza A/H3; one influenza A (not subtyped); one influenza A/2009 H1; and one influenza B.



Regional Updates

- The overall percentage of visits due to ILI reported through ILINet for Region 4 (Southeastern US) was 1.1% for week 19 (ending 5/12/12). The current percentage of ILI seen in Region 4 is below the baseline of 2.3%.
- The proportion of outpatient visits due to ILI was at or below baseline for all ten regions in the US during week ending 5/12/12.

National Updates

- The proportion of outpatient visits due to ILI nationally was 1.2% for week 19 (ending 5/12/12). The national baseline for ILI is 2.4%.
- As requested by CDC, NC DPH and other state health departments have taken measures to enhance virologic surveillance for swine-origin triple reassortant influenza A(H3N2)v viruses. One additional influenza A(H3N2)v virus has been detected since December 2011. It was diagnosed during late March of 2012 in Utah.

International Updates - From WHO Influenza Update – May 11, 2012: The seasonal peak for influenza has passed in most countries in the temperate regions of the northern hemisphere. Different viruses have predominated in different parts of the world in the northern hemisphere 2011-12 influenza season. In North America, Canada had a slight predominance of influenza B over influenza A(H3N2) particularly later in the season, while in the United States of America (USA), A(H3N2) was more common. Mexico’s season was almost all related to influenza A(H1N1)pdm09. In Europe, the large majority of influenza viruses have been influenza A(H3N2) with only very small numbers of A(H1N1)pdm09 and B. In Asia, northern China and Mongolia reported mostly influenza B early in the season with influenza A(H3N2) appearing later, though this sequence was reversed in the Republic of Korea and Japan where A(H3N2) was predominant initially and influenza B appeared later. At the beginning of the influenza season, most viruses tested were antigenically closely related to those found in the current trivalent seasonal vaccine. However, by mid-season, divergence was noted in both the USA and Europe in the A(H3N2) viruses tested and significant numbers of A(H3N2) viruses tested in recent months have shown reduced cross reactivity with the vaccine viruses. Influenza B virus detections have been both from the Victoria and Yamagata lineages with the former slightly more common in China and parts of Europe. Resistance to neuraminidase inhibitors has been low or undetectable throughout most of the season; however, a slight increase in levels of resistance to oseltamivir has been reported in influenza A(H1N1)pdm09 isolates in the USA. Most (11/16) of these oseltamivir resistant cases have been from the state of Texas, where influenza A(H1N1)pdm09 has been the most common virus circulating.

Flu Information and Guidance

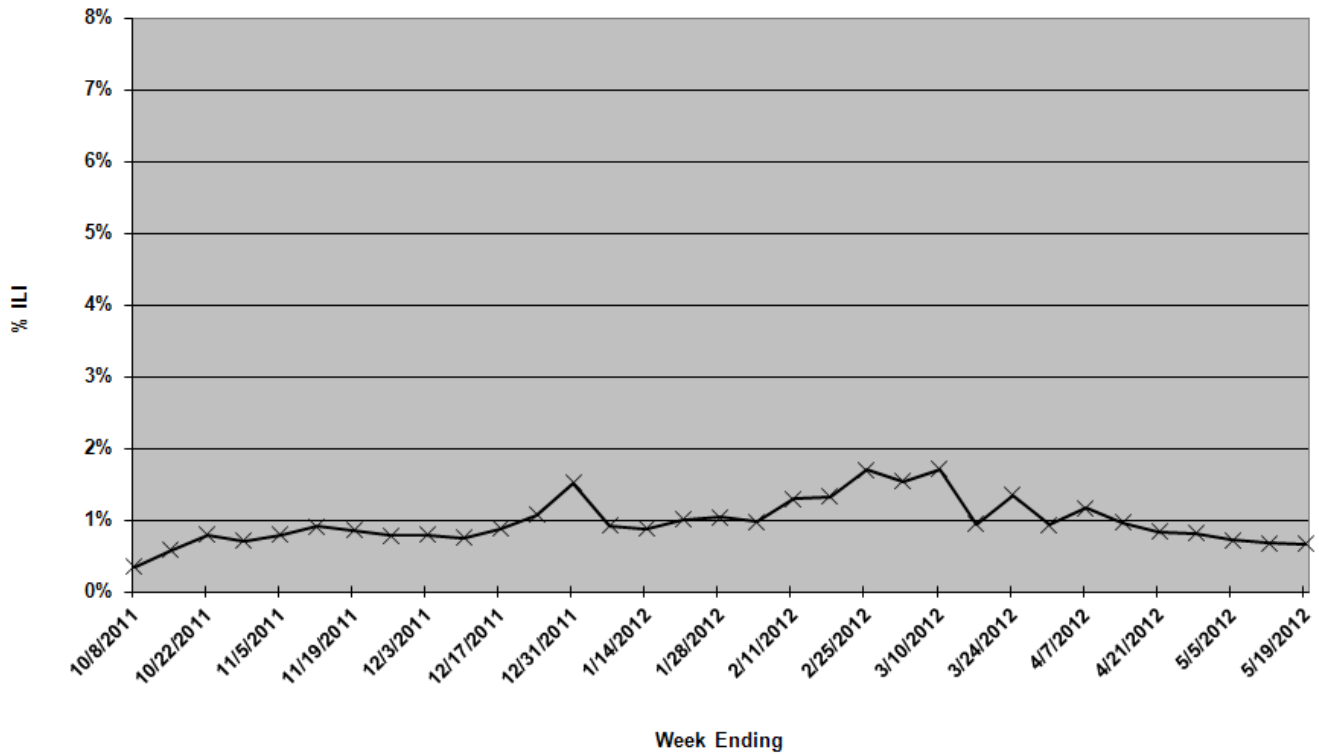
North Carolina
www.flu.nc.gov

CDC
<http://www.cdc.gov/flu>

INFLUENZA-LIKE ILLNESSES REPORTED BY SENTINEL SITES, 2011-12

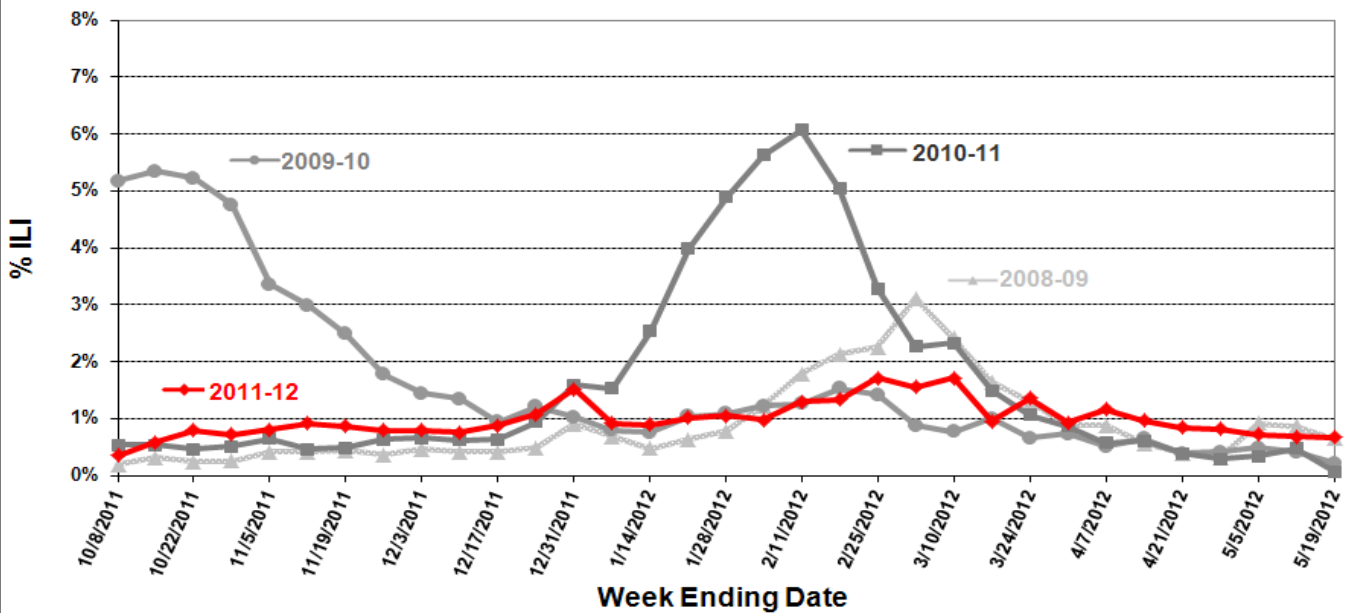
<u>Week # - Ending</u>	<u>(Sentinels Reporting)</u>	<u># ILI</u>	<u># Patients</u>	<u>% ILI</u>
#40 - 10/08/11 [2011-2012]	(52)	64	18,251	0.35%
#41 - 10/15/11	(56)	110	18,837	0.58%
#42 - 10/22/11	(63)	162	20,404	0.79%
#43 - 10/29/11	(66)	164	22,801	0.71%
#44 - 11/05/11	(68)	178	22,311	0.79%
#45 - 11/12/11	(69)	201	22,080	0.91%
#46 - 11/19/11	(67)	193	22,332	0.86%
#47 - 11/26/11	(65)	103	13,108	0.78%
#48 - 12/03/11	(70)	170	21,365	0.79%
#49 - 12/10/11	(66)	147	19,581	0.75%
#50 - 12/17/11	(68)	166	18,793	0.88%
#51 - 12/24/11	(60)	129	12,014	1.07%
#52 - 12/31/11	(63)	149	9,795	1.52%
#1 - 01/07/12	(67)	134	14,565	0.92%
#2 - 01/14/12	(67)	184	20,685	0.88%
#3 - 01/21/12	(69)	195	19,264	1.01%
#4 - 01/28/12	(66)	215	20,584	1.04%
#5 - 02/04/12	(70)	235	24,130	0.97%
#6 - 02/11/12	(69)	293	22,711	1.29%
#7 - 02/18/12	(68)	292	22,013	1.32%
#8 - 02/25/12	(69)	390	22,818	1.70%
#9 - 03/03/12	(66)	343	22,153	1.54%
#10 - 03/10/12	(65)	298	17,382	1.71%
#11 - 03/17/12	(60)	173	18,212	0.94%
#12 - 03/24/12	(60)	271	19,991	1.35%
#13 - 03/31/12	(55)	169	18,137	0.93%
#14 - 04/07/12	(57)	200	17,179	1.16%
#15 - 04/14/12	(56)	168	17,484	0.96%
#16 - 04/21/12	(50)	153	18,315	0.83%
#17 - 04/28/12	(46)	130	15,967	0.81%
#18 - 05/05/12	(40)	97	13,440	0.72%
#19 - 05/12/12	(37)	78	11,380	0.68%
#20 - 05/19/12	(28)	54	8,136	0.66%

INFLUENZA SURVEILLANCE NC 2011-2012
 Influenza-Like Illness (ILI) in ILINet Sites
 -- As of 24 May, 2012 --



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)".

INFLUENZA SURVEILLANCE, NC 2011-2012
 Influenza-Like Illness in Sentinel Site Patients
 (Shown for Comparison)

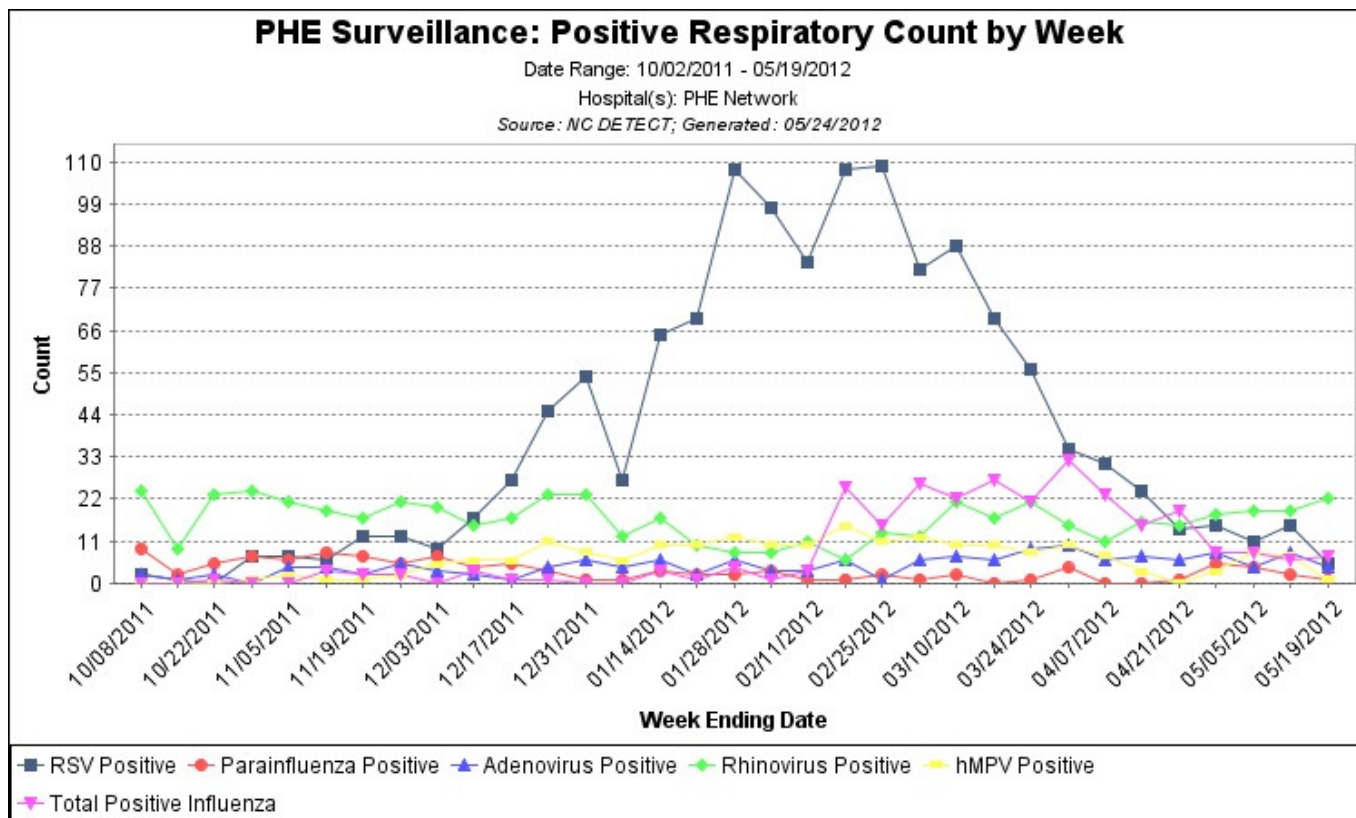


Note: Week ending displayed is for 2011-2012 influenza season. Flu seasons for previous years may have different week ending dates, but these only vary by a few days.

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 ten 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 beginning with the week ending 10/8/2011.

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 the hospitals. Finally, these numbers reflect test results from participating hospitals only and might not be reflective of the entire state.

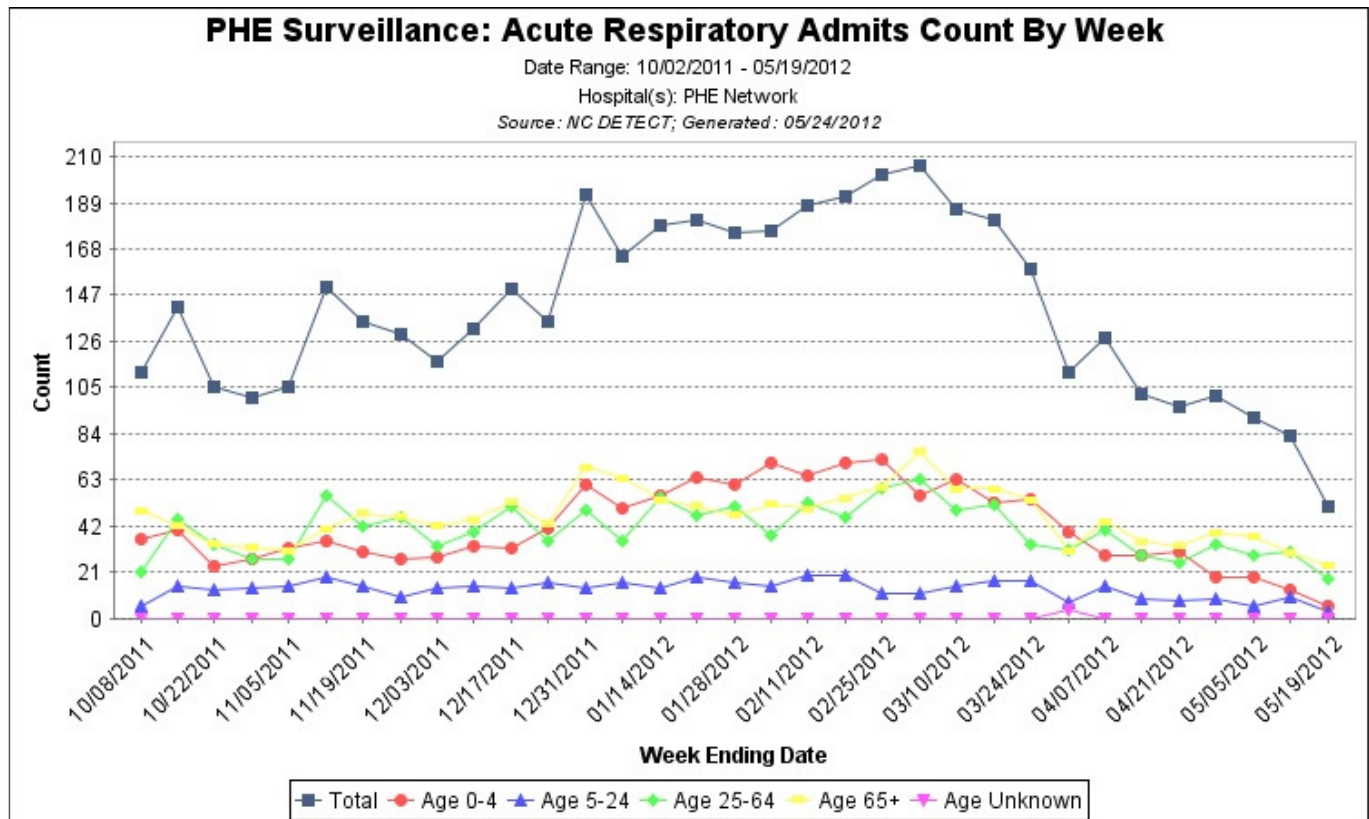


- PHEs reported 7 positive influenza results for week ending 5/19/12: 4 influenza A/H3; 1 influenza A (not subtyped); 1 influenza A/2009 H1; and 1 influenza B. Positive samples were tested by PCR.
- Rhinovirus and influenza were the most frequently identified respiratory viral pathogens.

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 ten 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 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 might not be reflective of the entire state.



- Acute respiratory admissions continued to decreased during week 20 (ending 5/19/12).
- The highest number of acute respiratory admissions was reported among patients age 65+ years during week 20.

Virologic Surveillance Information from the North Carolina State Laboratory of Public Health

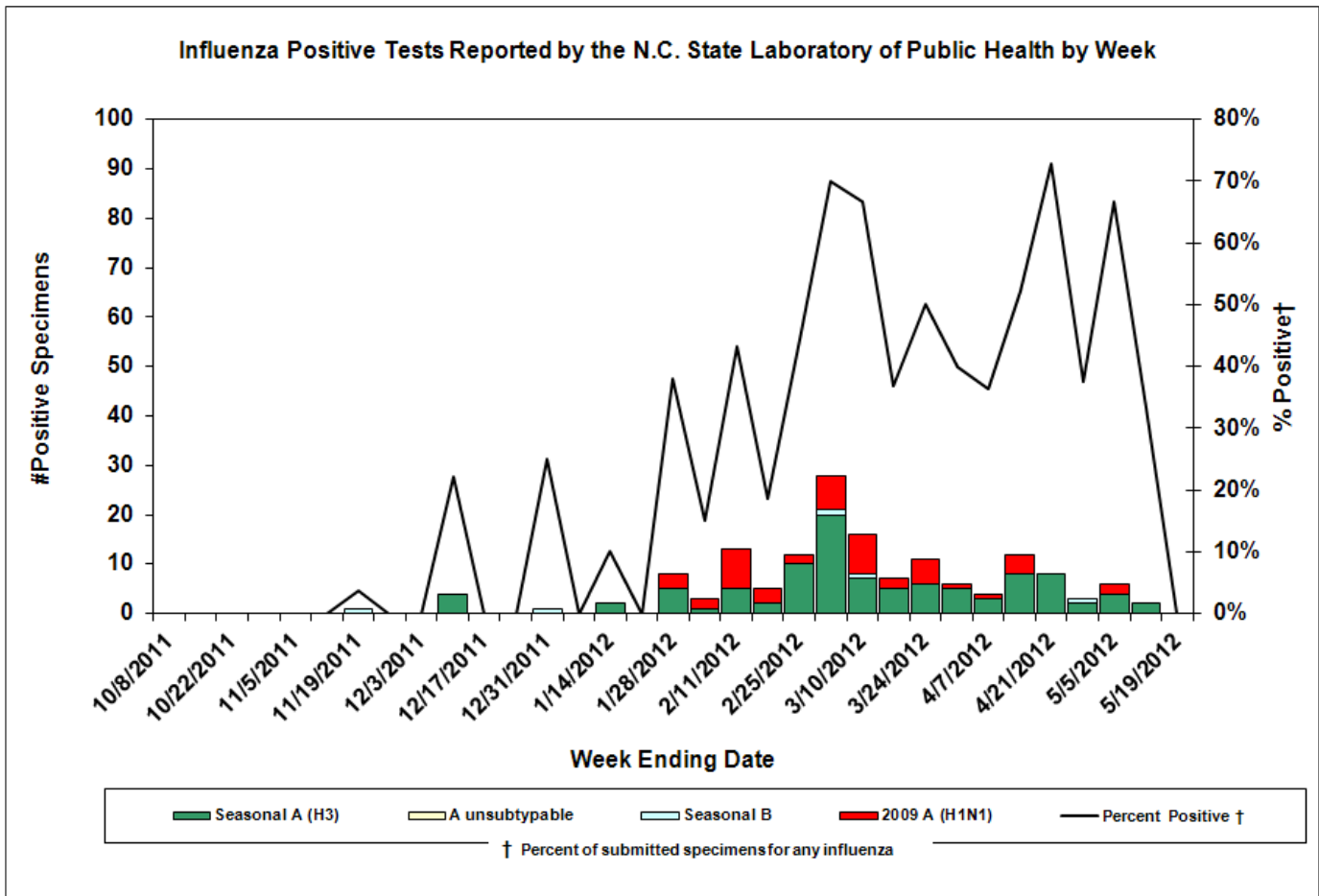
**INFLUENZA VIRUS ISOLATES FROM IN-STATE PATIENTS
IDENTIFIED BY THE STATE LABORATORY OF PUBLIC HEALTH
2011–2012 SEASON***

Virus Type	# New Positive Results (05/13/12–05/19/12)	# Cumulative Positive Results (10/02/11-05/19/12)
A	0	0
2009 A(H1N1)	0	48
A/H3	0	99
B	0	5
Total	0	152

* 2011-2012 influenza season began October 2, 2011

NOTE: This table only includes isolates tested as of 5/18/12.

This table does not include influenza isolates identified by other laboratories.

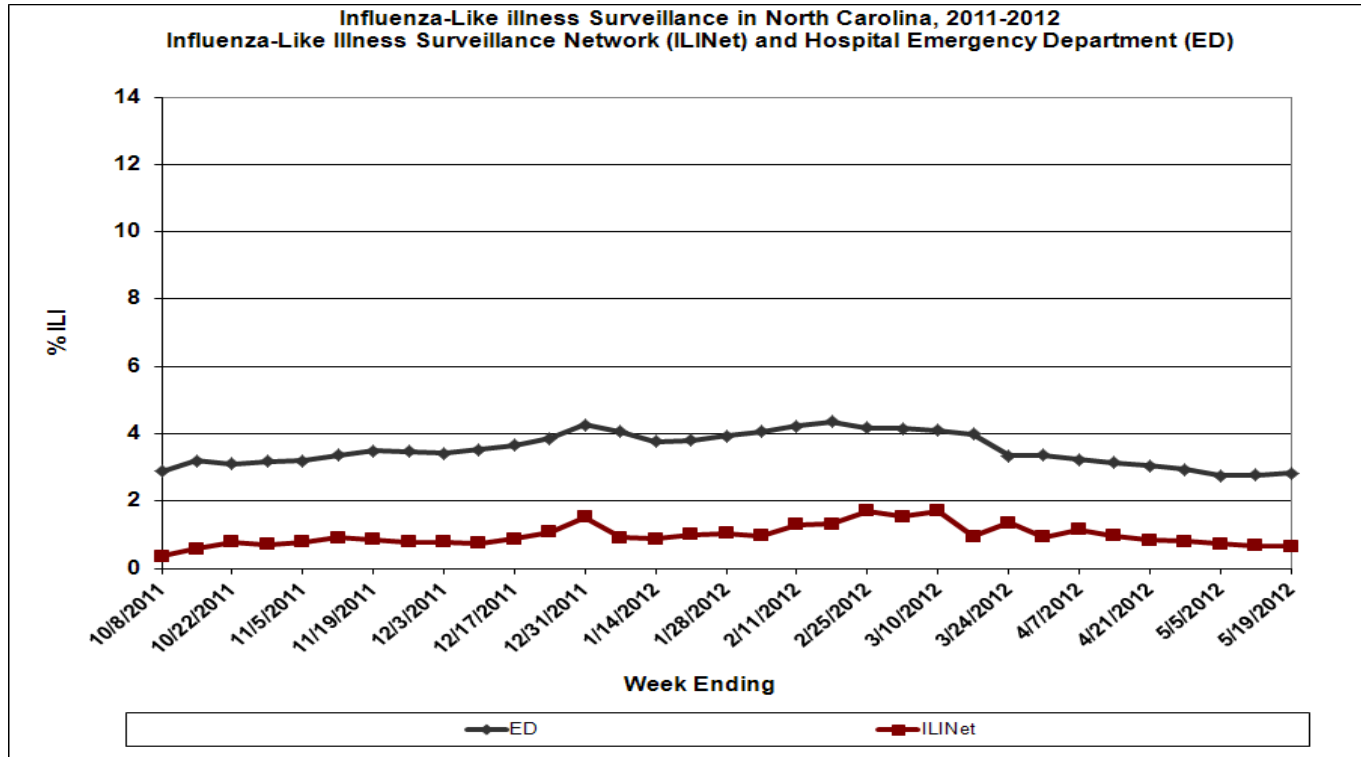


North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT)

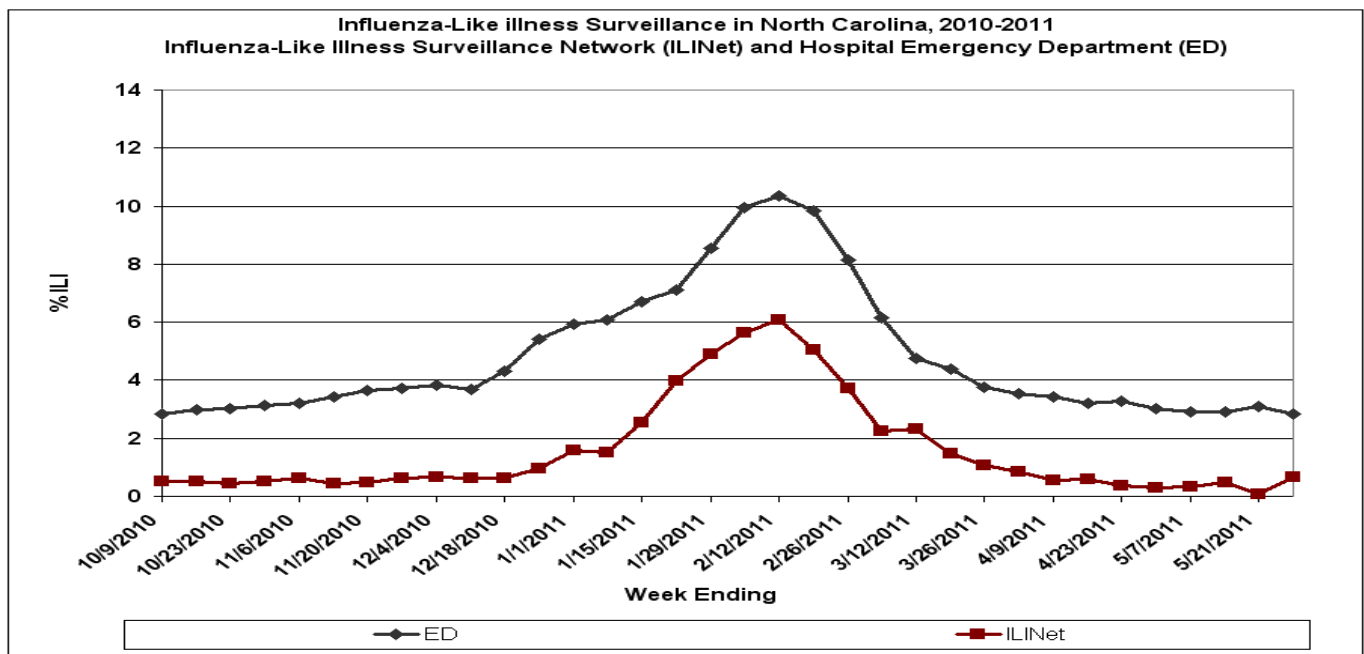
ILI Surveillance

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 113 of the 115 24/7 EDs in North Carolina. For the purposes of surveillance, ED visits are grouped into syndromes based on analyses of the chief complaint, initial ED temperature (when available), and history of present illness (when available). 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. Because these data are submitted and updated twice a day, they are particularly useful for real-time monitoring and for early detection of outbreaks.

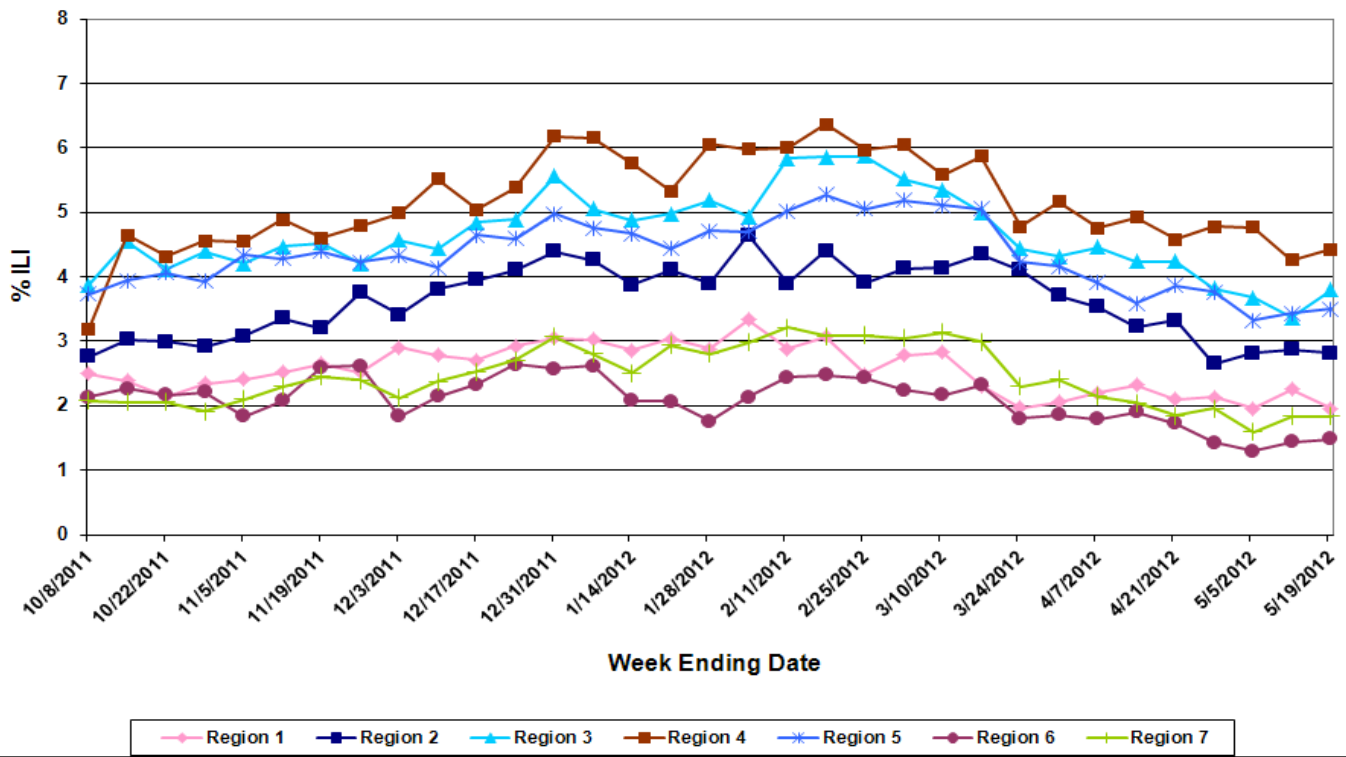
The proportion of ED visits meeting the ILI syndrome definition is monitored throughout the year and compared to data obtained from Influenza-like Illness Surveillance Network (ILINet). In past years, data from the two systems have shown similar trends (below). The higher proportion of ILI seen in NC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



2010-2011 Influenza Season: Shown For Comparison

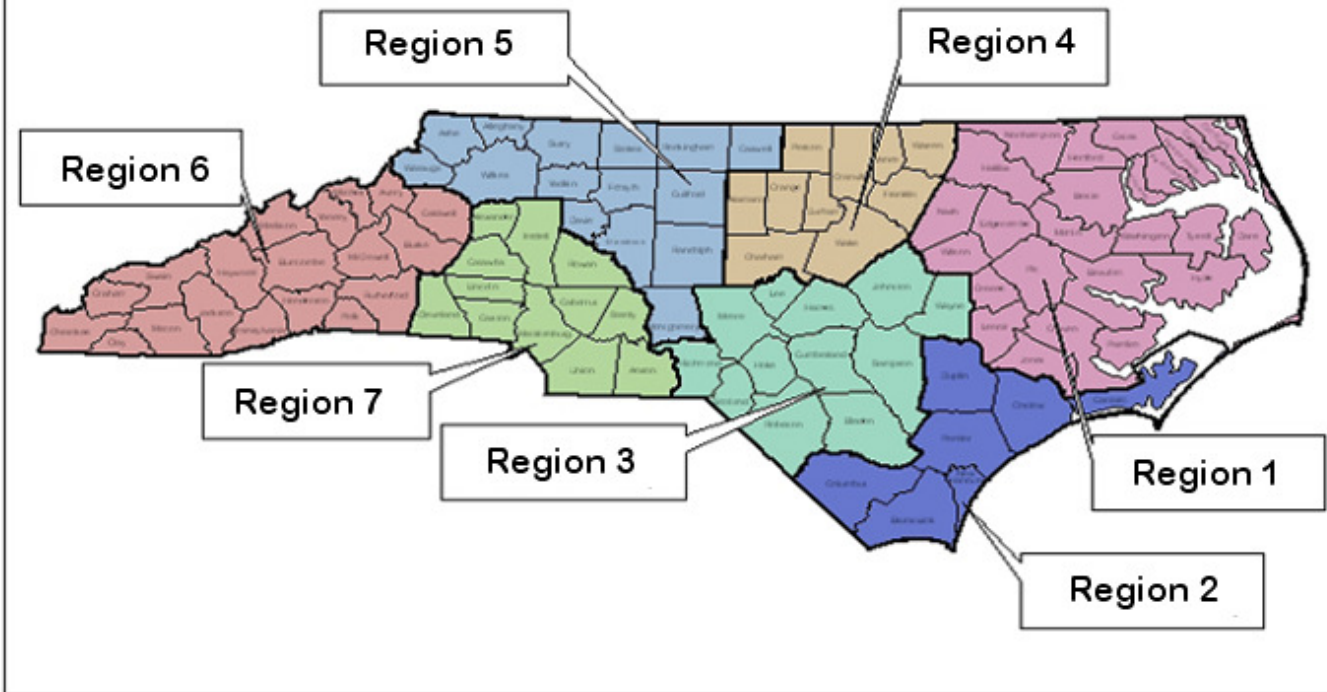


**Percentage of Total Visits by Week, Grouped by Flu Surveillance Regions:
NC DETECTED Influenza-Like Illness (ILI), 2011-12**



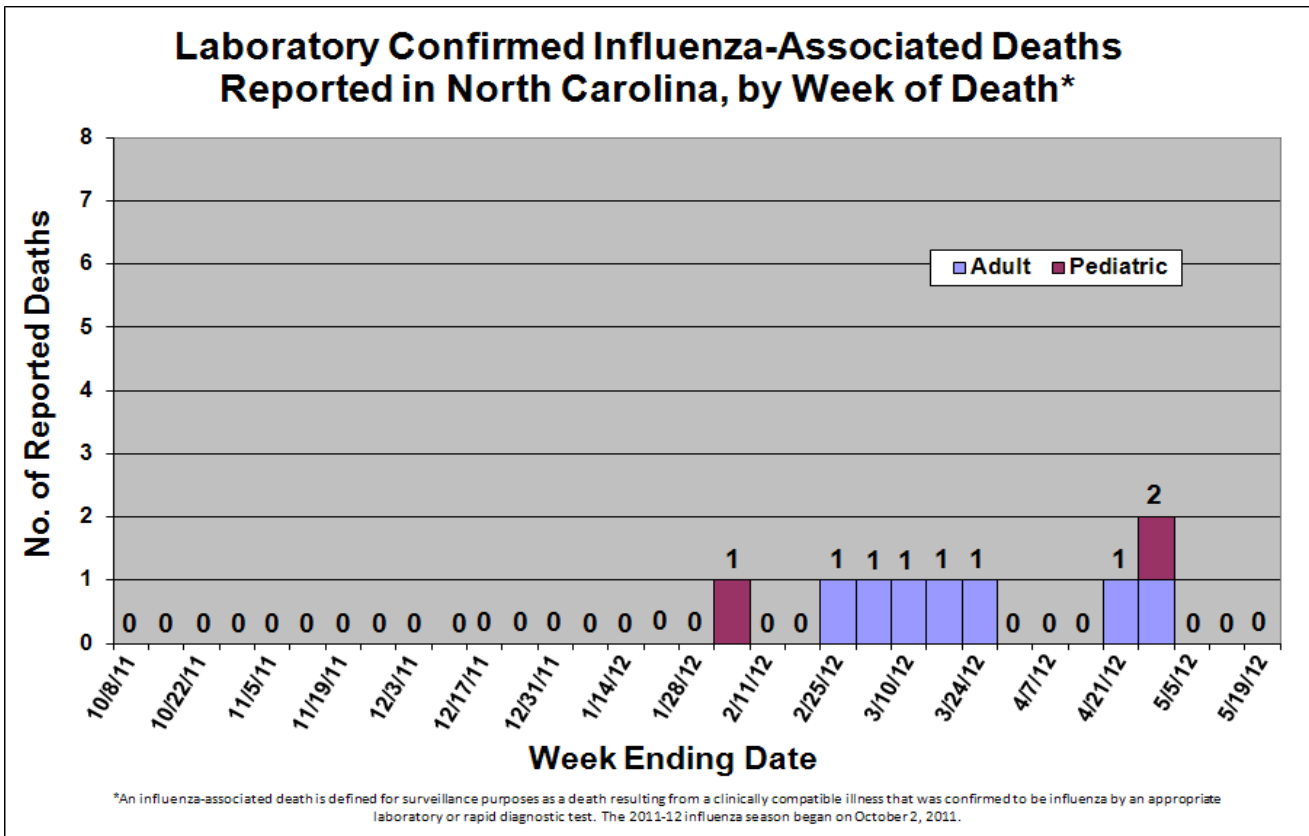
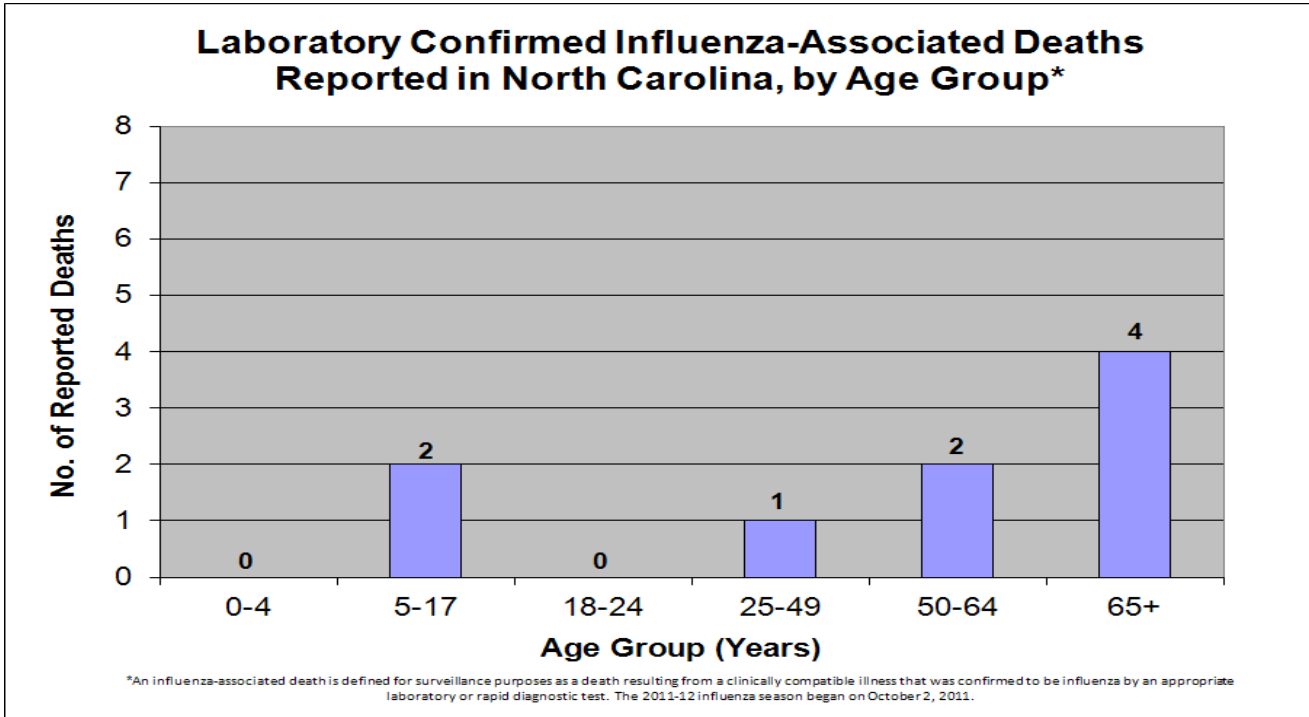
NOTE: This graph begins with data starting on October 2, 2011 – the first day of the 2011–2012 influenza season.

Flu Surveillance Regions



NC Influenza-Associated Deaths*	
Influenza-Associated Deaths 5/13/12–5/19/12	Total Influenza-Associated Deaths Since Week 40 (ending 10/08/11)
0	9

***Influenza-associated Deaths** - This number is based on reports submitted by providers to the North Carolina 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.



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

LOCAL HEALTH DEPARTMENT/DISTRICT OFFICES [29]:

Alamance County Health Department (Burlington)
Cabarrus County Health Department (Kannapolis)
Caldwell County Health Department (Lenoir)
Chatham County Health Department (Siler City)
Duplin County Health Department (Kenansville)
Franklin County Health Department (Louisburg)
Greene County Health Department (Snow Hill)
Henderson County Health Department (Hendersonville)
Johnston County Health Department (Smithfield)
Jones County Health Department (Trenton)
Lee County Health Department (Sanford)
Martin County Office [Martin-Tyrrell-Washington County Health District] (Williamston)
Montgomery County Health Department (Troy)
Northampton County Health Department (Jackson)
Pender County Health Department (Burgaw)
Pitt County Health Department (Greenville)
Richmond County Health Department (Rockingham)
Rockingham County Health Department (Wentworth)
Stanly County Health Department (Albemarle)
Stokes County Health Department (Danbury)
Surry County Health Department (Dobson)
Tyrrell County Office [Martin-Tyrrell-Washington County Health District] (Columbia)
Union County Health Department (Monroe)
Wake County Health Department, Children's Clinic (Raleigh)
Washington County [Martin-Tyrell-Washington County Health District] (Plymouth)
Watauga County Office [Appalachian Health District] (Boone)
Wilkes County Health Department (Wilkesboro)
Wilson County Health Department (Wilson)
Yancey County Office [Toe River Health District] (Burnsville)

COLLEGES AND UNIVERSITIES STUDENT HEALTH PROGRAMS [17]:

Appalachian State University Student Health Services (Boone; Watauga Co.)
Davidson College Student Health Center (Davidson; Mecklenburg Co.)
Duke University Student Health Services (Durham; Durham Co.)
ECU Student Health Services (Greenville; Pitt Co.)
Elizabeth City State University Student Health Services (Elizabeth City; Pasquotank Co.)
Elon University R. N. Ellington Health and Counseling Center (Elon; Alamance Co.)
Fayetteville State University (Fayetteville; Cumberland Co.)
Mount Olive College Milton M. Lownes Jr., MD Student Health Services (Mount Olive; Wayne Co.)
NC Agricultural & Technical State University Student Health Services (Greensboro; Guilford Co.)
NC State University Student Health Services (Raleigh; Wake Co.)
UNC-Asheville Student Health Services (Asheville; Buncombe Co.)
UNC-Chapel Hill Student Health Services (Chapel Hill; Orange Co.)
UNC-Charlotte Student Health Services (Charlotte, Mecklenburg Co.)
UNC-Greensboro Student Health Services (Greensboro; Guilford Co.)
UNC-Pembroke Student Health Services (Pembroke; Robeson Co.)
Wake Forest University Student Health Services (Winston-Salem; Forsyth Co.)
Winston-Salem State University (Winston-Salem; Forsyth Co.)

PRIVATE PRACTITIONERS [31]:

Bakersville Community Medical Center (Bakersville; Mitchell Co.)
Blue Cross and Blue Shield of N.C. (Durham; Durham Co.)
Blue Ridge Community Health Services (Hendersonville; Henderson Co.)
Butner-Creedmoor Family Medicine (Creedmore; Granville Co.)
Cabarrus Urgent Care (Concord; Cabarrus Co.)
Carolina East Medical Associates (Washington; Beaufort Co.)
Colerain Primary Care (Colerain; Bertie Co.)
ECU Brody School of Medicine – Department of Pediatrics (Greenville; Pitt Co.)
Family Care Center (Taylorsville; Alexander Co.)
Gaston Family Health Services (Gastonia; Gaston Co.)
Haywood Pediatric and Adolescent Medicine Group, PA (Clyde; Haywood Co.)
Hot Springs Health Program (Marshall; Madison Co.)
Matthews Children’s Clinic (Matthews; Mecklenburg Co.)
MEDAC Health Services at Shipyard Blvd. (Wilmington; New Hanover Co.)
MEDAC Health Services at Porter’s Neck (Wilmington; New Hanover Co.)
MEDAC Health Services at Military Cutoff (Wilmington; New Hanover Co.)
MinuteClinic Belmont (Belmont; Gaston Co.)
MinuteClinic Mooresville (Mooresville; Iredell Co.)
MinuteClinic Waxhaw (Waxhaw; Union Co.)
Murfreesboro Primary Care (Murfreesboro; Hertford Co.)
Oxford Family Physicians (Oxford; Granville Co.)
PrimeCare (Winston-Salem; Forsyth Co.)
PrimeCare of Kernersville (Kernersville; Forsyth Co.)
PrimeCare of Northpoint (Winston-Salem; Forsyth Co.)
Roanoke Chowan Community Health Center (Ahoskie; Hertford Co.)
SAS Institute Health Care Center (Cary; Wake Co.)
Sisters of Mercy Urgent Care, North Center (Weaverville; Buncombe Co.)
Sisters of Mercy Urgent Care, South (Asheville; Buncombe Co.)
Sisters of Mercy Urgent Care, West (Asheville; Buncombe Co.)
Stanly Family Care Clinic (Albemarle; Stanly Co.)
Steven C. Hill, MD, PC (Spruce Pine; Mitchell Co.)

HOSPITALS [4]:

Blue Ridge Regional Hospital (Spruce Pine; Mitchell Co.)
Cape Fear Valley Health System Primary Care Practices (Fayetteville; Cumberland Co.)
Durham VAMC (Durham; Durham Co.)
Seymour Johnson Air Force Base Medical Group (Goldsboro; Wayne Co.)

OTHER [1]:

PotashCorp (Aurora; Beaufort Co.)

TOTAL SENTINELS ENROLLED – 82

Counties covered (50): Alamance (2), Alexander, Beaufort (2), Bertie, Buncombe (4), Cabarrus (2), Caldwell, Chatham, Cumberland (2), Duplin (2), Durham (3), Forsyth (4), Franklin, Gaston (2), Granville (2), Greene, Guilford (2), Haywood, Henderson (2), Hertford (2), Iredell, Johnston, Jones, Lee, Madison, Martin, Mecklenburg (3), Mitchell (3), Montgomery, New Hanover (3), Northampton, Orange, Pasquotank, Pender, Pitt (3), Richmond, Robeson, Rockingham, Stanly (2), Stokes, Surry, Tyrrell, Union (2), Wake (3), Washington, Watauga (2), Wayne (2), Wilkes, Wilson, Yancey