NORTH CAROLINA WEEKLY INFLUENZA SURVEILLANCE SUMMARY #32
2009-2010 INFLUENZA SEASON
(MAY 20, 2010)

In a joint effort with the State Laboratory of Public Health, the Communicable Disease Branch of the N.C. Division of Public Health participates in CDC's U.S. Influenza Sentinel Physicians Surveillance Network in order to effectively monitor the status of statewide influenza activity. Sentinel physicians, university health centers, county public health offices, and hospitals report "influenza-like illness" (ILI) data to CDC each week and collect representative samples for virus strain identification. [For purposes of this surveillance program, the ILI case definition is fever (100 degrees F or higher, oral or equivalent) and cough or sore throat.] This is the tenth consecutive year that the N.C. Division of Public Health has participated in this surveillance program.

Each week the participants in this program report information to CDC, which is then consolidated by CDC into figures for the entire state. The information reported is as follows:

- The total number of patient visits each week.
- The number of patient visits for ILI each week, broken down into five age groups.

Based upon statewide population, CDC's goal for North Carolina is to have 32 sentinel sites. This 2009-2010 reporting season, **93** providers in 53 counties report influenza surveillance data to CDC. This group of sentinels consists of a wide variety of practice types in 32 local health departments/health district offices, 37 private practices, 18 university and college student health centers, and 6 hospitals. The 2009-2010 influenza sentinel surveillance season began on October 4, 2009.

This influenza surveillance program provides important epidemiologic data to the N.C. Division of Public Health for the monitoring of influenza activity in North Carolina and also supports CDC influenza surveillance throughout the United States. Moreover, this program can help provide timely recognition of new influenza strains with pandemic potential throughout the influenza season, as during 2009. In addition to helping detect new strains with pandemic potential, timely identification of circulating influenza virus strains by the State Laboratory of Public Health also can help determine whether antiviral drugs might be useful in preventing or treating ILI.

Attached is the most current influenza surveillance information available from the sentinel surveillance program, Hospital Emergency Departments, and the State Laboratory of Public Health. Additional information about pandemic A (H1N1) influenza cases in North Carolina is also included in this report.

This periodic report also is available on the N.C. Division of Public Health's Communicable Disease Control website at www.epi.state.nc.us/epi/gcdc/flu.html. CDC information may be viewed on the CDC website, www.cdc.gov/flu/weekly. Additional information concerning pandemic H1N1 influenza is available at www.flu.nc.gov and at www.cdc.gov/h1n1.

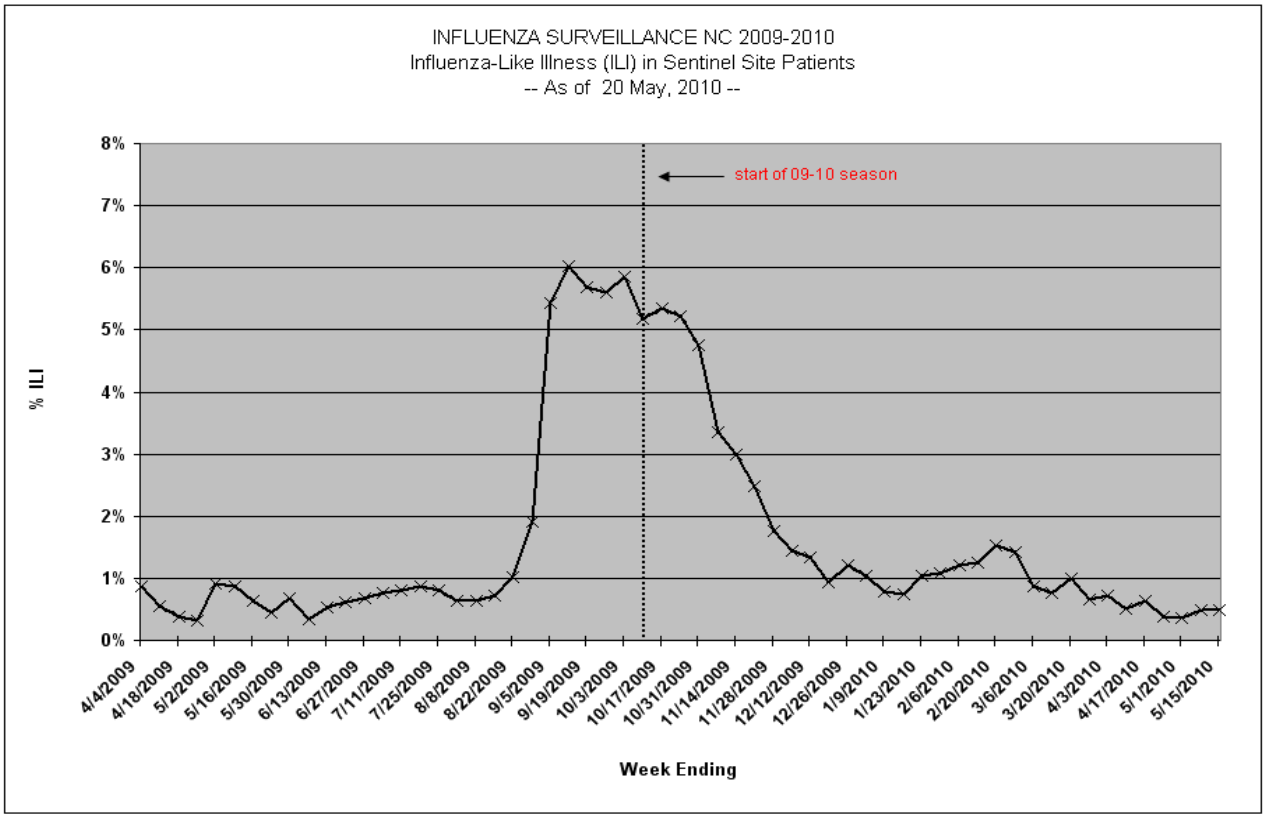
For questions about North Carolina's adult immunization program, contact Sandy Allen in the Immunization Branch at (919) 707-5566 or at Sandy.Allen@dhhs.nc.gov. Additionally, I can be reached at (919) 715-1162 or by email at Nicole.Lee@dhhs.nc.gov.

We are very grateful to the sentinels for their participation in this important surveillance program and their contribution to North Carolina's public health program.

Nicole Lee
Interim Influenza Surveillance Coordinator
Communicable Disease Branch, Epidemiology Section
N.C. Division of Public Health, N.C. Department of Health and Human Services

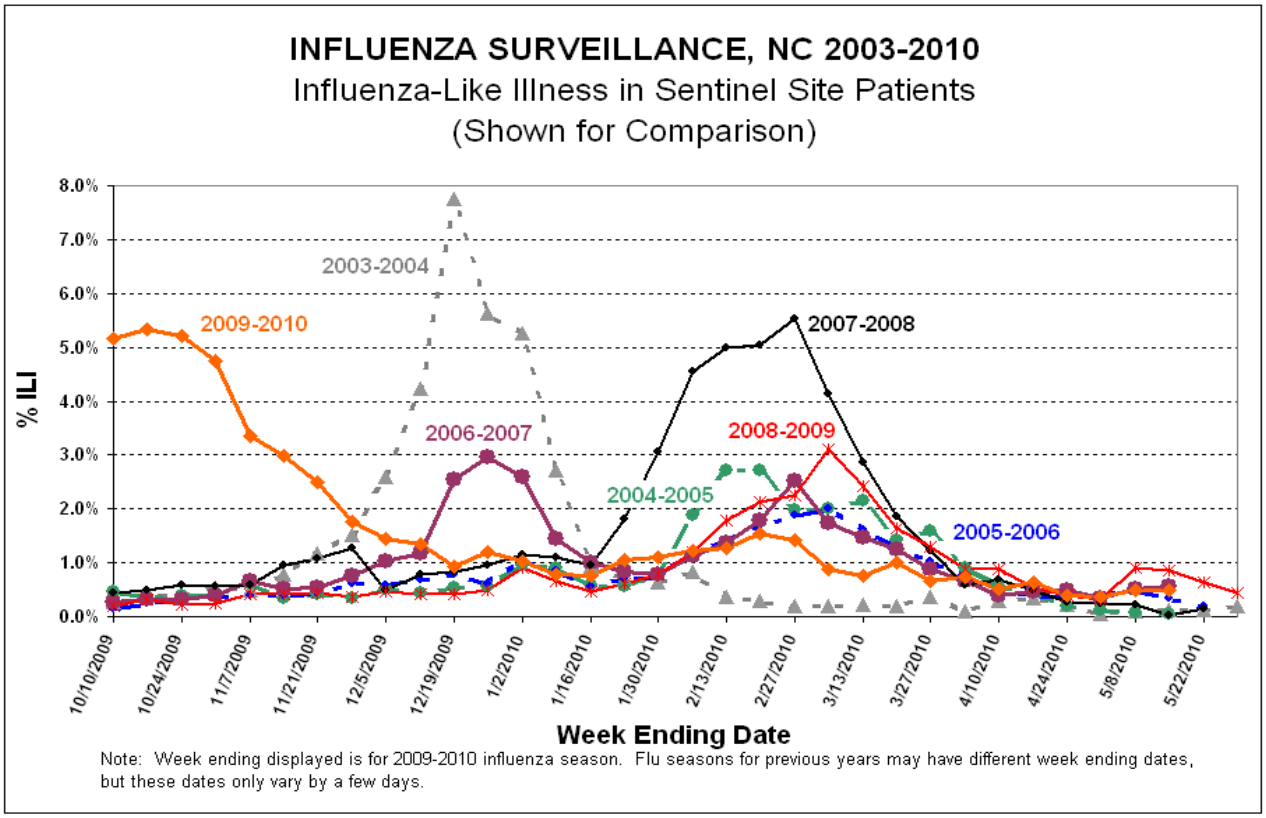
INFLUENZA-LIKE ILLNESSES REPORTED BY SENTINEL SITES, 08-09/09-10

Week # - Ending	(Sentinels Reporting)	# ILI	# Patients	% ILI
#36 - 09/12/09 [2008-2009]	(56)	1,151	19,113	6.02%
#37 - 09/19/09	(58)	1,401	24,668	5.68%
#38 - 09/26/09	(57)	1,319	23,563	5.60%
#39 - 10/03/09	(44)	1,156	19,733	5.86%
#40 - 10/10/09 [2009-2010]	(79)	1,465	28,334	5.17%
#41 - 10/17/09	(80)	1,441	26,961	5.34%
#42 - 10/24/09	(82)	1,477	28,270	5.22%
#43 - 10/31/09	(81)	1,313	27,605	4.75%
#44 - 11/07/09	(81)	994	29,597	3.35%
#45 - 11/14/09	(86)	855	28,526	2.99%
#46 - 11/21/09	(88)	809	32,462	2.49%
#47 - 11/28/09	(89)	376	21,220	1.77%
#48 - 12/05/09	(86)	476	32,916	1.44%
#49 - 12/12/09	(84)	419	31,038	1.34%
#50 - 12/19/09	(82)	253	26,771	0.94%
#51 - 12/26/09	(75)	164	13,517	1.21%
#52 - 01/02/10	(74)	170	16,484	1.03%
#01 - 01/09/10	(78)	184	23,122	0.79%
#02 - 01/16/10	(79)	213	28,364	0.75%
#03 - 01/23/10	(79)	271	26,023	1.04%
#04 - 01/30/10	(82)	308	28,047	1.09%
#05 - 02/06/10	(84)	290	23,665	1.22%
#06 - 02/13/10	(84)	346	27,365	1.26%
#07 - 02/20/10	(84)	446	28,971	1.53%
#08 - 02/27/10	(85)	450	31,625	1.42%
#09 - 03/06/10	(84)	237	26,635	0.88%
#10 - 03/13/10	(84)	191	24,666	0.77%
#11 - 03/20/10	(82)	258	25,772	1.00%
#12 - 03/27/10	(80)	179	26,743	0.66%
#13 - 04/03/10	(78)	170	23,256	0.73%
#14 - 04/10/10	(78)	121	23,696	0.51%
#15 - 04/17/10	(72)	149	23,196	0.64%
#16 - 04/24/10	(73)	87	22,241	0.39%
#17 - 05/01/10	(66)	75	20,033	0.37%
#18 - 05/08/10	(64)	85	17,659	0.48%
#19 - 05/15/10	(48)	65	13,246	0.49%



NOTE: This graph begins with data for the week ending April 4, 2009 – the week that Pandemic A (H1N1) Influenza was first confirmed in the U.S.

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)"

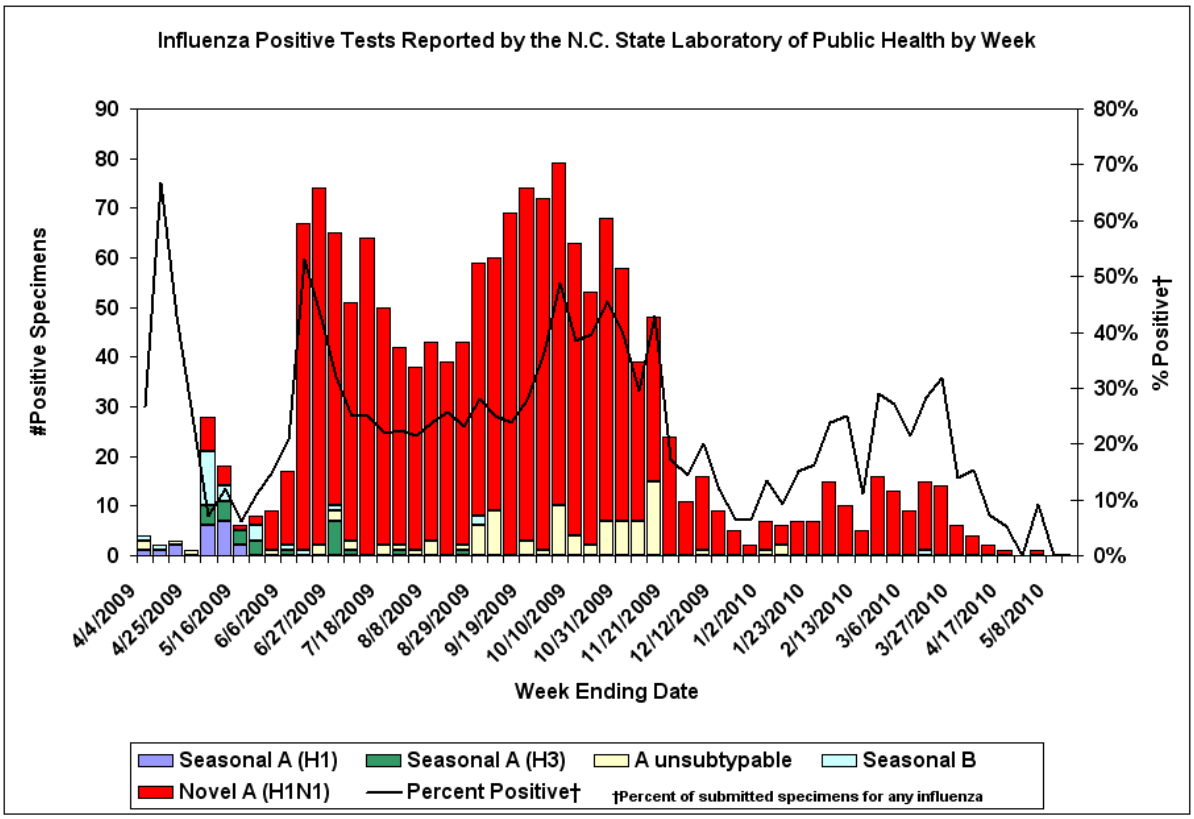


Virologic Surveillance Information from the North Carolina State Laboratory of Public Health

INFLUENZA VIRUS ISOLATES FROM IN-STATE PATIENTS IDENTIFIED BY THE STATE LABORATORY OF PUBLIC HEALTH 2009-2010 SEASON*

Virus Type	# Isolates
A	46
A/H1	0
A (H1N1) Pandemic**	487
A/H3	0
B	1
TOTAL	534

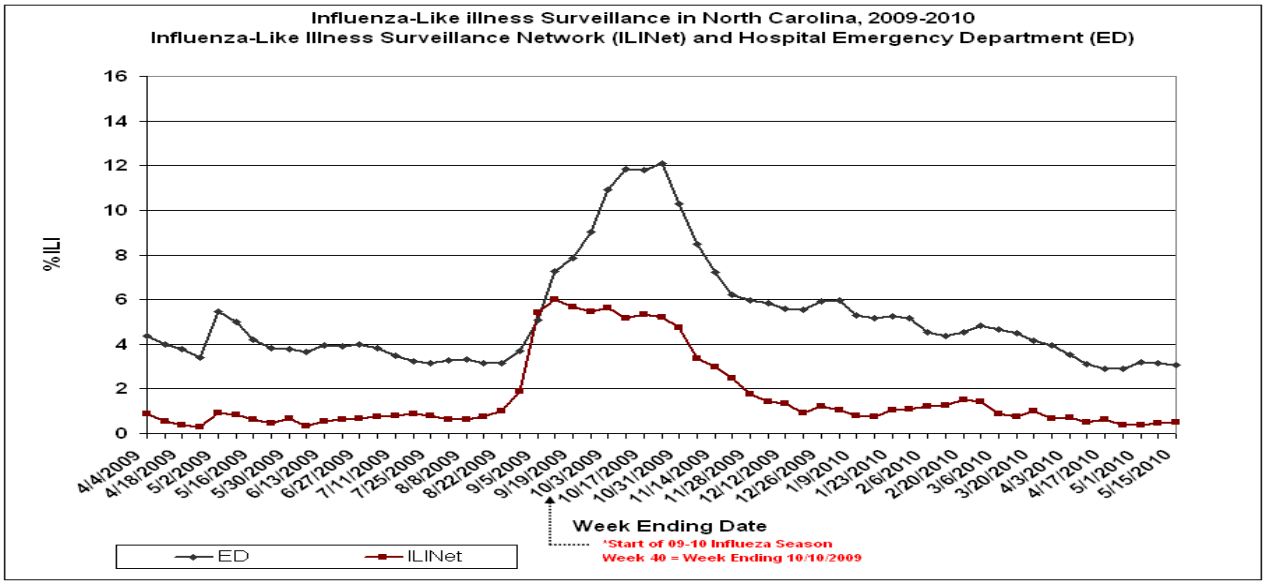
* 2009-2010 Season began October 4, 2009
** A (H1N1) Pandemic was formerly known as "Swine Flu".
NOTE: This table only includes isolates tested as of 05/14/10.
This table does not include A (H1N1) Pandemic isolates identified by other laboratories.



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

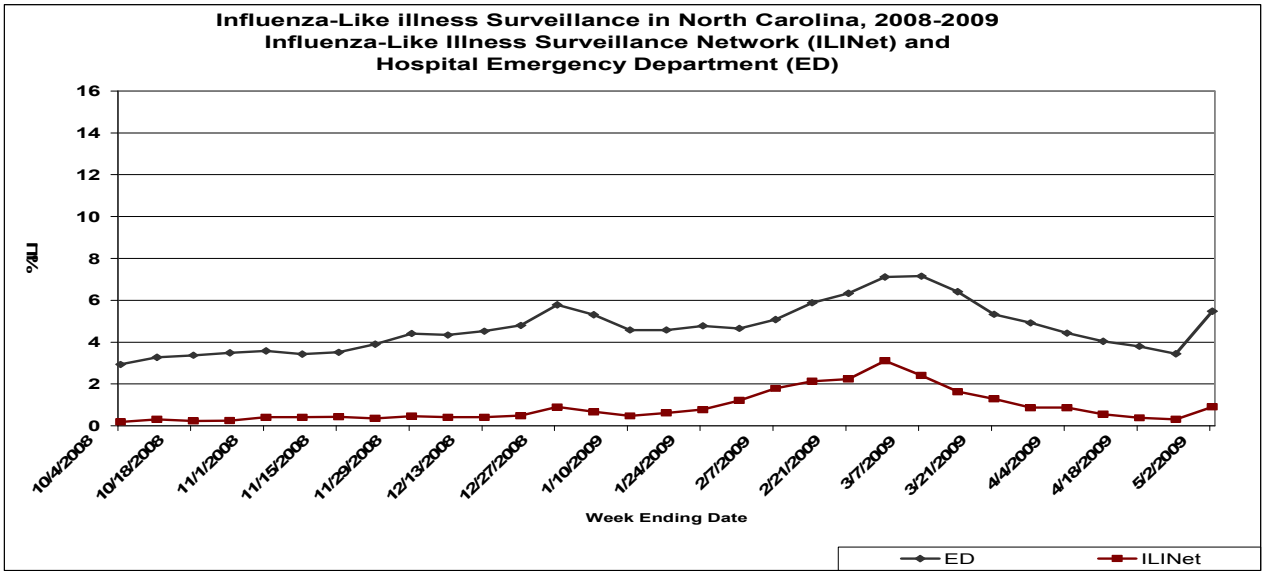
Real-time syndromic surveillance for ILI is conducted through the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). This system uses a variety of data sources including emergency departments (EDs). NC DETECT is currently receiving data daily from 111 of the 112 24/7 EDs in North Carolina. For the purposes of biosurveillance, ED visits are grouped into syndromes based on analyses of the chief complaint, initial ED temperature, and history of the 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.

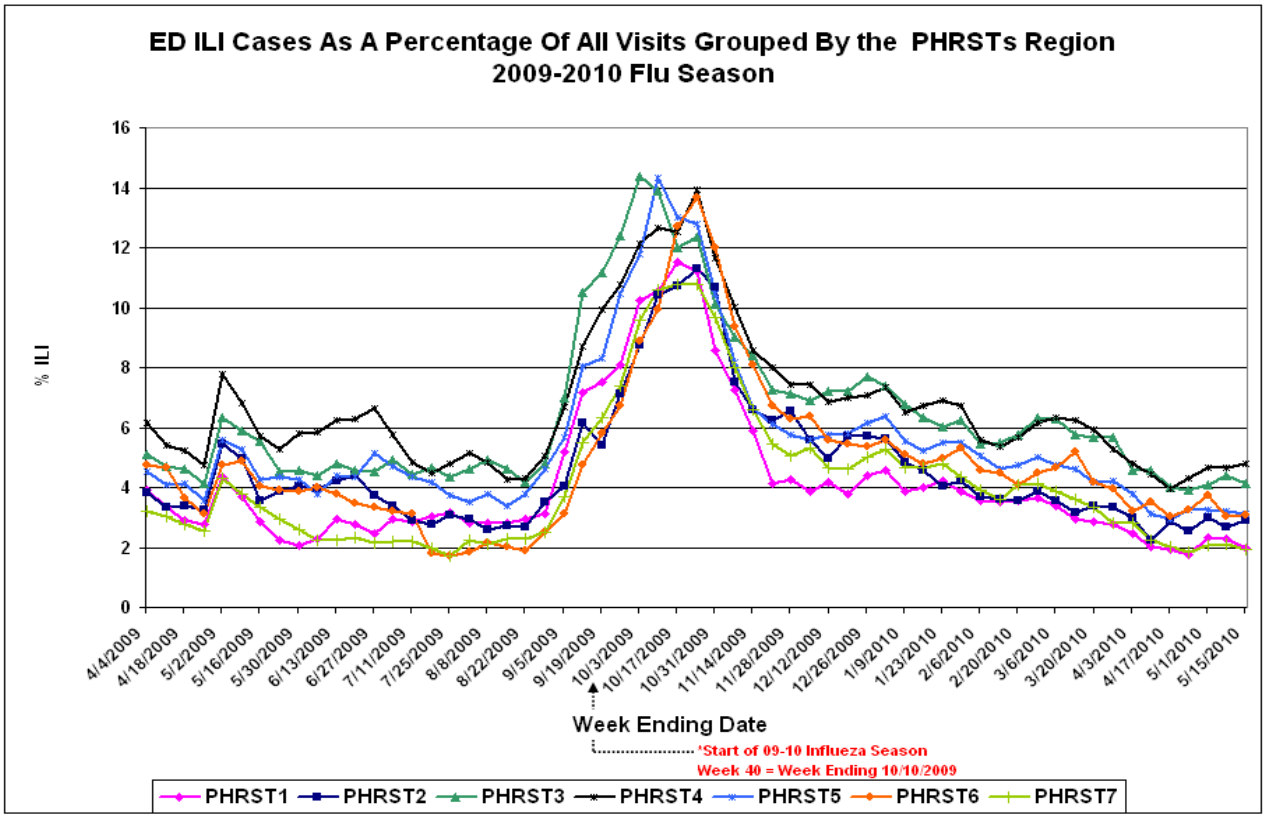
The proportion of ED visits meeting the ILI syndrome definition is monitored throughout the year and compared to data obtained from Influenza-like Illness Surveillance Network (ILINet). In past years, data from the two systems have shown similar trends (below). The higher proportion of ILI seen in NC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



NOTE: This graph begins with data for the week ending April 4, 2009 – the week that Pandemic A (H1N1) Influenza was first confirmed in the US.

2008-2009 Season Shown For Comparison





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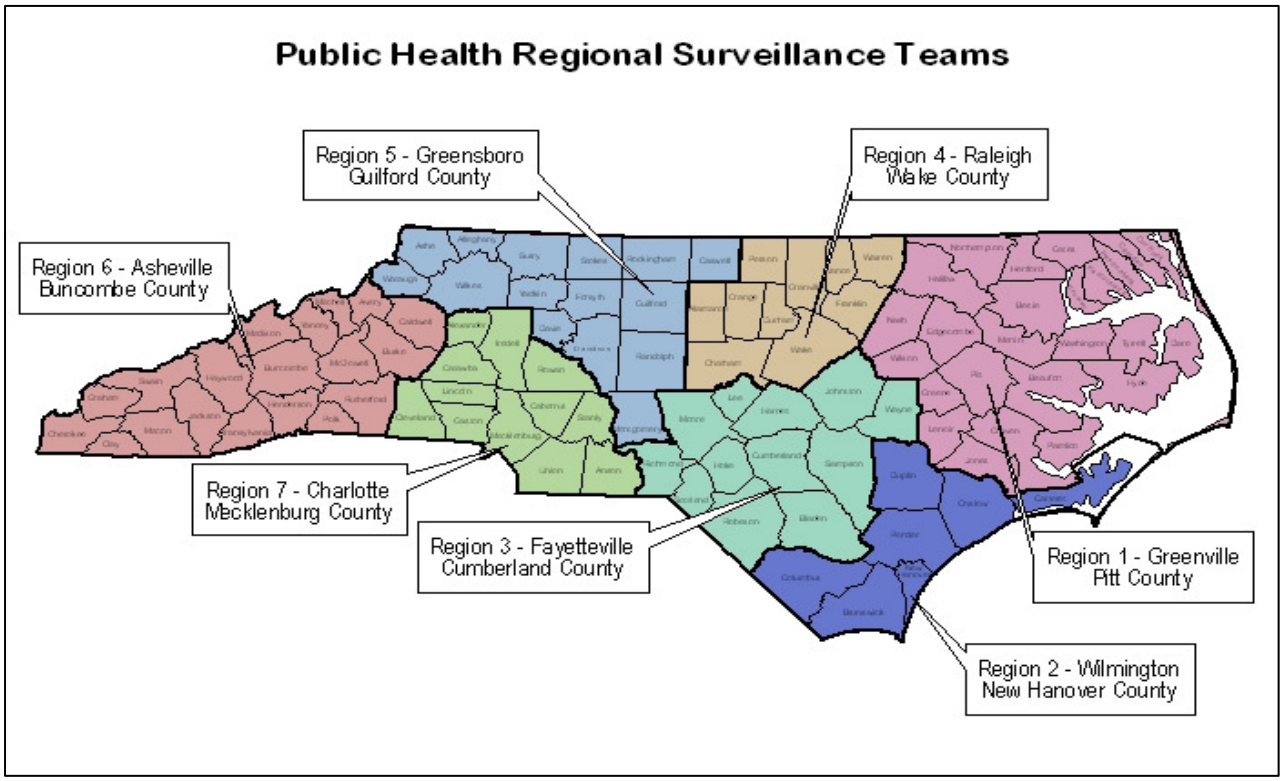
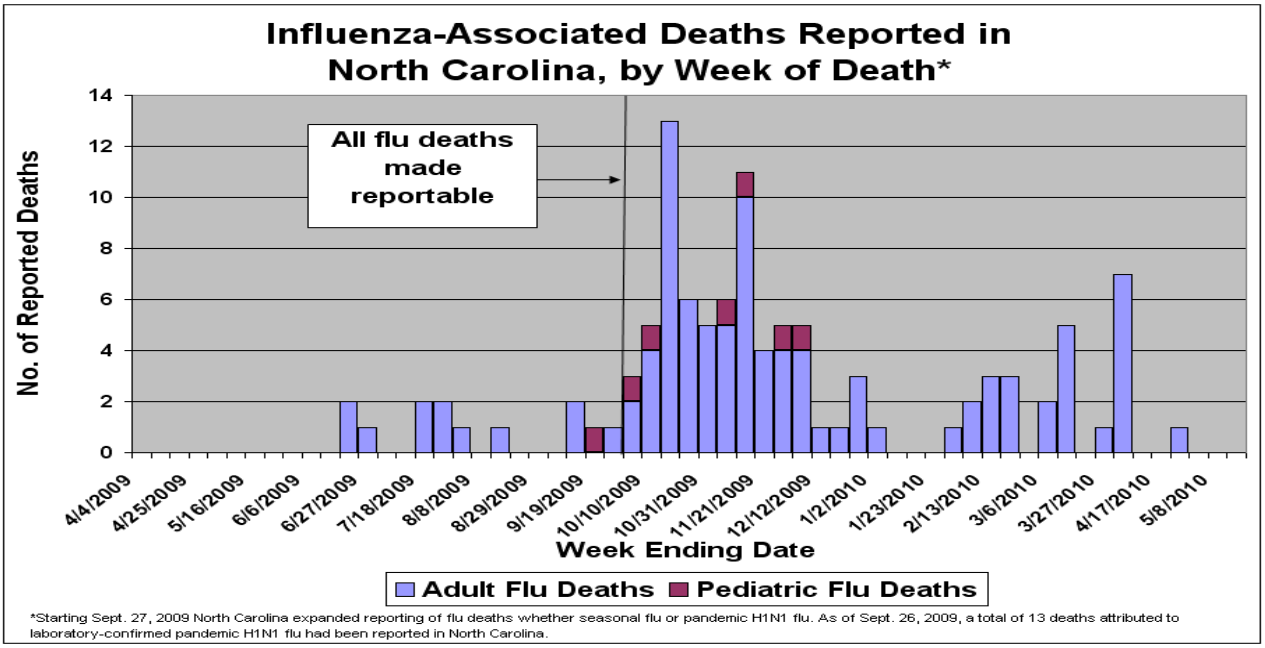


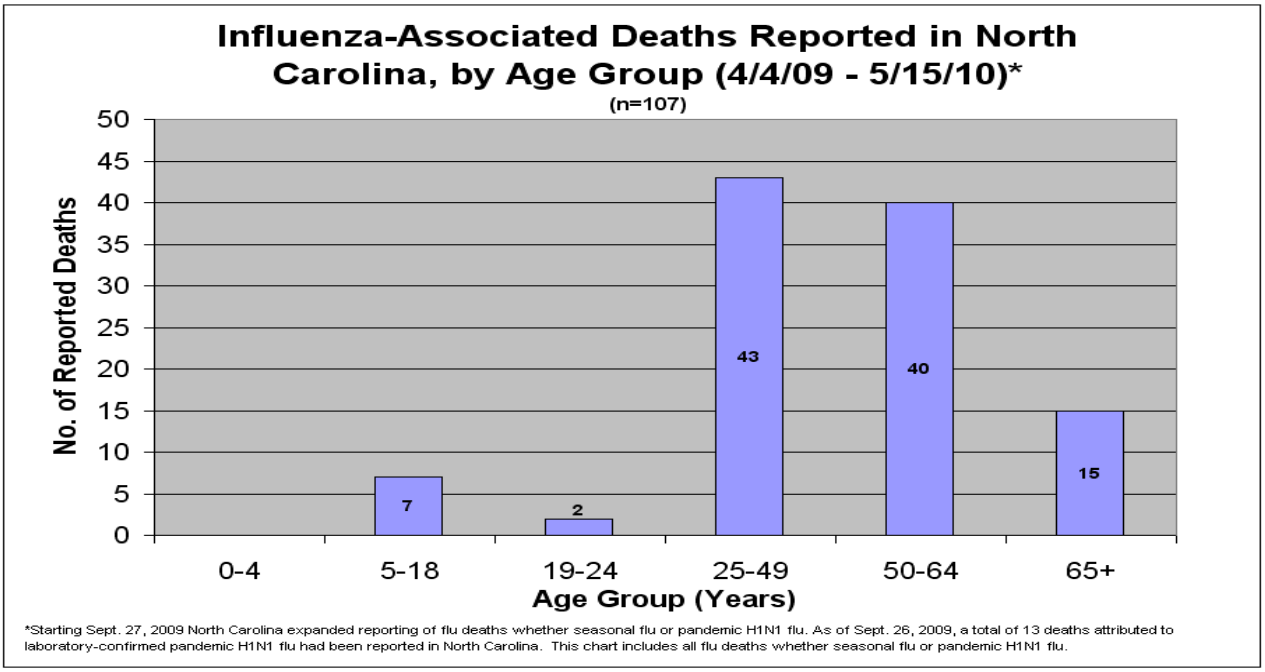
North Carolina Influenza-Associated Deaths

NC Flu-Associated Deaths*	
Influenza-associated Deaths 05/09/10-05/15/10	Influenza-associated Deaths Since April 2009*
0	107

***Starting Sept. 27, 2009 North Carolina expanded reporting of flu deaths using the definition below. A total of 13 deaths attributed to laboratory-confirmed pandemic H1N1 flu had been reported in North Carolina as of Sept. 26, 2009; these deaths are included in this table.**

Influenza-associated Deaths - this number is based on reports submitted by clinicians and local health departments to the North Carolina Division of Public Health. These reports include persons who died from an illness that was identified as influenza (either seasonal or pandemic) by an appropriate laboratory or rapid diagnostic test.





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

LOCAL HEALTH DEPARTMENT/DISTRICT OFFICES [32]:

Alamance County Health Department (Burlington)
Buncombe County Health Department (Asheville)
Cabarrus County Health Department (Kannapolis)
Caldwell County Health Department (Lenoir)
Catawba County Health Department (Hickory)
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)
Robeson County Health Department (Lumberton)
Rockingham County Health Department (Wentworth)
Rowan County Health Department (Salisbury)
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)
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 [18]:

Appalachian State University Student Health Services (Boone; Watauga Co.)
Davidson College Student Health Center (Davidson; Mecklenburg Co.)
Duke University Medical Center (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.)
Western Carolina University Student Health Services (Cullowhee; Jackson Co.)
Winston-Salem State University (Winston-Salem; Forsyth Co.)

PRIVATE PRACTITIONERS [37]:

Bakersville Community Medical Center (Bakersville; Mitchell Co.)
Beachcare Urgent Care (Morehead City; Carteret Co.)
Blue Cross and Blue Shield of N.C. (Durham; Durham Co.)
Blue Ridge Community Health Services (Hendersonville; Henderson Co.)
Bradford Clinic – Matthews (Matthews; Mecklenburg Co.)
Butner-Creedmore Family Medicine (Creedmore; Granville Co.)
Cabarrus Urgent Care (Concord; Cabarrus Co.)
Carolina East Medical Associates (Washington; Beaufort Co.)
Cary Family HealthCare, PA (Cary; Wake Co.)
Colerain Primary Care (Colerain; Bertie Co.)
ECU Brody School of Medicine – Department of Pediatrics (Greenville; Pitt Co.)
Family Care Center (Taylorsville; Alexander Co.)
First Charlotte Physicians – Epi Center (Charlotte; Mecklemburg 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 Clildren'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.)
Murfreesboro Primary Care (Murfreesboro; Hertford Co.)
Oxford Family Physicians (Oxford; Granville Co.)
Pitt Children's Clinic (Greenville; Pitt Co.)
Presbyterian Urgent Care – Charlotte (Charlotte; Mecklenburg Co.)
Presbyterian Urgent Care – Matthews (Matthews; Mecklenburg 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, Airport (Arden; 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.)
Wintergreen Medical Center (Winterville; Pitt Co.)

HOSPITALS [6]:

Blue Ridge Regional Hospital (Spruce Pine; Mitchell Co.)
Cape Fear Valley Health System Primary Care Practices (Fayetteville; Cumberland Co.)
Charles C. George VA Medical Center (Asheville; Buncombe Co.)
Duke Family Medicine (Durham; Durham Co.)
Durham VAMC (Durham; Durham Co.)
Seymour Johnson Air Force Base Medical Group (Goldsboro; Wayne Co.)

TOTAL SENTINELS ENROLLED – 93

Counties covered (53): Alexander, Alamance (2), Beaufort, Bertie, Buncombe (7), Cabarrus (2), Caldwell, Carteret, Catawba, Chatham, Cumberland (2), Duplin, Durham (4), Forsyth (5), Franklin, Gaston, Granville (2), Greene, Guilford (2), Haywood, Henderson (2), Hertford (2), Jackson, Johnston, Jones, Lee, Madison, Martin, Mecklenburg (7), Mitchell (3), Montgomery, New Hanover (3), Northampton, Orange, Pasquotank, Pender, Pitt (5), Richmond, Robeson (2), Rockingham, Rowan, Stanly (2), Stokes, Surry, Tyrrell, Union, Wake (3), Washington, Watauga (2), Wayne (2), Wilkes, Wilson, Yancey