

**NORTH CAROLINA WEEKLY INFLUENZA SURVEILLANCE SUMMARY #46
(OCTOBER 1, 2009)**

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 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 U.S. Moreover, this effort can provide timely recognition of new influenza strains with pandemic potential throughout the influenza season. This is the ninth 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 four age groups.

Based upon statewide population, CDC's goal for North Carolina is to have 34 sentinel sites. Last reporting season, 78 health providers throughout the state regularly reported ILI to CDC. This 2008-2009 reporting season, **96** providers in 55 counties report influenza surveillance data to CDC. This group of sentinels consists of a wide variety of practice types in 33 local health departments/health district offices, 38 private practices, 19 university and college student health centers, and 6 hospitals. Consequently, physicians and health personnel throughout the state report ILI, while university health providers enable the N.C. Division of Public Health to monitor influenza in a very diverse student population that included students from other states and countries. The current influenza sentinel surveillance season began on September 28, 2008.

This influenza surveillance program helps public health personnel effectively monitor the spread of influenza in the state. 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 CDC, 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/ncidod/diseases/flu/weekly.htm. Additional information concerning pandemic A (H1N1) is available at www.ncpublichealth.com and at www.cdc.gov/h1n1.

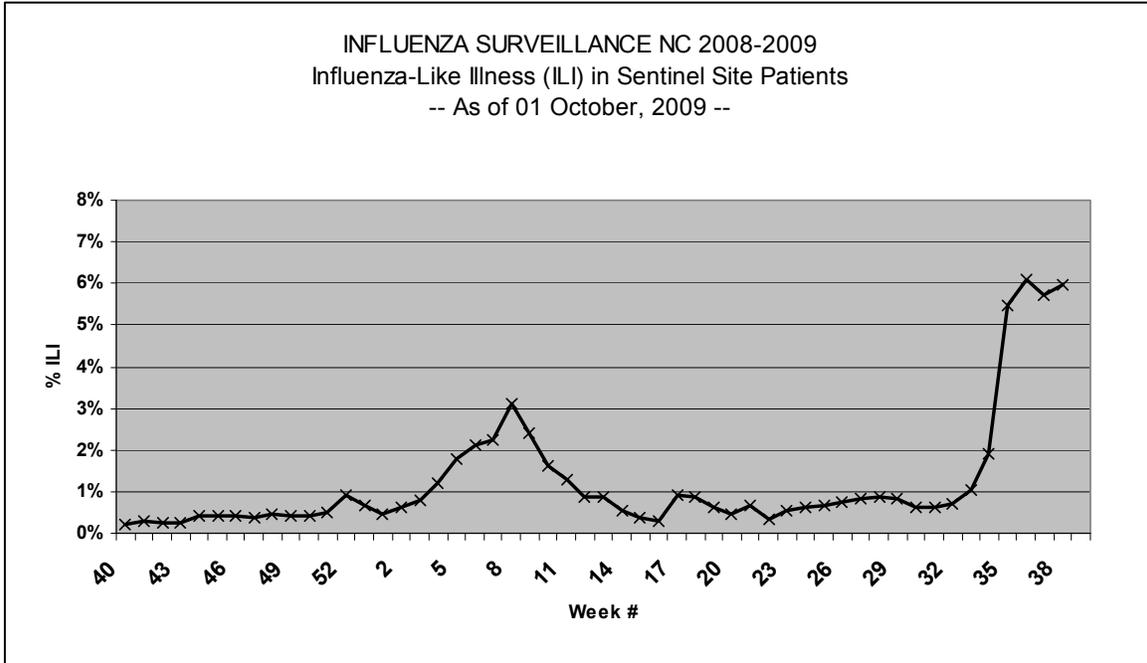
For questions about North Carolina's adult immunization program, contact Sandy Allen in the Immunization Branch at (919) 707-5566 or at Sandy.Allen@dhhs.nc.gov. Additionally, I can be reached at (919) 733-1193 or by email at Torrey.McLean@dhhs.nc.gov.

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.

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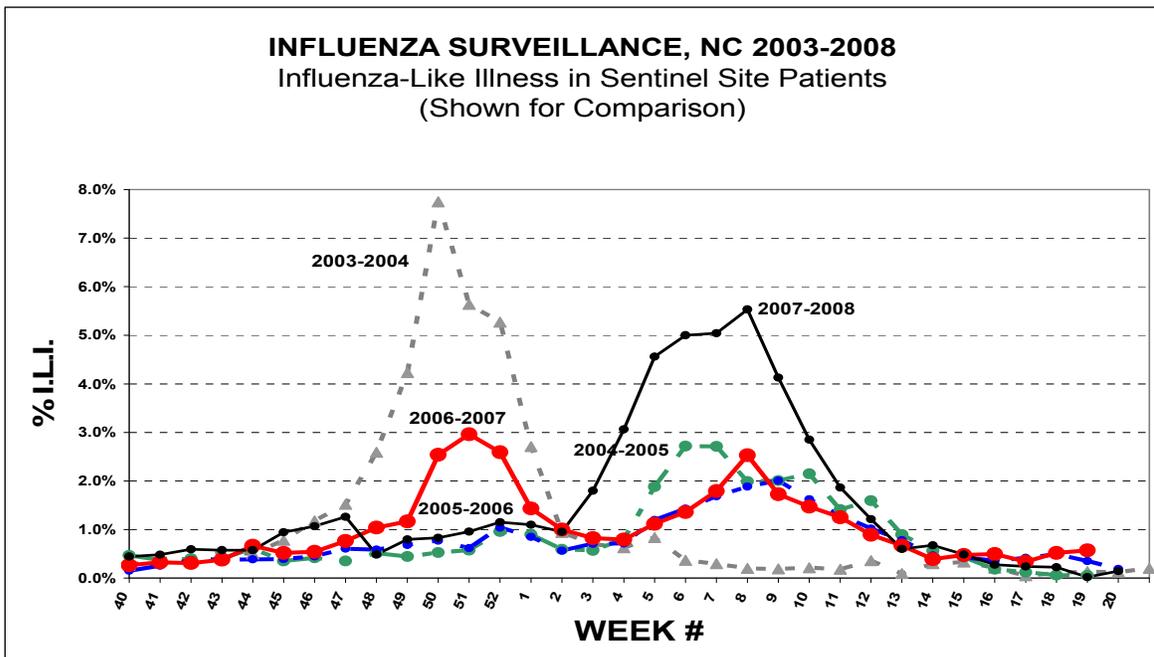
INFLUENZA-LIKE ILLNESSES REPORTED BY SENTINEL SITES, 2008-2009

<u>Week # - Ending</u>	<u>(Sentinels Reporting)</u>	<u># ILI</u>	<u># Patients</u>	<u>% ILI</u>
#40 - 10/04/08	(65)	041	20,555	0.19%
#41 - 10/11/08	(69)	067	21,128	0.31%
#42 - 10/18/08	(69)	051	21,353	0.23%
#43 - 10/25/08	(70)	058	22,968	0.25%
#44 - 11/01/08	(72)	102	24,359	0.41%
#45 - 11/08/08	(73)	106	25,761	0.41%
#46 - 11/15/08	(73)	110	25,082	0.43%
#47 - 11/22/08	(71)	091	24,684	0.36%
#48 - 11/29/08	(66)	067	14,350	0.46%
#49 - 12/06/08	(68)	099	24,086	0.41%
#50 - 12/13/08	(70)	084	20,486	0.41%
#51 - 12/20/08	(68)	082	16,606	0.49%
#52 - 12/27/08	(63)	069	7,654	0.90%
#53 - 01/03/09	(65)	076	11,244	0.67%
#01 - 01/10/09	(64)	090	19,049	0.47%
#02 - 02/17/09	(66)	124	19,997	0.62%
#03 - 01/24/09	(69)	124	15,715	0.78%
#04 - 01/31/09	(70)	280	23,038	1.21%
#05 - 02/07/09	(69)	396	22,114	1.79%
#06 - 02/14/09	(68)	497	23,285	2.13%
#07 - 02/21/09	(70)	545	24,319	2.24%
#08 - 02/28/09	(67)	719	23,104	3.11%
#09 - 03/07/09	(68)	467	19,316	2.41%
#10 - 03/14/09	(67)	324	19,789	1.63%
#11 - 03/21/09	(65)	275	21,263	1.29%
#12 - 03/28/09	(63)	182	20,704	0.87%
#13 - 04/04/09	(60)	173	19,851	0.87%
#14 - 04/11/09	(60)	100	17,953	0.55%
#15 - 04/18/09	(58)	066	17,286	0.38%
#16 - 04/25/09	(58)	057	18,123	0.31%
#17 - 05/02/09	(58)	176	19,165	0.91%
#18 - 05/09/09	(56)	153	17,647	0.86%
#19 - 05/16/09	(50)	083	12,963	0.64%
#20 - 05/23/09	(50)	059	12,903	0.45%
#21 - 05/30/09	(48)	078	11,417	0.68%
#22 - 06/06/09	(50)	047	13,330	0.35%
#23 - 06/13/09	(52)	074	13,730	0.53%
#24 - 06/20/09	(51)	085	13,699	0.62%
#25 - 06/27/09	(50)	096	14,304	0.67%
#26 - 07/04/09	(48)	089	11,652	0.76%
#27 - 07/11/09	(51)	125	15,300	0.81%
#28 - 07/18/09	(53)	139	15,660	0.88%
#29 - 07/25/09	(53)	125	15,340	0.81%
#30 - 08/01/09	(52)	098	15,450	0.63%
#31 - 08/08/09	(49)	088	13,774	0.63%
#32 - 08/15/09	(52)	111	15,220	0.72%
#33 - 08/22/09	(58)	188	18,259	1.02%
#34 - 08/29/09	(56)	420	21,945	1.91%
#35 - 09/05/09	(57)	1,210	22,153	5.46%
#36 - 09/12/09	(54)	1,147	18,803	6.10%
#37 - 09/19/09	(56)	1,395	24,310	5.74%
#38 - 09/26/09	(49)	1,271	21,346	5.95%



Counties covered (55): Alexander, Alamance (2), Beaufort, Bertie, Buncombe (7), Cabarrus (3), Caldwell, Carteret, Catawba, Chatham, Cumberland (3), Duplin, Durham (6), Forsyth (5), Franklin, Gaston, Granville (2), Greene, Guilford (3), Haywood, Henderson (2), Hertford (2), Jackson, Johnston, Jones, Lee, Madison, Martin, Mecklenburg (2), Mitchell (3), Montgomery, New Hanover (3), Northampton, Onslow, Orange, Pasquotank, Pender, Pitt (5), Richmond, Robeson (2), Rockingham, Rowan, Stanly (2), Stokes, Surry, Tyrrell, Union, Wake (3), Warren, Washington, Watauga (2), Wayne (2), Wilkes (2), Wilson, Yancey

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" on the right of the "Percentage of Visits for Influenza-like Illness Reported by Sentinel Physicians National Summary, 2007-2008" graph.



INFLUENZA VIRUS ISOLATES IDENTIFIED BY THE STATE LABORATORY OF PUBLIC HEALTH DURING RECENT WEEK(S):

<u>Week No./Ending</u>	<u>Total Tested</u>	<u># Confirmed</u>	<u>County</u>	<u>Virus Type</u>	<u># Isolates Same Virus</u>
#38 - 09/26/09	205	72	Alamance	A (H1N1) Pandemic	2
			Alexander	A (H1N1) Pandemic	1
			Beaufort	A (H1N1) Pandemic	1
			Bertie	A (H1N1) Pandemic	1
			Brunswick	A (H1N1) Pandemic	1
			Buncombe	A (H1N1) Pandemic	6
			Caldwell	A (H1N1) Pandemic	2
			Cumberland	A (H1N1) Pandemic	4
			Durham	A (H1N1) Pandemic	5
			Forsyth	A (H1N1) Pandemic	1
			Granville	A (H1N1) Pandemic	1
			Guilford	A (H1N1) Pandemic	4
			Haywood	A (H1N1) Pandemic	5
			Lenoir	A (H1N1) Pandemic	1
			Madison	A (H1N1) Pandemic	3
			Mecklenburg	A (H1N1) Pandemic	1
			Montgomery	A (H1N1) Pandemic	2
			Moore	A (H1N1) Pandemic	1
			New Hanover	A (H1N1) Pandemic	1
			Northampton	A (H1N1) Pandemic	3
			Orange	A (H1N1) Pandemic	1
			Robeson	A (H1N1) Pandemic	2
			Stanly	A (H1N1) Pandemic	1
			Union	A (H1N1) Pandemic	1
			Unknown	A (H1N1) Pandemic	13
			Vance	A (H1N1) Pandemic	1
			Wake	A	1
			Wake	A (H1N1) Pandemic	2
			Wilkes	A (H1N1) Pandemic	1
			Wilson	A (H1N1) Pandemic	1
			Yancey	A (H1N1) Pandemic	2

TOTAL ISOLATES IDENTIFIED AS OF WEEK 38*:

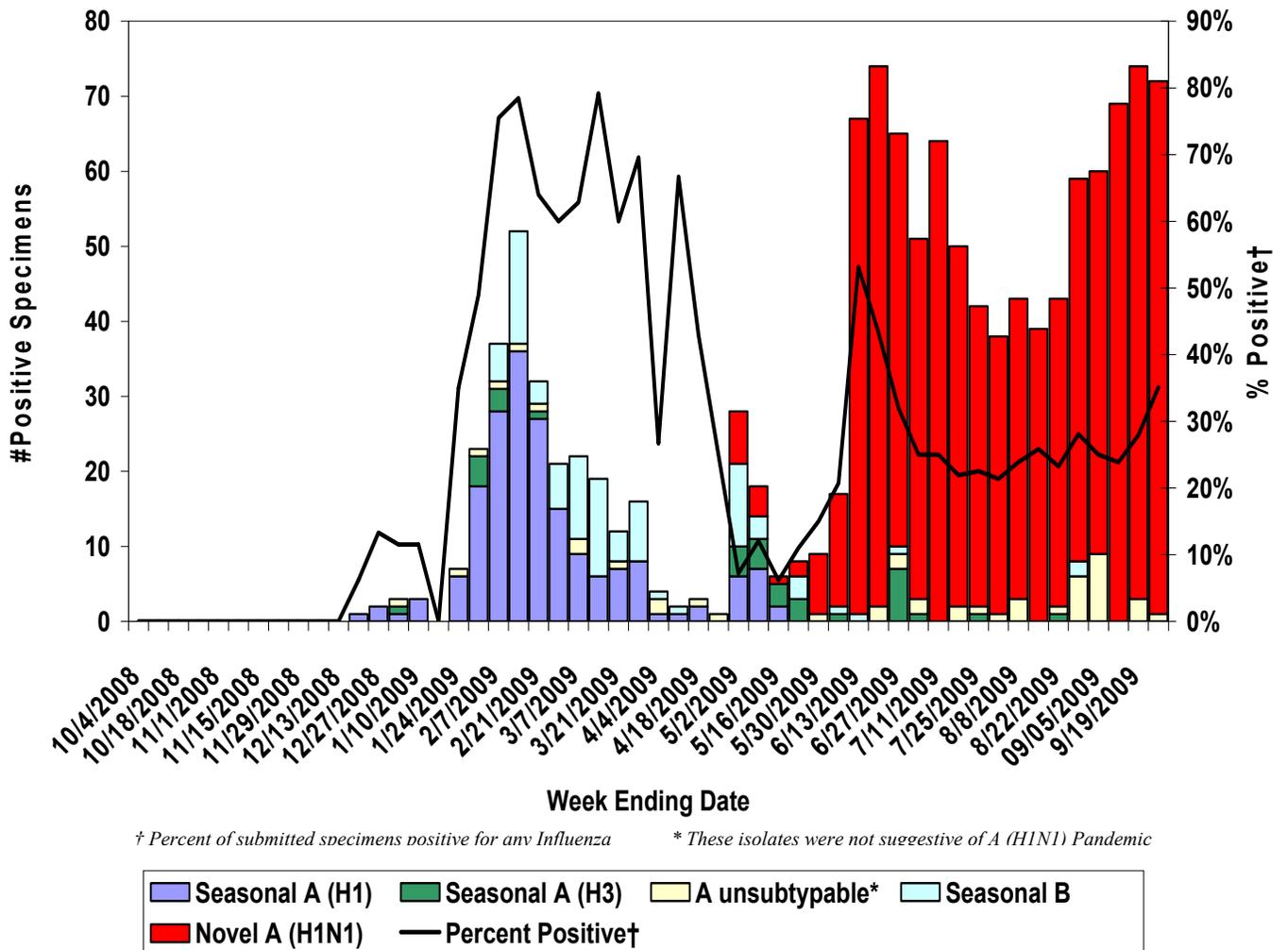
Virus Type	# Isolates
A	49
A/H1	190
A (H1N1) Pandemic**	900
A/H3	34
B	92
TOTAL	1265

* This table does not include A (H1N1) Pandemic isolates identified by other laboratories.

** A (H1N1) Pandemic was formerly known as "Swine Flu".

NOTE: This table only includes isolates tested as of 09/26/09.

Influenza Positive Tests Reported by the N.C. State Laboratory of Public Health by Week



A (H1N1) Pandemic Surveillance

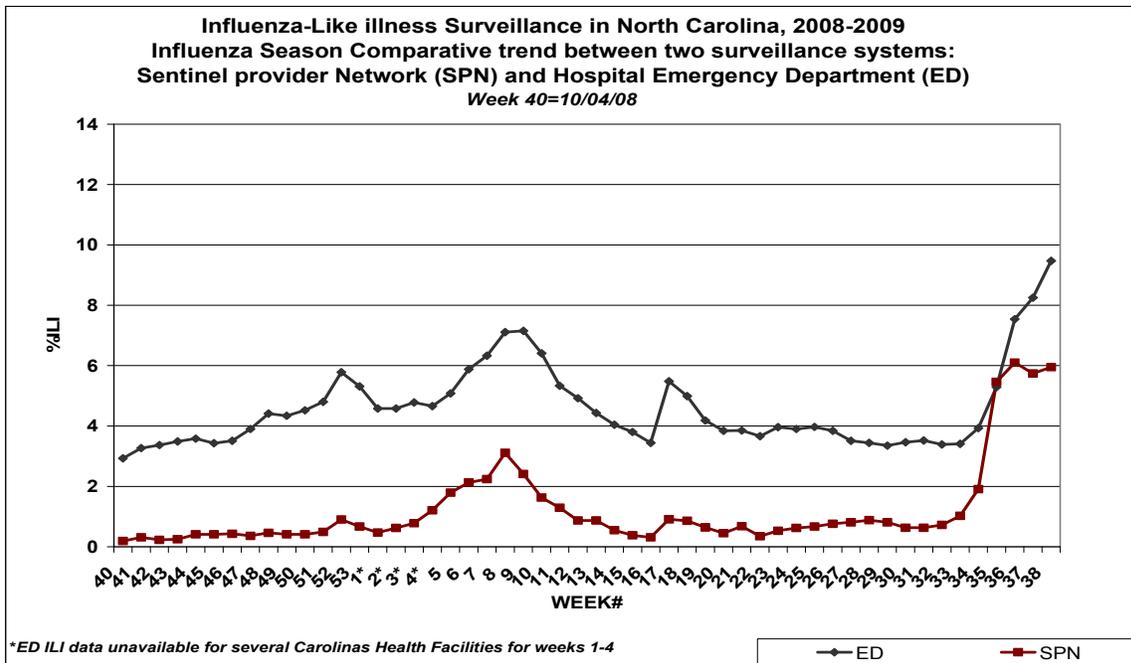
A (H1N1) Pandemic as of 09/30/09

North Carolina	
Total Associated Deaths	12
Total Associated Hospitalizations	267

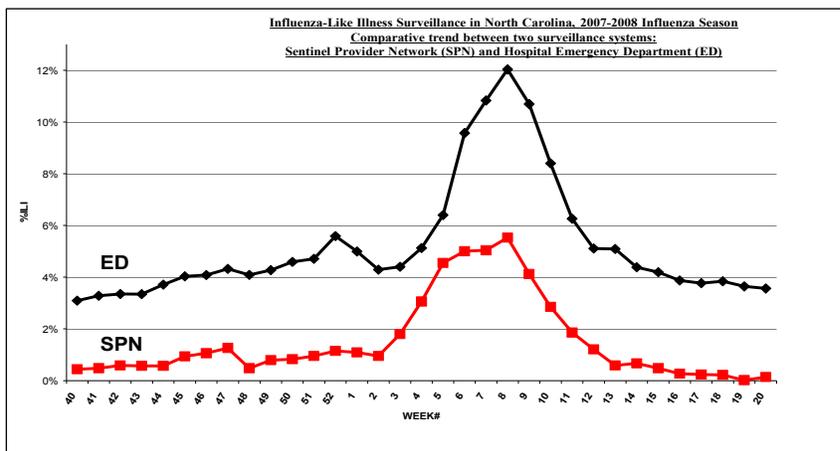
North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT)
ILI Surveillance

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.

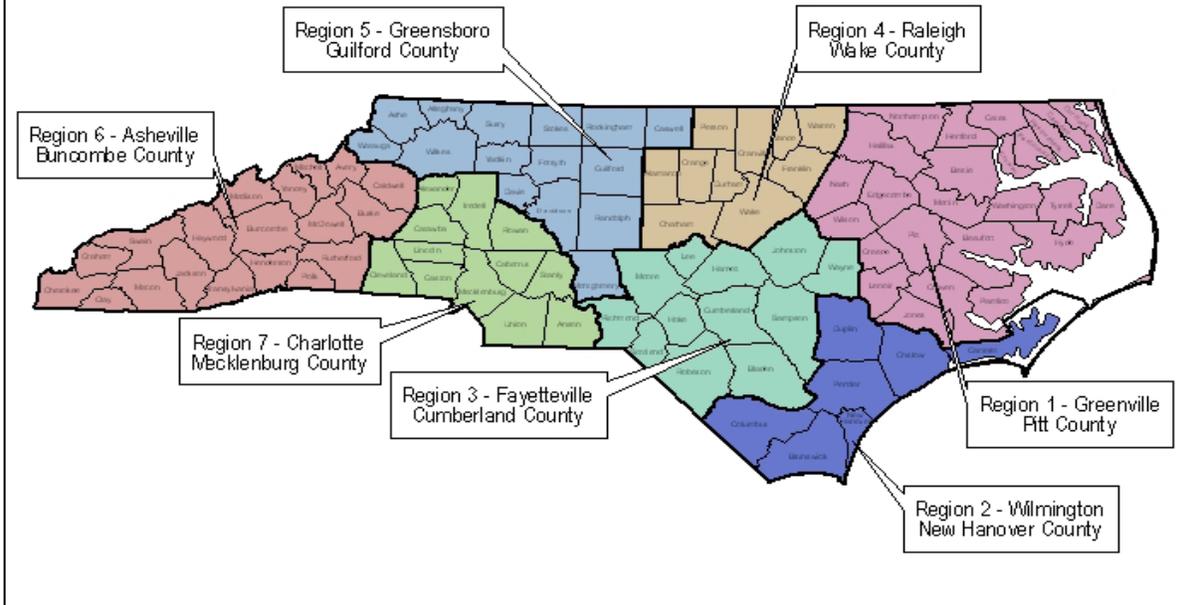
The proportion of ED visits meeting the ILI syndrome definition is monitored throughout the year and compared to data obtained from the Sentinel Provider Network (SPN). In past years, data from the two systems have shown similar trends (below). The higher proportion of ILI seen in NC DETECT compared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



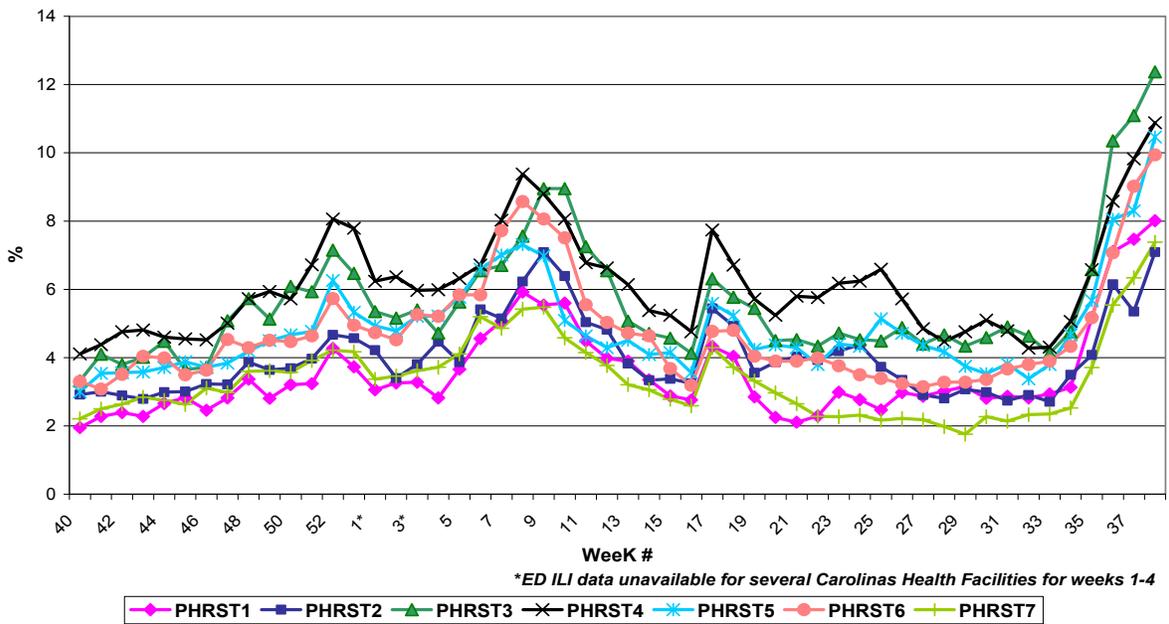
2007-2008 Season Shown For Comparison



Public Health Regional Surveillance Teams



**ED ILI Cases As A Percentage Of All Visits Grouped By the PHRSTs Region
2008-2009 Flu Season
Week 40=10/04/08**



ACTIVE PARTICIPANTS IN NORTH CAROLINA'S INFLUENZA SENTINEL SURVEILLANCE PROGRAM

LOCAL HEALTH DEPARTMENT/DISTRICT OFFICES [33]:

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)
Warren County Health Department (Warrenton)
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 [19]:

Appalachian State University Student Health Services (Boone; Watauga Co.)
Davidson College Student Health Center (Davidson; Mecklenburg Co.)
Duke University Medical Center (Durham; Durham Co.)
East Carolina University 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.)

NCCU Student Health and Counseling Services (Durham; Durham 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 [38]:

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.)
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.)
Chapel Hill Urgent Care (Durham; Orange 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.)
Greensboro Family Practice (Greensboro; Guilford Co.)
Haywood Pediatric and Adolescent Medicine Group, PA (Clyde; Haywood Co.)
Henry Izurieta, MD (Fayetteville; Cumberland Co.)
Hot Springs Health Program (Marshall; Madison Co.)
Jacksonville Children's Clinic (Jacksonville; Onslow Co.)

Kannapolis Internal Medicine (Kannapolis; Cabarrus 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.)
Mountain View Medical Center (Hays; Wilkes Co.)
Murfreesboro Primary Care (Murfreesboro; Hertford Co.)
Oxford Family Physicians (Oxford; Granville Co.)
Pitt Children's Clinic (Greenville; Pitt 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, West (Asheville; Buncombe Co.)
Sisters of Mercy Urgent Care, South (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 – 96