



The 2004-2005 Influenza Season

RI Department of Health (HEALTH)
Office Of Communicable Diseases

Division of Disease Prevention and Control
Rhode Island State Health Laboratories

Spring 2005

This report summarizes influenza activity in Rhode Island from October 3, 2004—April 23, 2005. The past influenza season was fairly average in Rhode Island overall as it was nationally. Both influenza A and B viruses have been circulating this season with influenza A predominating.

Influenza Surveillance Methods:

The goal of surveillance is to assess annual influenza activity levels, measure mortality impact, and characterize circulating strains to guide anti-viral therapy, detect pandemic strains, and determine whether the vaccine strain for the annual formulation is a match with the circulating strain. Five surveillance systems were closely monitored between October 2004 and April 2005.

1. Influenza Sentinel Provider Surveillance System:

Currently, 19 Rhode Island sentinel providers are participating in the HEALTH/CDC passive surveillance system (see Table 1 page 6). The sentinel system combines both laboratory testing and the weekly reporting of ILI cases (by age group) as a proportion (percentage) of all patients seen in their respective practices. Sentinel providers submit weekly data to the Centers for Disease Control and Prevention (CDC) via internet or fax. Sentinel providers are also responsible for routine submission of swabs to the state laboratory for influenza virus detection by polymerase chain reaction (PCR) and culture testing.

Definition of Terms:

RI Sentinel Provider: a healthcare provider in Rhode Island who volunteers to monitor outpatient visits for ILI during an influenza season. The Rhode Island sentinel providers are part of the National Sentinel Provider Network that is a collaborative effort between CDC and state health departments. The purpose of the Sentinel Provider Network is to monitor outpatient visits for ILI. ILI information is reported by Rhode Island State sentinel providers to CDC. Information is provided by age group and by total patient visits for all causes for each week. The % ILI for each state is calculated based on the total number of ILI visits during a particular week divided by the sum total of all patient visits during the same week.

ILI: Influenza-Like Illness. Defined as a temperature of $\geq 100.0^{\circ}\text{F}$ (37.8°C) and either cough or sore throat in the absence of known cause.

National Baseline: %ILI that would be expected if influenza viruses were not circulating. The national baseline is 2.5% for this season. The national baseline was calculated as the mean weighted percentage of visits for ILI during non-influenza weeks, plus two standard deviations.

- Rhode Island Influenza Rapid Testing Surveillance:** Laboratories throughout the state that conduct rapid tests for influenza send faxed results to the Department of Health, Office of Communicable Diseases. This reporting is on a voluntary basis.
- Institutional Cluster and Outbreaks Surveillance:** Institutional clusters and outbreaks are mandatory reportable events. An institutional cluster is defined as three (3) or more cases of laboratory confirmed influenza-like illness (ILI) in a long-term care facility (LTCF), school or other congregate environment.

4. **Laboratory Surveillance for Influenza:** Starting in the Fall of 2004, the state laboratory established a diagnostic algorithm for respiratory virus identification and started receiving, and testing nasopharyngeal and oral swabs from sentinel providers. The state laboratory has established capacity to type and subtype influenza A viruses. Further testing capacity exists for a respiratory panel that includes parainfluenza, respiratory syncytial virus and adenovirus.
5. **Pneumonia and Influenza Mortality:** The City of Providence is included in the 122 Cities Pneumonia and Influenza (P&I) mortality reporting system. This data is reported by the Office of Vital Records and published weekly in the Morbidity and Mortality Weekly Report (MMWR) published by CDC.

Based on the information collected from all of these surveillance systems, the State Epidemiologist reports the RI influenza activity level to CDC on a weekly basis. The activity level is a composite of geographic spread and level of ILI as reported by sentinel providers combined with laboratory positive results and institutional outbreak reports. See text box on the right for description of how influenza activity is determined.

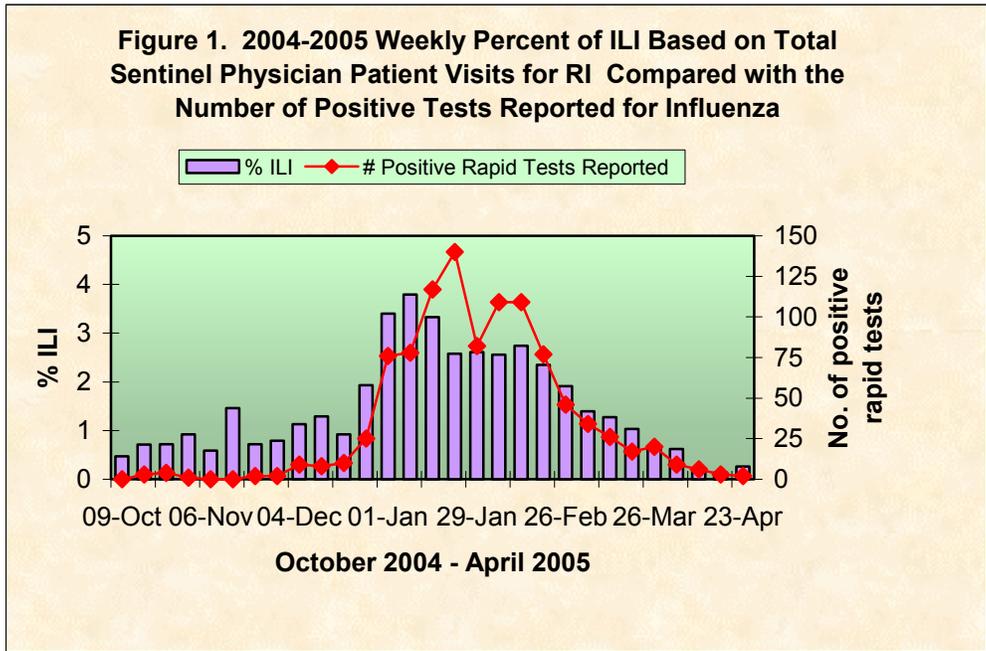
Newer surveillance Systems: The Office of Communicable Disease recommends that all cases of clinically suspected Avian Influenza (acquired during travel to the far east) be reported immediately by telephone to 222 2577 day or 272 5952 (after hours). See <http://www.cdc.gov/flu/avian/index.htm> for more information on avian flu. Also reportable are pediatric deaths related to influenza. These cases and associated surveillance specimens will be a priority for testing at the state laboratory.

State health departments report the estimated level of influenza activity in their states each week. These levels are defined as follows (note that region corresponds to county in RI):

- **No Activity:** No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI.
- **Sporadic:** Small numbers of laboratory-confirmed influenza cases or a single influenza outbreak has been reported, but there is no increase in cases of ILI.
- **Local:** Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.
- **Regional:** Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least 2 but less than half the regions of the state.
- **Widespread:** Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state.

2004-05 Sentinel Surveillance:

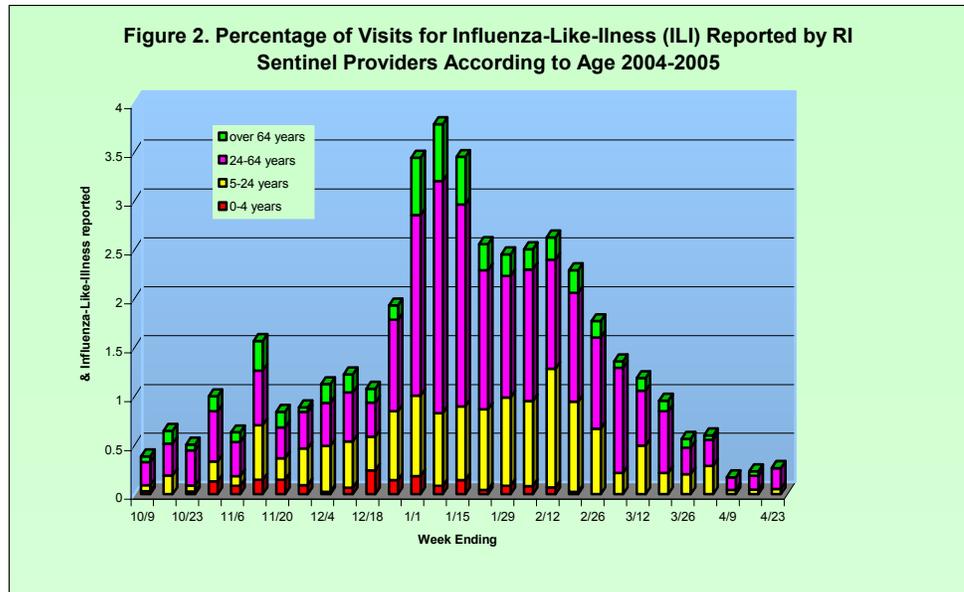
ILI Reports: The surveillance data provided by the influenza sentinel provider surveillance system for the 2004-2005 influenza season indicates that the current influenza season was mild until mid January when reports of influenza-like illness



(ILI) began to increase and rapidly peaked. Levels of ILI remained moderately high through February and gradually tapered through March into April 2005. Between October 2004 and April 23, 2005 RI sentinel providers reported 1646 cases of ILI out of a total of 100,141 patient visits. The weekly rate of reported positive influenza cases from laboratories throughout the state coincided closely with the numbers that were reported by the sentinel providers (Figure 1).

ILI By Age Group

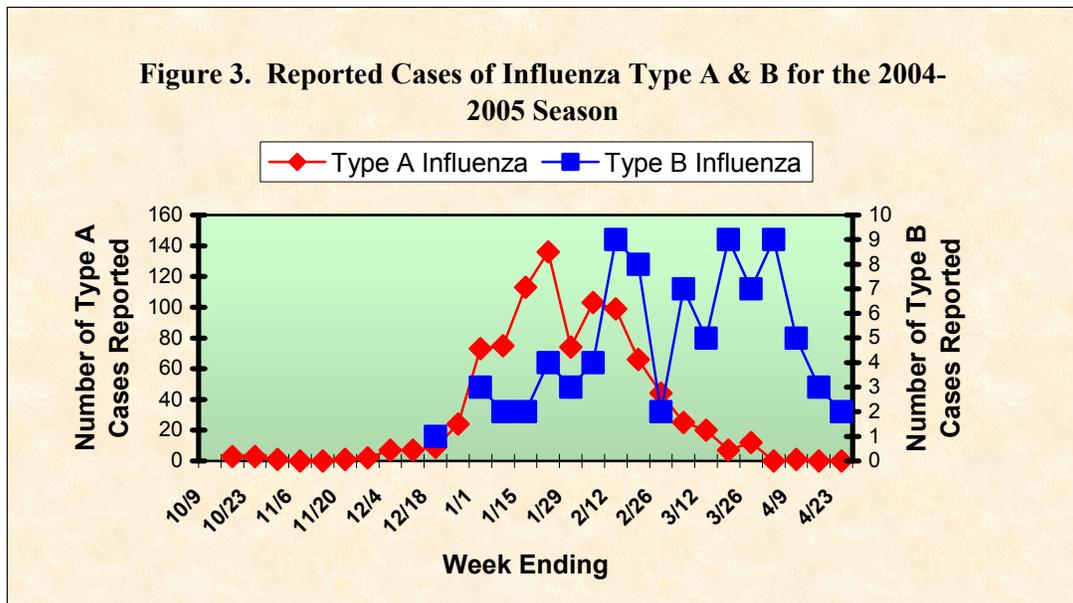
The surveillance data was further analyzed based on the age of the patients. The purple areas in Figure 2 indicate that the 25-64 year old age group was the most vulnerable to influenza this year. At the height of the season, in early January, the sentinel surveillance system reported a 2.38% frequency of ILI for the 25-64 year old group. In contrast the 5-24 year age group reported a frequency of ILI of 0.75%. The lowest incidence of ILI was reported in the 0-4 year age group. This pattern is consistent with the vaccine recommendations made this past season, with a supply prioritized for children and elderly.



2004-05 Laboratory Reporting:

Influenza A viruses, but not the B strain can be further categorized into subtypes on the basis of two surface antigens: hemagglutinin (H) and neuraminidase (N). Since 1977, influenza A (H1N1) viruses, influenza A (H3N2) viruses, and influenza B viruses predominantly have been in global circulation.

Rapid Testing: Laboratories performing rapid tests for influenza report positive test results to the Department of Health on a voluntary basis. For the 2004-2005, there were 905 positive influenza type A rapid tests and 85 influenza type B positive rapid tests reported. Although influenza A viruses predominated during this season, influenza B viruses were increasingly reported as the season progressed, and dominated the late season. The B viruses impact children and produce milder disease and are not associated with pandemics. Figure 3 shows the increase of positive type B tests from early February 2005 continuing into April 2005. This same trend was observed nationally and reported in the MMWR of April 08, 2005 (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5413a2.htm>)

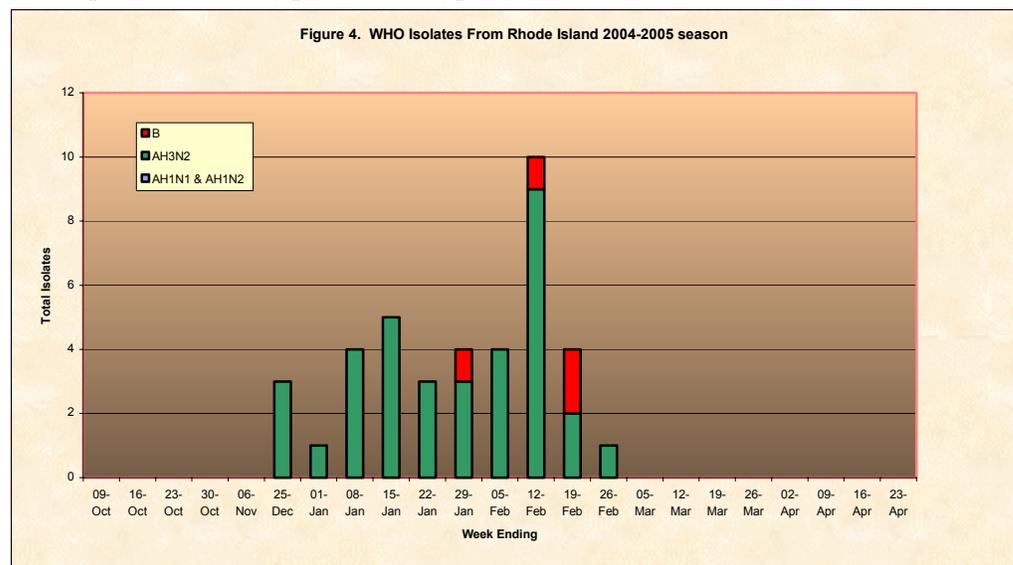


Sentinel Testing:

The State Laboratory and the regional WHO laboratory in Iowa tested a total of 144 specimens that were submitted by the sentinel providers. Thirty nine (39) specimens tested positive for influenza; 90% of those were type A. Of those specimens testing positive for type A influenza, all were antigenically

characterized by A (H3N2); this was considered a good match with the vaccine strain. See Figure 4.

Interestingly, the data again indicate that between February 15 and April 23, 2005 the cases of influenza type B increased. Should a specimen be positive for influenza A and the specimen is negative for H3 and H1 (the



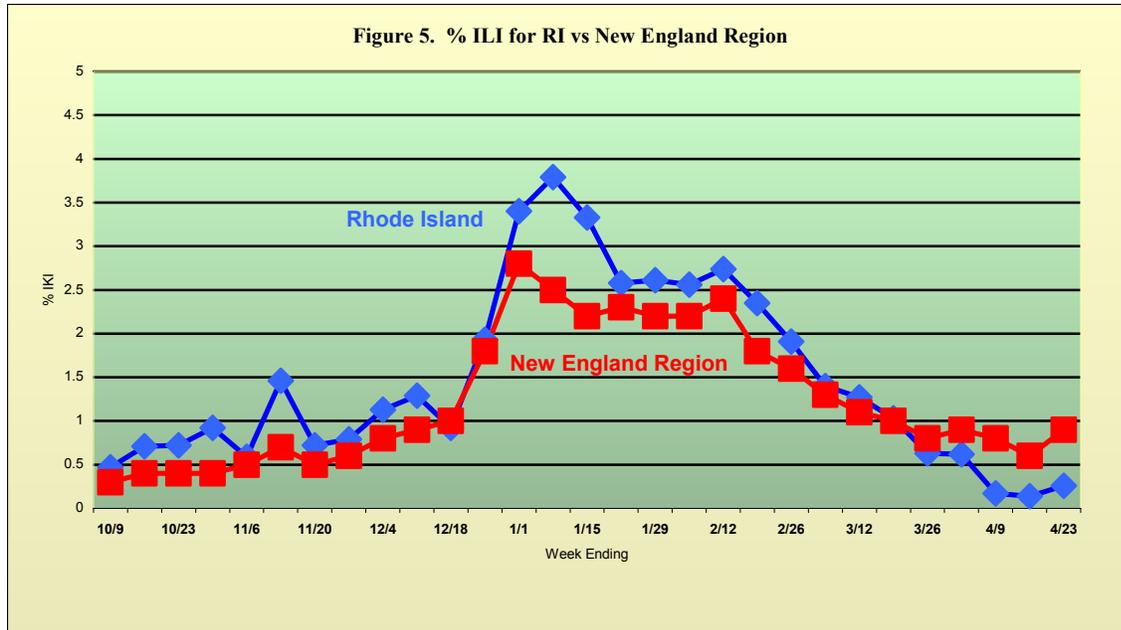
expected dominant strains), the specimen is shipped to CDC to detect the avian flu or H5 strain.

2004-05 Outbreak Reports:

In the interval January 6 2005 and February 23 2005, there were 14 small institutional outbreaks (defined as 3 or more cases of ILI with at least one laboratory confirmed case occurring as a cluster over a short period of time (e.g. 3 to 5 days). These reports were largely from long term care facilities and were rapidly controlled with implementation of standard infection control measures by the facility.

2004-05 Rhode Island Compared with the New England Region

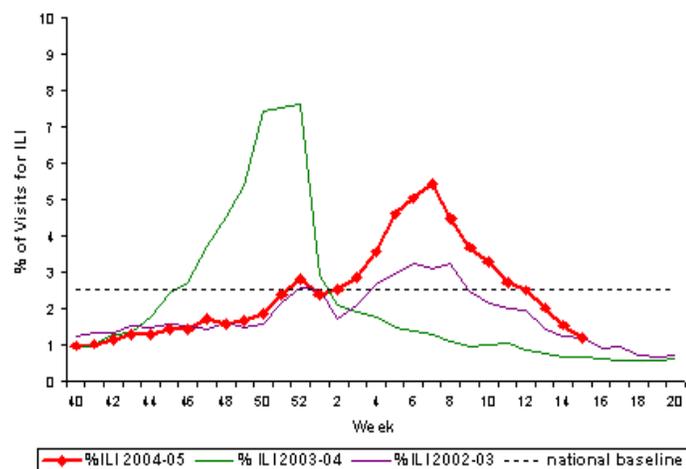
The %ILI reported by the sentinel providers in Rhode Island closely traced the same curve as reported cumulatively from other states in the New England region (Figure 5). The %ILI curve for RI was a little higher during the peak of the season (January 05-February 05) than for the New England region as a whole.



National Influenza Summary 2004-'05

During the weeks ending October 9, 2004—March 26, 2005, the percentage of patient visits for ILI ranged from 1.0% to 5.4% and has exceeded the national baseline of 2.5% for 11 consecutive weeks from the week ending January 15, 2005, through the week ending March 26, 2005. These patient visits peaked at 5.4% during the week ending February 19. During the 2001--02, 2002--03, and 2003--04 influenza seasons, national weekly peak percentages of patient visits for ILI ranged from 3.2% in mid-February during the 2001--02 and 2002--03 seasons to 7.6% in mid-to-late December during the 2003--04 season (CDC, unpublished data, 2004). Due to wide variability in regional level data, it is not appropriate to apply the national baseline to regional level data.

Percentage of Visits for Influenza-like Illness Reported by Sentinel Providers, National Summary 2004-05 and Previous 2 Seasons



Thank You Sentinel Providers!

Rhode Island Department of Health greatly appreciates the efforts of our State Sentinel Program clinical providers and their staff. These sentinel providers generate data for much of the influenza surveillance program and for the information presented in this report. The Rhode Island Providers currently involved in this program are listed below.

Table 1. Sentinel Providers		
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="text-align: center; margin-bottom: 20px;"> <h3>RI Sentinel Providers Location by County</h3> </div> </div>	<p>1. Dr. Rex Appenfeller 1 Commerce St. Lincoln, RI 02865</p>	<p>11. Dr. Fred Procopio University of Rhode Island Potter Building Health Center 6 Butterfield Road Kingston, RI 02881 (Chad Henderson, Director)</p>
	<p>2. Dr. Vincent D'Alessandro 1857 Atwood Ave. Johnston, RI 02919 (Sherri Bonaminio)</p>	<p>12. Lynn Wachtel, RNP Rhode Island College Brown Hall 600 Mount Pleasant Ave Providence, RI 02908 (Janice Neylon, RN) (Matthew McGinn, RN)</p>
	<p>3. Dr. Louis Moran 133 Post Road Warwick, RI 02888 (Claudia Moran, RN)</p>	<p>13. Dr. Steven Maguire 360 Kingston Rd Narragansett, RI 02882 (Robin Deitrick, RN)</p>
	<p>4. Dr. Edward Stulik & Dr Stefano L. Cazzaniga University Medicine 1525 Wampanoag Trail Suite 202 East Providence, RI 02915 (Deborah Donahue, Office Manager)</p>	<p>14. Dr. William Levin Dr. Donald Derouff Mary Kay Connell, RNP Salve Regina College Health Center 100 Ocre Point Ave Newport, RI 02840 (Jacklyn Parsons)</p>
	<p>5. Dr. Rocco Andreozzi 77 Franklin St. Westerly, RI 02891 (Susan Weeden, Office Manager)</p>	<p>15. Dr. Steven Hokeness Bryant University Health Center 1150 Douglas Pike Smithfield, RI 02917 (Betty Cotter, RNP)</p>
	<p>6. Dr. Steven Scott Atwood Primary Care 1526 Atwood Ave Johnston, RI 02919 (Pam DiGiacomo, Office Manager)</p>	<p>16. Dr. Christopher Campagna Wood River Health Services, Inc 823 Main St Hope Valley, RI 02832 (Meredith Eckel-Medical Manager)</p>
	<p>7. Dr. Stephen Beaupre 1312 Oaklawn Ave Cranston, RI 02920 (Anna Long, RN)</p>	<p>17. Dr. Adib Mechrefe Garden City Treatment Center 1150 Reservoir Ave Cranston, RI 02920 (Mary Elizabeth Perry, RN)</p>
	<p>8. Dr. Nitin Damle 481 Kingston Rd Wakefield, RI 02879 (Marcia Pellegrino, LPN)</p>	<p>18. Dr. Andrea Foly Bristol County Medical Center 1180 Hope Street Bristol, RI 02809 (Maria Pimentel)</p>
	<p>9. Joan Mullaney, RNP University Medicine Foundation 142 Danielson Pike Foster, RI 02825 Diane Metz-Med.Asst.</p>	<p>19. Dr. Monica Gross South County Walk-in & Primary 360 Kingstown Road Suite 104 Narragansett, RI 02882 (Jody Robinson, MS)</p>
	<p>10. Dr. Karl Felber Pawtucket Health Center 209 Armistice Blvd Pawtucket, RI 02860 Carol Charon, RN</p>	

For More Information:

Rhode Island Department of Health Influenza Website

<http://www.health.ri.gov/flu/index.php>

Centers for Disease Control (CDC)

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

World Health Organization (WHO)

<http://www.who.int/topics/influenza/en/>

2004-2005 Influenza Outbreak Plan for Rhode Island

<http://www.health.ri.gov/flu/fluoutbreakplan.pdf>

Detection and Control of Influenza Outbreaks in Acute Care Facilities

<http://www.cdc.gov/ncidod/hip/INFECT/FluBook2001.pdf>

Update: Influenza Activity---United States, 2004—2005 Season

MMWR <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5413a2.htm>

Prevention: Cover your cough print ready flyer

http://www.cdc.gov/flu/protect/pdf/covercough_school8-5x11.pdf

Division of Disease Prevention & Control

David R. Gifford, M.D., M.P.H. Director of Health

Utpala Bandy, M.D., M.P.H. State Epidemiologist