



Influenza Epidemiology Summary Report RI 2006-2007

RI Department of Health (HEALTH)
Center for Epidemiology
Office of Communicable Diseases

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Synopsis

This report summarizes the influenza surveillance results for Rhode Island from October 1, 2006 to May 19, 2007 and compares them with the 2004-05 and 2005-06 seasons. The 2006-07 season was noticeably milder than the two previous seasons. There was increased influenza activity noted in December 2006 and January 2007. The influenza-like illness rate reached a peak of 2.42% in week 1 (December 31, 2006-January 6, 2007), a marked increase compared with the highest level reported from the prior season. The majority of the influenza-like illness cases were reported in the 5-24 and 25-64 year age groups. This trend is consistent with hospital laboratory rapid test records, which show the highest outpatient visits in the 19-34 year age group. However, hospitalization was as expected highest among the ≥ 65 year age group. Influenza type A (H3N2) viruses predominated this season in Rhode Island as it did at the regional and national levels. Influenza type B viruses were also detected in patient cases.

This summary is based on data reported by: the Centers for Disease Control (CDC), the World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS)

collaborating laboratories (of which the RI State Laboratory is a member), the RI influenza sentinel providers, the 121 Cities Mortality Reporting System (of which Providence is a city), the Real-Time Outbreak & Disease Surveillance System, the Institutional Clusters and Outbreaks Surveillance and data submitted by clinical and hospital laboratories throughout Rhode Island.

RI Influenza Surveillance Systems

The goal of surveillance is to assess annual influenza activity levels, measure mortality impact, characterize circulating influenza strains to guide anti-viral therapy, determine whether the vaccine strain for the annual formulation is a match with the circulating strain, and detect pandemic strains. In Rhode Island the following surveillance systems are closely monitored:

1. **Influenza Sentinel Provider Surveillance System.**
2. **Rhode Island Influenza Rapid Testing Surveillance.**
3. **HEALTH Laboratory Surveillance for Influenza.**
4. **Influenza Hospitalizations, Institutional Clusters and Outbreaks Surveillance.**
5. **Real-time Outbreak and Disease Surveillance System.**
6. **Influenza-Associated Pediatric Mortality.**
7. **Pneumonia and Influenza Mortality.**

Reporting of Weekly Activity Levels to CDC

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 Appendix A for description of how influenza activity is determined). This information is then posted weekly on the Department of Health Website at <http://health.ri.gov/flu/about/surveillance/>

Avian Influenza

To continue to monitor for cases of Avian Influenza the Office of Communicable Disease recommends that all cases of clinically suspected Avian Influenza (acquired during travel) be reported immediately by telephone to 222 2577 or 272 5952 (after hours).

1. Influenza Sentinel Provider Surveillance System

Currently, 17 Rhode Island sentinel providers are participating in the HEALTH/CDC passive surveillance system (Table 2, page 16). The sentinel system combines both laboratory testing and the weekly reporting of influenza-like illness cases (by age group) as a proportion (percentage) of all patients seen in their respective practices. An influenza-like illness (ILI) is defined as fever ($\geq 100^{\circ}\text{F}$ or 37.8°C), and cough and/or sore throat in the absence of a known cause other than influenza. Sentinel providers submit weekly data to the Centers for Disease Control and Prevention (CDC) via the 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. See page 16 for a complete list of sentinel providers in Rhode Island.

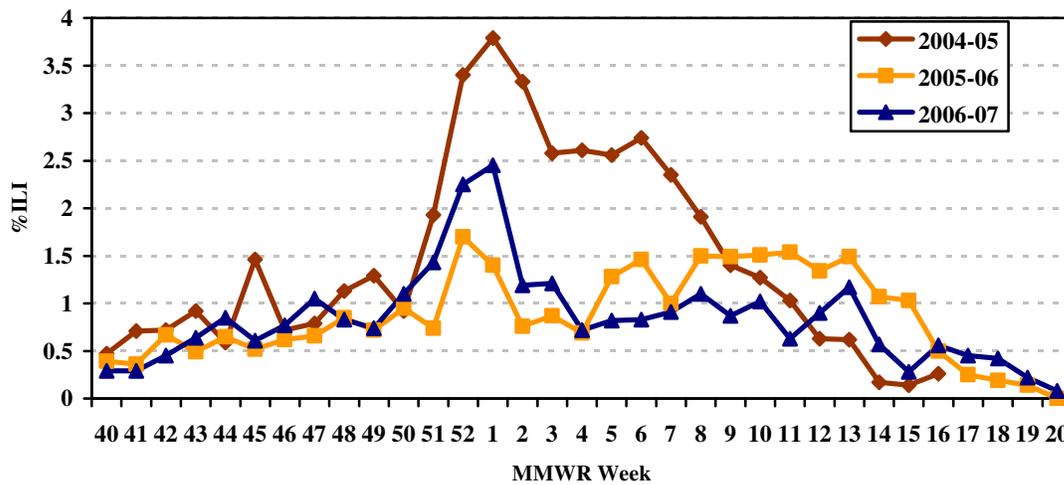
The surveillance data provided by the Influenza Sentinel Provider Surveillance System for the 2006-07 influenza season indicates that the current influenza season was mild as compared with the two previous seasons. The percentage of influenza-like illness (ILI) cases peaked on week 1 (December 31, 2006-January 6, 2007) at 2.42%. The sentinel providers reported 69 cases of ILI out of a total of 2,848 patient visits that week. During the 2004-05 season, the percentage of ILI cases also peaked at

the same period at 3.79%. The peak week for ILI cases in 2005-06 arrived earlier in the season at week 52 (December 25-31, 2005) at 1.7%.

After a steady number of ILI cases beginning week 3 (January 14-20, 2007), there was another small peak of activity at week 13 (March 25-31, 2007). There were 47 cases of ILI, which accounted for 1.17% of the total patient visits. This pattern of activity falls within range of the two previous influenza seasons. At the same time during the 2004-05 and 2005-06 seasons, ILI cases comprised 0.62% and 1.49% of the total patient visits respectively.

All figures are presented using the Morbidity and Mortality Weekly Report (MMWR) week number. This is modeled on the CDC format. For the corresponding dates, please see Appendix C.

**Figure 1: Percentage of Influenza-Like Illness (ILI) Sentinel Visits
Rhode Island, 2004-2007**

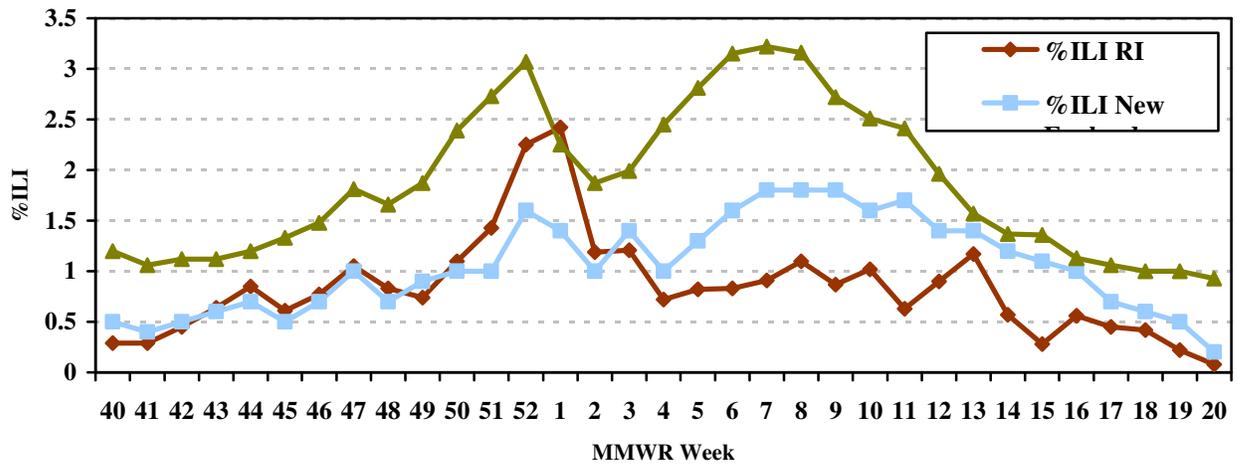


Source: Sentinel Provider Surveillance System, RI Department of Health

2006-2007 Rhode Island Sentinel Surveillance Data Compared with the New England Region and the Nation:

The ILI activity level for Rhode Island showed a similar pattern to that reported for the New England region at the beginning of the current season. However for the month of December 2006 until mid January 2007, ILI patient visits in Rhode Island exceeded the level reported for New England. From late January 2007 until late May 2007, the ILI activity level for the New England region maintained above the level for Rhode Island, and reached a peak of 1.8% in week 7 (February 11-17, 2007). The percentage of ILI (%ILI) cases at the national level also reached its maximum (3.22%) for the season during the same week. The %ILI curve generated at the national level was comparable to the regional figures for New England and Rhode Island.

Figure 2: Percentage of Influenza-Like Illness Sentinel Provider Visits, RI, New England Region, and the US for 2006-2007 Season



Source: Sentinel Provider Surveillance System, RI Department of Health and CDC

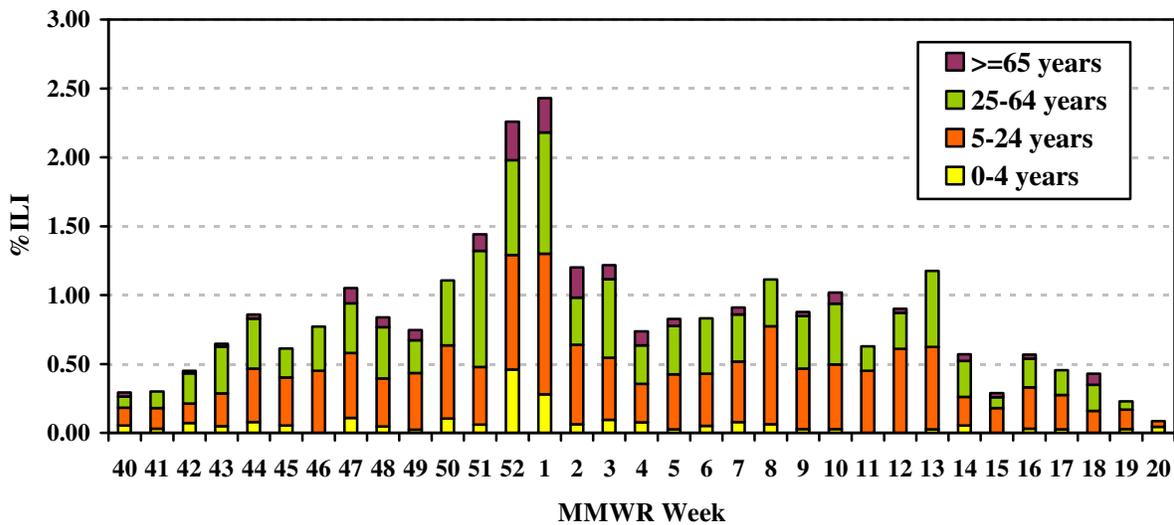
Influenza-Like Illness by Age Group

The 2006-07 surveillance data shows the 5-24 and 25-64 age groups as the most vulnerable populations. This was also seen in data from the 2005-06 season (data not shown). During the peak activity for influenza in Rhode Island on week 1 (December 31, 2006-January 6, 2007), the 5-24 and 25-64 age groups accounted for 1.02%* and 0.88% of the total number of patient visits respectively for that week, the highest reported for these two groups for the current season. These numbers are marginally higher than those reported for 2005-06. At their highest frequency for last season, the 5-24 and 25-64 age groups represented 0.99% and 0.81% of the total patient visits at their peak week respectively.

The ≥65 age group had the lowest frequency of patient visits reported by sentinel providers. This is a change from the previous season, which reported the 0-4 age group with the lowest frequency of patient visits. This season the percentage of ILI cases for the ≥65 age group peaked at 0.28% on week 52 (December 24-30, 2006). This pattern is consistent with the vaccine recommendation with a supply prioritized for young children and the elderly.

*Please note these percentages reflect the number of patients with ILI in each age group as a proportion of the total number of patient visits reported. The denominator is the total number of patient visits reported, and NOT the number of patient visits in each age group.

Figure 3: Percentage Influenza-Like Illness (ILI) Visits to RI Sentinel Providers by Age Group, RI 2006-2007



Source: Sentinel Provider Surveillance System, RI Department of Health

2 Rhode Island Influenza Rapid Testing Surveillance

Rapid Flu Test Results (Point of Care Sites):

A few physician offices and non-hospital clinical laboratories around the state voluntarily submit positive influenza rapid test results. The weekly rate of reported positive influenza cases from participating laboratories throughout the state showed an increase beginning week 4 (January 21-27, 2007). During the course of the 2006-07 season, there were 413 positive influenza type A rapid tests and 44 positive type B rapid tests reported (See Fig 4). This is compared with 675 type A and 108 type B positive tests for the 2005-06 seasons, and 905 type A and 85 type B positive tests for the 2004-2005 season.

Rapid flu test results by year: The number of positive rapid flu test results for the 2006-07 season was lower than the positive rapid test results from the two previous seasons. The number of reported positive test results for 2006-07 and 2005-06 seasons peaked in the month of March at week 11 and week 12 respectively. Peak activity for the 2004-05 season occurred earlier in January 2005 at week 3 (See Fig 5).

Figure 4: Influenza Point of Care Rapid Test Results Flu Type RI 2006-2007 and MMWR Week

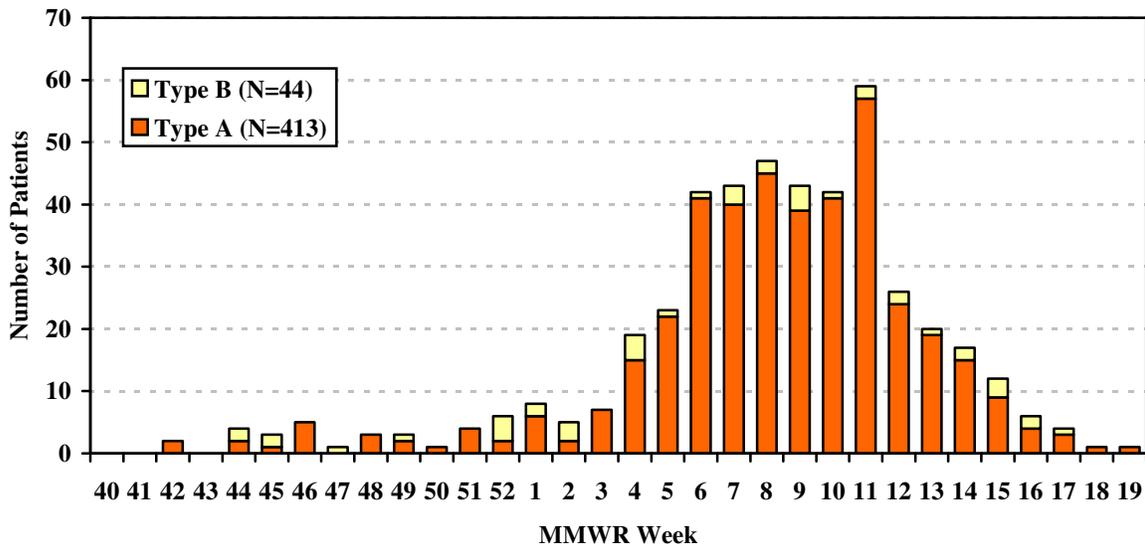
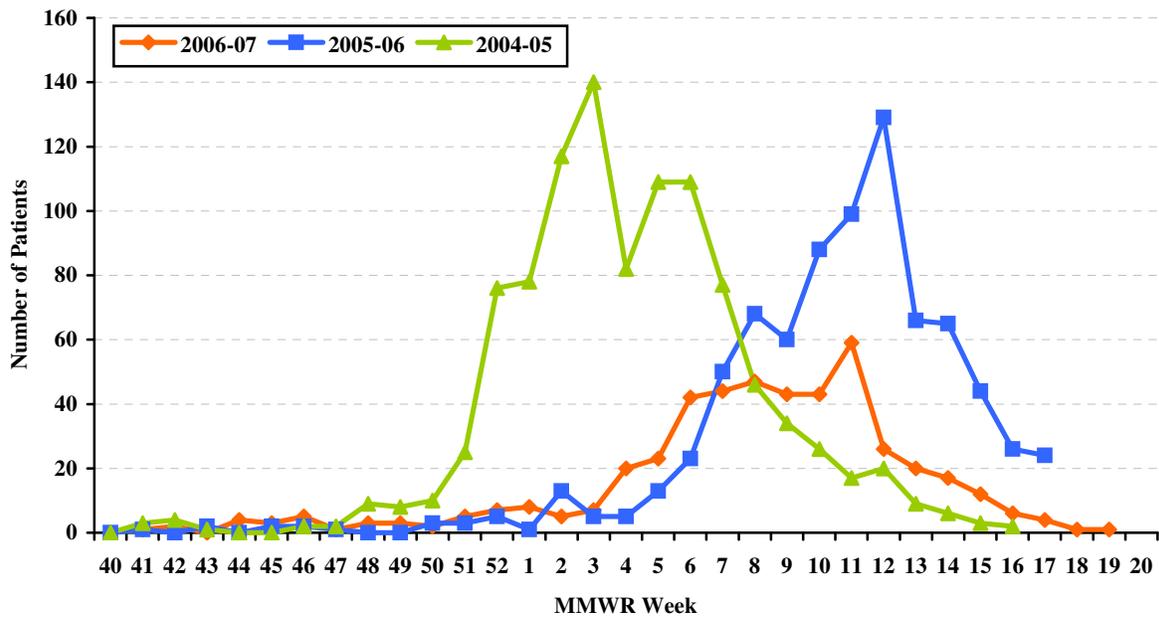


Figure 5: Influenza Point of Care Rapid Flu Test Results in Rhode Island by Year and MMWR Week



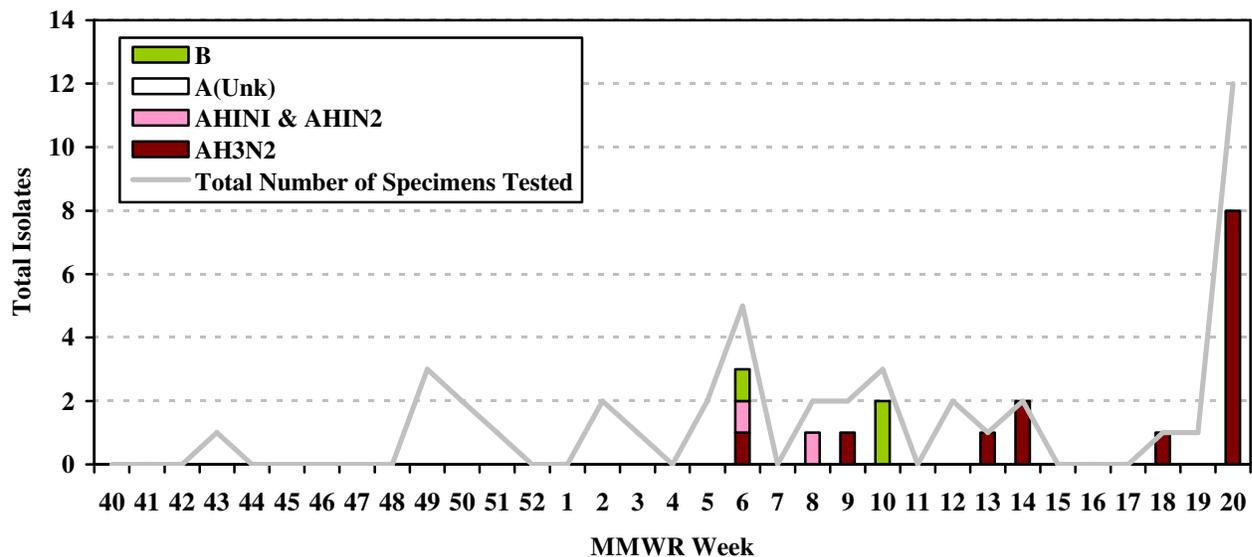
3. HEALTH Laboratory Surveillance for Influenza

Results of the Subtyping of Specimens by the HEALTH Laboratory:

Since 2004, the State laboratory has been typing and subtyping influenza A viruses using real time PCR techniques. The State virology laboratory was certified as a WHO accredited laboratory in 2005. The State virology lab also has the ability to test a respiratory panel of viruses that includes parainfluenza, respiratory syncytial virus and adenovirus. Additionally, avian influenza, influenza associated pediatric death investigations and associated surveillance specimens are a priority for testing at the State virology lab. The majority of seasonal influenza cases can be classified as influenza A or B. Influenza A viruses 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.¹

The RI HEALTH Laboratory, an accredited WHO laboratory, tested 43 specimens submitted by sentinel providers. Lab results indicate that 19 specimens tested positive for influenza; 16 or 84% were type A and 3 or 16% were type B. Of those specimens testing positive for type A influenza, 14 were antigenically characterized as A (H3N2), one was characterized as A (H1N2), and one as A (H1N1). Should a specimen test positive for influenza A, and the specimen tests negative for H3 and H1 (the expected dominant strains), the specimen is shipped to CDC to further characterize the specimen H type.

Figure 6: Influenza-Positive Specimens from the RI HEALTH Laboratory by Subtypes and Total Tests, RI 2006-2007



4. Influenza Hospitalizations

Influenza hospitalizations became reportable in Rhode Island in February 2006. Hospitals send information such as test date, inpatient/outpatient, type of test, influenza type, gender, and date of birth via email or fax on each positive case of influenza.

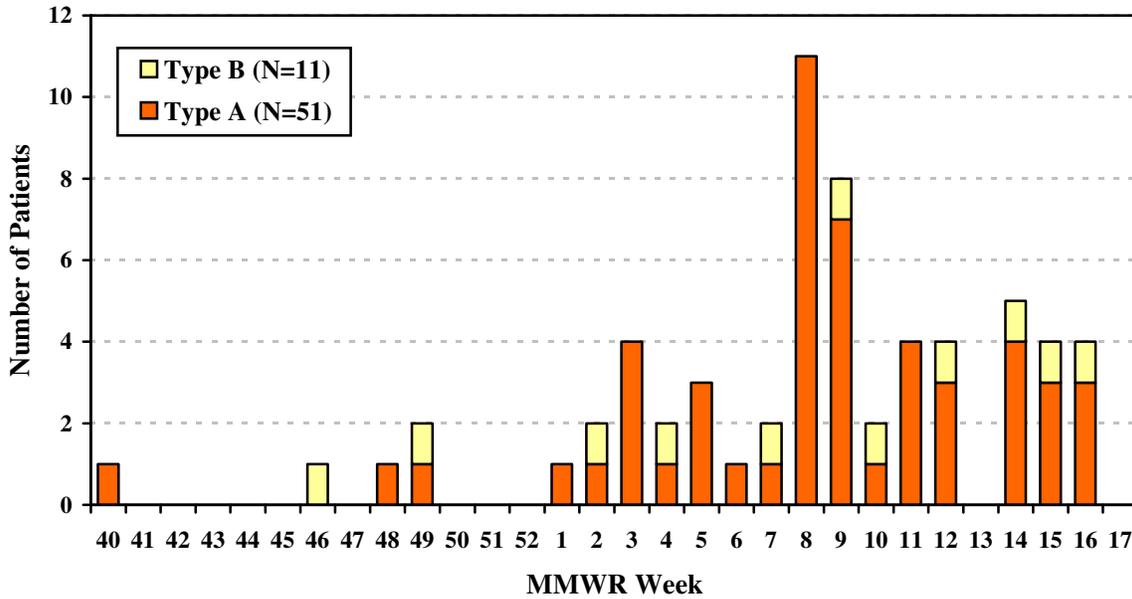
Ten hospital facilities reported rapid testing results of specimens from in/outpatients in Rhode Island. These facilities reported a total of 479 positive rapid flu tests for the 2006-07 season. Approximately

86.4% of the total number of positive tests was collected from outpatient visits and 13.6% (65 persons) was collected from inpatient hospitalizations.

Positive Rapid Flu Test Results by Flu Type

There were a total of 65 inpatients admitted who also had a positive flu test result. According to rapid flu test results, 11 were positive for influenza type B and 51 were positive for influenza type A. The highest frequency of inpatient hospitalizations was reported on week 8 (February 18-24, 2007).

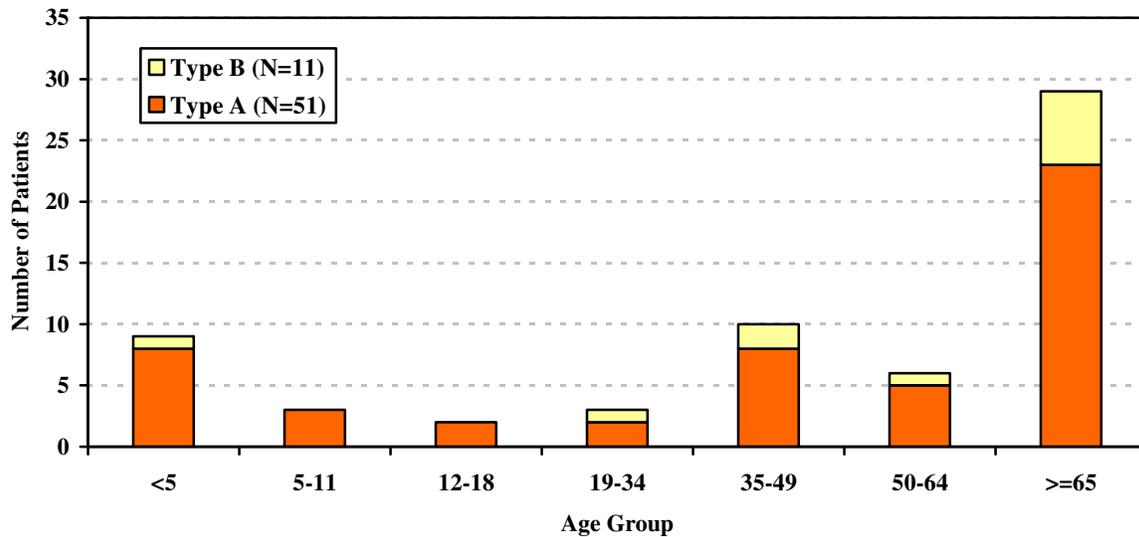
Figure 7: Influenza Hospitalizations Positive Rapid Flu Tests by Flu Type, RI 2006-2007



Inpatient Hospitalization by Age Group

The ≥65 age group had the highest frequency accounting at 47.7% or 31 of the total 65 inpatient hospitalizations. Many of the inpatients were admitted to the Rhode Island Hospital and Miriam Hospital in Providence and South County Hospital in Wakefield for treatment. In contrast, the 5-34 age groups represented the lowest frequency of inpatient hospitalizations for the season.

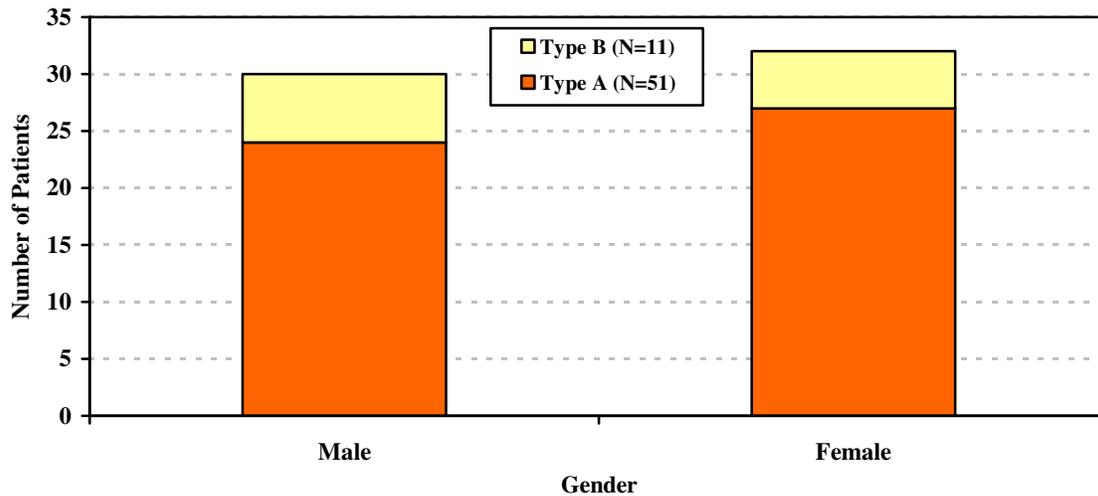
**Figure 8: Influenza Hospitalizations by Flu Type and Age Group
RI 2006-2007 Season**



Inpatient Hospitalization by Gender

Inpatient hospitalization data was further analyzed by gender. There were slightly more female inpatients than male inpatients, a majority of which tested positive for influenza type A.

**Figure 9: Influenza Hospitalization by Flu Type and Gender
RI 2006-2007**



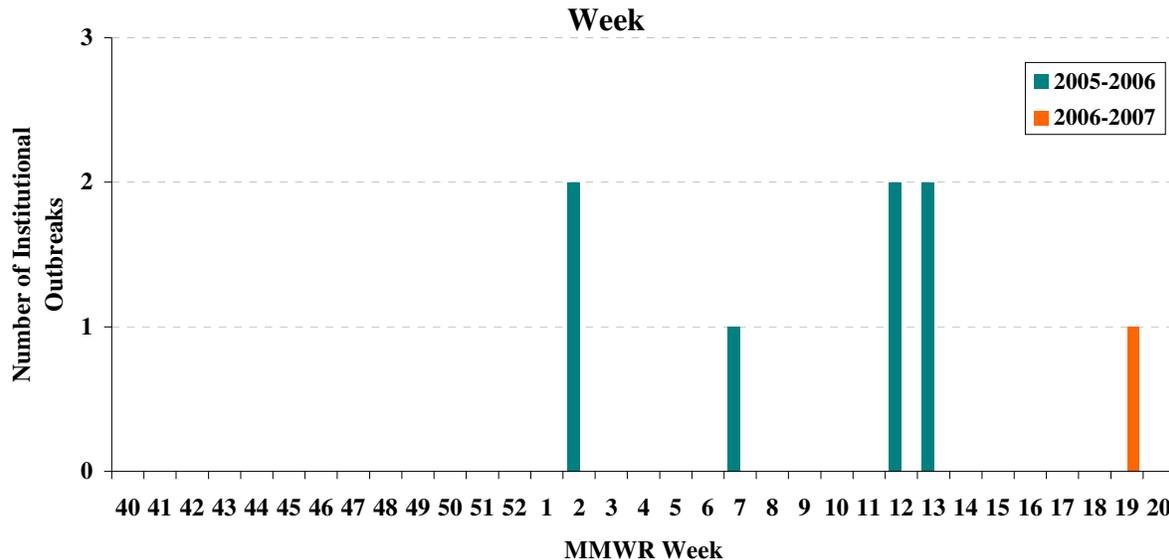
5. Institutional Clusters and Outbreaks Surveillance

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 in a long-term care facility

(LTCF), school or other congregate environment (Appendix B). Regulations require reporting when 2 cases of ILI are noted in a congregate environment within a few days of each other.

During the 2006-07 season, one outbreak was reported late in the flu season on week 19 (May 6-12, 2007). The outbreak was reported from a long-term care facility and was rapidly controlled by the facility using standard infection control measures. This was less than the 2004-05 and 2005-06 seasons, which reported 18 and 7 outbreaks respectively.

Figure 8: Institutional Clusters & Outbreaks by Year and MMWR



Source: Institutional Clusters & Outbreaks Surveillance System, RI Department of Health

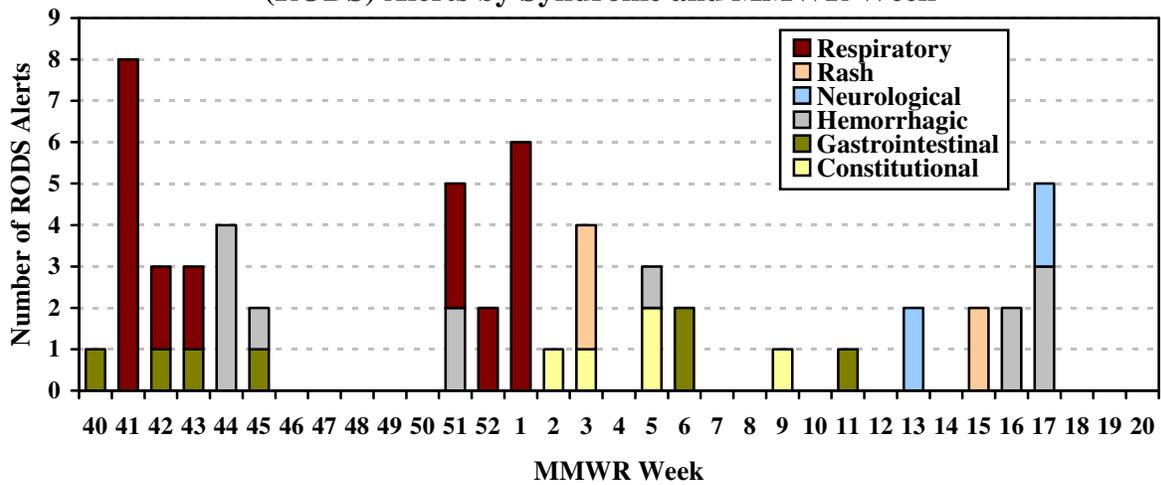
6. Real-Time Outbreak and Disease Surveillance System

Syndromic Surveillance

The Rhode Island Department of Health has implemented syndromic surveillance using Real-time Outbreak and Disease Surveillance (RODS) system at major hospitals within the state. This allows real-time monitoring of chief complaints (from patients upon arrival in emergency departments) in the constitutional and respiratory syndrome category, and are surrogates for influenza activity.

The Real-Time Outbreak and Disease Surveillance (RODS) System monitors chief complaint data from emergency departments of reporting hospitals. The data is then analyzed based on syndromes in order to detect patterns of disease outbreaks. While there is no specific syndrome for influenza-related visits, the system triggers alerts based on algorithms that detect an unexpected increase in the number of visits. An increase in influenza-like illness would most likely trigger an alert for “Respiratory” or “Constitutional” symptoms. Figure 9 shows a cluster of respiratory alerts centered on week 41 (October 8-14, 2006) marking the beginning of the 2006-07 influenza season in Rhode Island. Eight alerts for respiratory illness were reported for that week, the highest number of RODS alerts for the season. During the peak activity for ILI cases as reported by sentinel providers in week 1 (December 31, 2006-January 6, 2007), 6 RODS alerts for respiratory illness as well as 4 constitutional syndrome alerts were observed.

Figure 9: 2006-07 Real-Time Outbreak and Disease Surveillance (RODS) Alerts by Syndrome and MMWR Week



Source: Real-Time Outbreak and Disease Surveillance System, RI Department of Health

7. Influenza-Associated Pediatric Mortality

Influenza-Associated Pediatric Mortality became a notifiable condition in Rhode Island in February 2006. Laboratory-confirmed influenza-associated deaths in children less than 18 years old are reported through the Nationally Notifiable Disease Surveillance System. Since 2006 observed pediatric deaths in the state associated with influenza remain low. Last season (2005-2006), there was one reported pediatric death due to influenza. For the 2006-2007 season, there were no pediatric deaths reported.

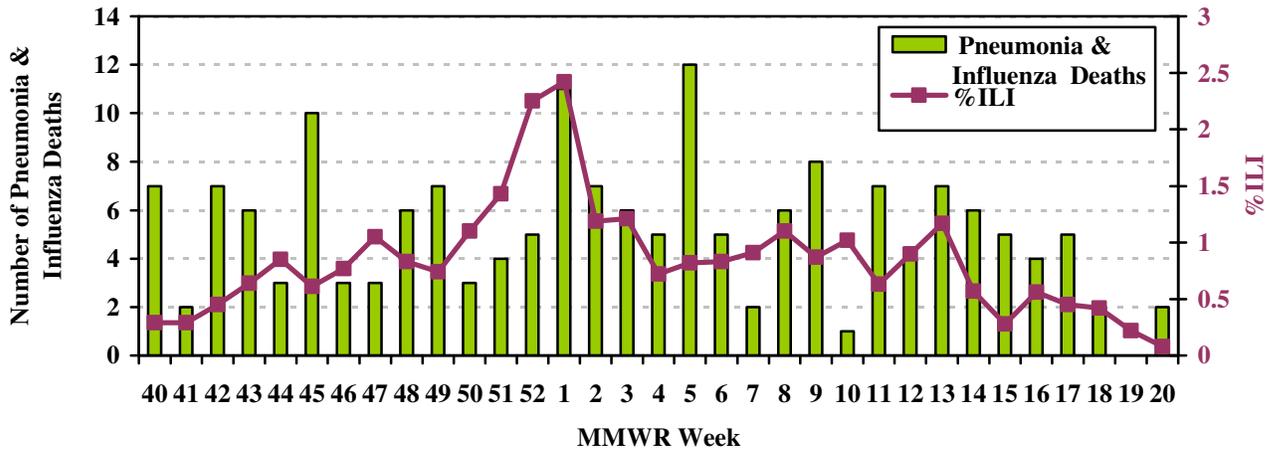
8. Pneumonia and Influenza Mortality

As part of its national influenza surveillance effort, the Centers for Disease Control and Prevention (CDC) receives weekly mortality reports from 121 (122 cities are currently participating in the 121 Cities Mortality Reporting System) cities and metropolitan areas in the United States within 2-3 weeks from the date of death. These reports summarize the total number of deaths occurring in these cities/areas each week, as well as the number due to pneumonia and influenza. Together with World Health Organization laboratory results, U.S. private physicians' reports, and the State Epidemiologist reporting system of influenza activity, the 121 Cities mortality data are used to assess the impact of influenza each winter. This system consistently covers approximately one-third of the deaths in the United States and provides CDC epidemiologists with preliminary information with which to evaluate the impact of influenza on mortality in the United States and the severity of the currently circulating virus strains. Providence, RI is one of the participating cities. The City of Providence is included in the 121 Cities Pneumonia and Influenza (P&I) mortality reporting system. This data is reported by the Department of Health's Office of Vital Records and is published weekly in the [Morbidity and Mortality Weekly Report \(MMWR\)](#) published by CDC.

Figure 10 shows the weekly reported pneumonia and influenza mortality numbers for Providence during the current season compared with the %ILI that was reported by the sentinel health providers. The highest number of deaths resulting from pneumonia and influenza occurred during week 5 (January

28-February 3, 2007). The highest %ILI was reported during week 1 (December 31, 2006-January 6, 2007).

Figure 10: Pneumonia & Influenza (P&I) Mortality in Providence Relative to Percentage of Influenza-Like Illnesses (sentinel data) RI 2006-2007



Source: Sentinel Provider Surveillance System, RI Department of Health and CDC

8. Avian Influenza (H5N1) Current Information

Type A influenza viruses, which cause many of the human flu epidemics that occur each winter, are the only viruses ever known to have caused human pandemics, in 1918, 1957, and 1968.

Influenza A (H5N1) virus – also called “H5N1 virus” – is an influenza A virus subtype that occurs mainly in birds, is highly contagious among birds, and can be deadly to them. H5N1 virus does not usually infect people, but infections with these viruses have occurred in humans. Most of these cases have resulted from people having direct or close contact with H5N1-infected poultry or H5N1-contaminated surfaces.²

Because all influenza viruses have the ability to change, scientists are concerned that H5N1 virus one day may be able to infect humans as well as spread easily from one person to another. Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population and an influenza pandemic (worldwide outbreak of disease) could begin.³ There currently is no commercially available vaccine to protect humans against H5N1 virus. However, vaccine development efforts are taking place. In April 2007, the FDA approved the first US vaccine against the avian influenza virus for human use. The vaccine will not be sold commercially, instead it will be included in the National Stockpile for distribution by public health authorities in case of a disease outbreak. Further research studies are underway to develop vaccines against the H5N1 virus for human use.

As of June 29, 2007 there have been 317 reported cases of Avian Influenza resulting in 191 deaths (Table 1).

Table 1. Cumulative Number of Confirmed Human Cases of Avian Influenza A/ (H5N1) Reported to the World Health Organization (WHO) as of June 29, 2007

Country	2003		2004		2005		2006		2007		Total	
	Cases	Deaths										
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	1	1	7	7
China	1	1	0	0	8	5	13	8	3	2	25	16
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	19	5	37	15
Indonesia	0	0	0	0	20	13	55	45	26	22	101	80
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	2	2
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	2	0	95	42
Total	4	4	46	32	98	43	115	79	54	33	317	191

Source: WHO

Total number of cases includes number of deaths.

WHO reports only laboratory-confirmed cases.

All dates refer to onset of illness.

Thank You Sentinel Providers!

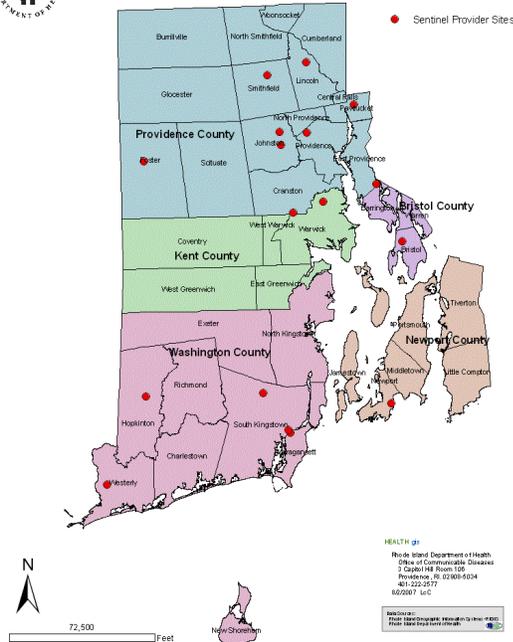
Rhode Island Department of Health greatly appreciates the efforts of our State Sentinel Program clinical providers and their staff. These sentinel providers generate data for much of the influenza surveillance program and for the information presented in this report. The Rhode Island Providers currently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

Table 2. Sentinel Providers

RI Sentinel Providers Location by County



**Sentinel Provider Sites for Influenza-Like Illness,
Rhode Island, 2006-2007**



1. Dr. Rex Appenfeller Anchor Medical Associates 1 Commerce St. Lincoln, RI 02865	10. Dr. Karl Felber Pawtucket Health Center 209 Armistice Blvd Pawtucket, RI 02860 Carol Charon, RN
2. Dr. Vincent D'Alessandro 1857 Atwood Ave. Johnston, RI 02919 (Sherri Bonaminio)	11. Dr. Fred Procopio University of Rhode Island Potter Building Health Center 6 Butterfield Road Kingston, RI 02881 (Chad Henderson, Director)
3. Dr. Louis Moran University Medicine Foundation 133 Post Road Warwick, RI 02888 (Claudia Moran, RN)	12. Lynn Wachtel, RNP Rhode Island College Brown Hall 600 Mount Pleasant Ave Providence, RI 02908 (Matthew McGinn, RN)
4. Dr. Edward Stulik & Dr Stefano L. Cazzaniga University Medicine Foundation 1525 Wampanoag Trail Suite 202 East Providence, RI 02915 (Deborah Donahue, Office Manager)	13. Dr. William Levin Dr. Donald Derolf Mary Kay Connell, RNP Salve Regina College Health Center 100 Ocre Point Ave Newport, RI 02840 (Jacklyn Parsons)
5. Dr. Rocco Andreozzi Westerly Urgentcare 77 Franklin St. Westerly, RI 02891 (Susan Weeden, Office Manager)	14. Dr. Steven Hokeness Bryant University Health Center 1150 Douglas Pike Smithfield, RI 02917 (Betty Cotter, RNP)
6. Dr. Steven Scott Atwood Primary Care 1526 Atwood Ave Johnston, RI 02919 (Pam DiGiacomo, Office Manager)	15. Dr. Christopher Campagna Wood River Health Services, Inc 823 Main St Hope Valley, RI 02832 (Meredith Eckel-Medical Manager)
7. Dr. Stephen Beaupre Midland Medical 1312 Oaklawn Ave Cranston, RI 02920 (Anna Long, RN)	16. Dr. Alane Torf Bristol County Medical Center 1180 Hope Street Bristol, RI 02809 (Jessica Machado)
8. Dr. Nitin Damle South County Internal Medicine 481 Kingston Rd Wakefield, RI 02879 (Marcia Pellegrino, LPN)	17. Dr. Monica Gross South County Walk-in & Primary 360 Kingstown Road Suite 104 Narragansett, RI 02882 (Jody Robinson, MS)
9. Joan Mullaney, RNP University Medicine Foundation 142 Danielson Pike Foster, RI 02825 Diane Metz-Med.Asst.	

References:

1. “Background on Influenza. Centers for Disease Control and Prevention.” Accessed on August 24, 2007. <http://www.cdc.gov/flu/professionals/background.htm>
2. “Key Facts About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus.” Centers for Disease Control and Prevention. Accessed on August 24, 2007. <http://www.cdc.gov/flu/avian/gen-info/facts.htm>
3. “Avian Influenza: Current Situation.” Centers for Disease Control and Prevention. Accessed on August 24, 2007. <http://www.cdc.gov/flu/avian/outbreaks/current.htm>

Appendix A. Estimated Level of Influenza Activity

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:** Overall clinical activity remains low and there are no lab confirmed cases.
- **Sporadic:** Isolated cases of lab confirmed influenza in the state; ILI activity is not increased OR a lab confirmed outbreak in a single institution in state; ILI activity is not increased
- **Local:** Increased ILI within a single region AND recent (within the past 3 weeks) laboratory evidence of influenza in the region. ILI activity in other regions is not increased. OR two or more institutional outbreaks (ILI or lab confirmed) within a single region AND recent lab confirmed influenza in that region. Other regions do not have increased ILI and virus activity is no greater than sporadic in those regions.
- **Regional:** Increased ILI in ≥ 2 but less than half of the regions AND recent lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in ≥ 2 and less than half of the regions AND recent lab confirmed influenza in the affected regions.
- **Widespread:** Increase ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

Appendix B. Infection Control Measures for Institutional Influenza Outbreaks

INFLUENZA INSTITUTIONAL OUTBREAKS

Definition: An institutional cluster/outbreak is defined as three (3) or more cases of laboratory confirmed influenza-like illnesses in a long-term care facility (LTCF), school or other congregate environment.

When influenza outbreaks occur in health-care settings, additional measures should be taken to limit transmission. These include:

- Identify influenza virus as the causative agent early in the outbreak by performing rapid [influenza virus testing](#) of patients with recent onset of symptoms suggestive of influenza. In addition, obtain viral cultures from a subset of patients to determine the infecting virus type and subtype.
- Implement [droplet precautions](#) for all patients with suspected or confirmed influenza.
- Separate suspected or confirmed influenza patients from asymptomatic patients.
- Restrict staff movement from areas with outbreaks to other units and buildings.
- If available, administer the current season's influenza vaccine to unvaccinated patients, residents, and health-care personnel. Follow [current vaccination recommendations](#) for nasal and intramuscular influenza vaccines.
- Administer [influenza antiviral prophylaxis and treatment](#) to patients, residents, and health-care personnel according to current recommendations.
- Consider antiviral prophylaxis for all health-care personnel, regardless of their vaccination status, if the outbreak is caused by a variant of influenza virus that is not well matched by the vaccine.

Curtail or eliminate elective medical and surgical admissions and restrict cardiovascular and pulmonary surgery to emergency cases only, when influenza outbreaks, especially those characterized by high attack rates and severe illness, occur in the community or acute care facility.

Appendix C. MMWR Week Number and Corresponding Dates for 2006-2007

CDC Week Number for 2006-07	Beginning Date	Ending Date
40	01-Oct	07-Oct
41	08-Oct	14-Oct
42	15-Oct	21-Oct
43	22-Oct	28-Oct
44	29-Oct	04-Nov
45	05-Nov	11-Nov
46	12-Nov	18-Nov
47	19-Nov	25-Nov
48	26-Nov	02-Dec
49	03-Dec	09-Dec
50	10-Dec	16-Dec
51	17-Dec	23-Dec
52	24-Dec	30-Dec
1	31-Dec	06-Jan
2	07-Jan	13-Jan
3	14-Jan	20-Jan
4	21-Jan	27-Jan
5	28-Jan	03-Feb
6	04-Feb	10-Feb
7	11-Feb	17-Feb
8	18-Feb	24-Feb
9	25-Feb	03-Mar
10	04-Mar	10-Mar
11	11-Mar	17-Mar
12	18-Mar	24-Mar
13	25-Mar	31-Mar
14	01-Apr	07-Apr
15	08-Apr	14-Apr
16	15-Apr	21-Apr
17	22-Apr	28-Apr
18	29-Apr	05-May
19	06-May	12-May
20	13-May	19-May

Appendix D. Glossary

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. Rhode Island Sentinel providers report ILI information to CDC on a weekly basis. 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.

Influenza-Like Illness (ILI): 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 2.1% 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.

Avian Flu (H5N1): [Avian \(or bird\) flu](#) is caused by influenza viruses that occur naturally among wild birds. The H5N1 variant is deadly to domestic fowl and can be transmitted from birds to humans. At this time the H5N1 virus cannot easily be transmitted from person to person. There is no human immunity to this virus and no vaccine is available.

Pandemic Flu: [Pandemic influenza](#) is a worldwide outbreak of severe flu caused by a virus that is new to humans. Pandemics occur when a new or markedly changed virus develops. Because the virus is new or very different from any virus seen before, there is no natural immunity (defenses) in the human population, and the disease can spread easily from person to person. In a pandemic, many people may get sick at the same time, and many may die.

Seasonal Flu: [Seasonal \(or common\) flu](#) is a respiratory illness that can be transmitted person to person. Most people have some immunity, and a vaccine is available.

Appendix E: Influenza Web Resources:

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>

Prevention: Cover your cough print ready flyer

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

Rules and Regulations Pertaining to the Reporting of Communicable, Environmental, and Occupational Diseases – February 2006.

http://www2.sec.state.ri.us/rules/released/pdf/DOH/DOH_3844.pdf

MMWR Influenza reports:

http://www.cdc.gov/mmwr/mguide_flu.html

Avian Influenza/Pandemic:

Rhode Island Department of Health Avian Flu website

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

World Health Organization Avian Influenza page

http://www.who.int/csr/disease/avian_influenza/en/

CDC Avian Influenza page:

<http://www.cdc.gov/flu/avian/outbreaks/current.htm>

Rhode Island Department of Health Pandemic Web page:

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

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