



Iowa Influenza Surveillance Network (IISN)

Influenza-like Illness (ILI) and Other Respiratory Viruses

Weekly Activity Report

For the week ending December 17, 2016 - Week 50



All data presented in this report are provisional and may change as additional reports are received

Quick Stats	
Percent of outpatient visits for ILI ¹	0.39% (baseline 1.8%)
Percent of influenza rapid test positive	6.82% (36/528)
Percent of RSV rapid tests positive	14.94% (13/87)
Percent school absence due to illness ²	2.48%
Number of schools with ≥10% absence due to illness	4
Influenza-associated hospitalizations ³	8/5550 inpatients surveyed
Influenza-associated mortality -all ages (Cumulative) ⁴	1
Influenza-associated pediatric mortality (Cumulative)	0

¹ ILI: Influenza-like illness is defined as a fever of ≥100° F as well as cough and/or sore throat.
² Percent school absence due to illness are reported through a weekly survey of Iowa sentinel schools
³ Hospitalizations due to influenza are voluntarily reported through a weekly survey of Iowa sentinel hospitals
⁴ Deaths in which influenza is listed on the death certificate. This is an underestimate of influenza-related deaths. Cumulative is 10/2/2016-current week.

Iowa Influenza Geographic Spread ⁵
No Activity
Sporadic
Local
Regional
Widespread

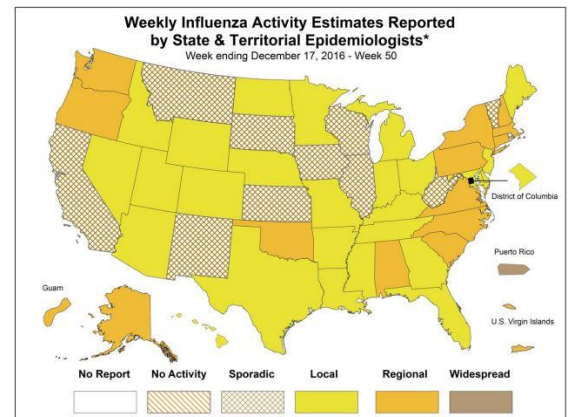
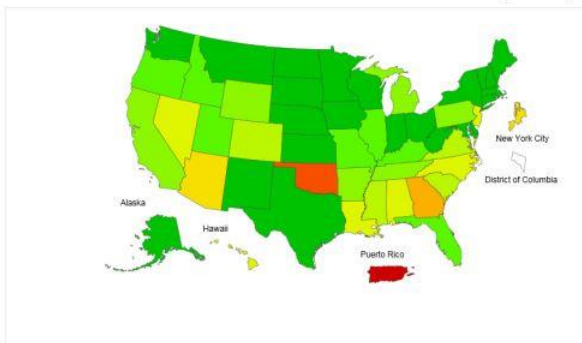
⁵This is based on CDC's activity estimates definition www.cdc.gov/flu/weekly/overview.htm

Iowa statewide activity summary:

Influenza activity in Iowa is low. The geographic spread of influenza in Iowa is sporadic. For this reporting week, the State Hygienic Laboratory confirmed 14 influenza A(H3), one influenza B(Victoria Lineage) and two influenza B(Yamagata Lineage) viruses from submitted samples. Eight influenza-related hospitalizations were reported from sentinel hospitals during this reporting week. The proportion of outpatient visits due to influenza-like illness (ILI) was 0.39 percent, which is below the regional baseline. In this reporting week, 14 adenovirus, three parainfluenza virus type 1, seven parainfluenza virus type 2, 12 parainfluenza virus type 3, 55 rhinovirus/ enterovirus, ten RSV, three hMPV and 29 Coronavirus were detected from surveillance sites.

National activity summary - (CDC)-Last Updated in Week 50:

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
 2016-17 Influenza Season Week 50 ending Dec 17, 2016



* This map indicates geographic spread & does not measure the severity of influenza activity

Synopsis: During week 50 (December 11-December 17, 2016), influenza activity increased in the United States.

Viral Surveillance: The most frequently identified influenza virus type reported by public health laboratories during week 50 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased.

Pneumonia and Influenza Mortality: The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

Influenza-associated Pediatric Deaths: Two influenza-associated pediatric deaths were reported that occurred during the 2015-2016 season.

Outpatient Illness Surveillance: The proportion of outpatient visits for influenza-like illness (ILI) was 2.3 percent, which is above the national baseline of 2.2 percent. Five regions reported ILI at or above their region-specific levels. One state and Puerto Rico experienced high ILI activity, two states and New York City experienced moderate ILI activity, ten states experienced low ILI activity, 37 states experienced minimal ILI activity and the District of Columbia had insufficient data.

Geographic Spread of Influenza: The geographic spread of influenza in Puerto Rico was reported as widespread; Guam, the U.S. Virgin Islands and 13 states were reported as regional; the District of Columbia and 26 states reported local activity; and 11 states reported sporadic activity.

Detailed information can be found online at www.cdc.gov/flu/weekly/.

International activity summary - (WHO):

Influenza activity in the temperate zone of the northern hemisphere increased slightly. The predominant strain of influenza worldwide is influenza A(H3). Detailed information can be found online at

www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/. It was last updated 12/12/2016.

Laboratory surveillance program:

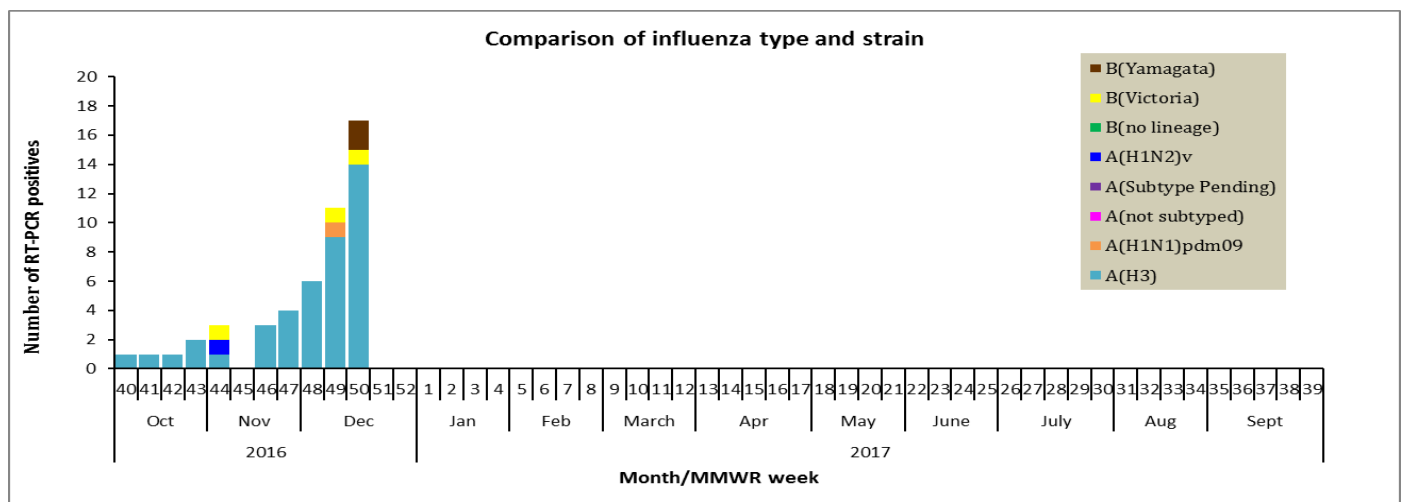
The State Hygienic Laboratory (SHL) is the primary lab for influenza testing and reporting in Iowa. SHL reports the number of tests performed and the type and sub-type of positive tests to the influenza surveillance network several times every week. In addition, SHL surveys clinical and reference labs on a weekly basis for the number of rapid-antigen tests performed, the number positive and the positive non-influenza virus tests. This report also includes the positive non-influenza virus tests reported from the Dunes Medical Laboratories at Mercy Medical Center in Sioux City.

Age Group	CURRENT WEEK					CUMULATIVE (10/2/16 – CURRENT WEEK)				
	Flu A					Flu A				
	A(H1N1)pdm09	A(H3)	A(H1N2v)	Subtype Pending	Not subtyped	A(H1N1)pdm09	A(H3)	A(H1N2v)	Subtype Pending	Not subtyped
0-4	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	3(7%)	0(0%)	0(0%)	0(0%)
5-17	0(0%)	6(43%)	0(0%)	0(0%)	0(0%)	1(100%)	9(21%)	0(0%)	0(0%)	0(0%)
18-24	0(0%)	3(21%)	0(0%)	0(0%)	0(0%)	0(0%)	8(19%)	0(0%)	0(0%)	0(0%)
25-49	0(0%)	1(7%)	0(0%)	0(0%)	0(0%)	0(0%)	6(14%)	0(0%)	0(0%)	0(0%)
50-64	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	3(7%)	1(100%)	0(0%)	0(0%)
>64	0(0%)	4(29%)	0(0%)	0(0%)	0(0%)	0(0%)	13(31%)	0(0%)	0(0%)	0(0%)
Total	0	14	0	0	0	1	42	1	0	0

*Counts of three or less are sometimes suppressed to protect confidentiality. Note that counts may not add up to the total due to missing age information
Only cases of Iowa residents are included
"Not subtyped" column is due to weak detections. This can be due to poor collection, timing of collection or stage of infection.

Age Group	CURRENT WEEK			CUMULATIVE (10/2/16 – CURRENT WEEK)		
	Flu B			Flu B		
	Victoria Lineage	Yamagata Lineage	Lineage Pending	Victoria Lineage	Yamagata Lineage	Lineage Pending
0-4	0(0%)	0(0%)	0(0%)	1(33%)	0(0%)	0(0%)
5-17	1(100%)	0(0%)	0(0%)	2(67%)	0(0%)	0(0%)
18-24	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
25-49	0(0%)	1(50%)	0(0%)	0(0%)	1(50%)	0(0%)
50-64	0(0%)	1(50%)	0(0%)	0(0%)	1(50%)	0(0%)
>64	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Total	1	2	0	3	2	0

*Counts of three or less are sometimes suppressed to protect confidentiality. Note that counts may not add up to the total due to missing age information
Only cases of Iowa residents are included



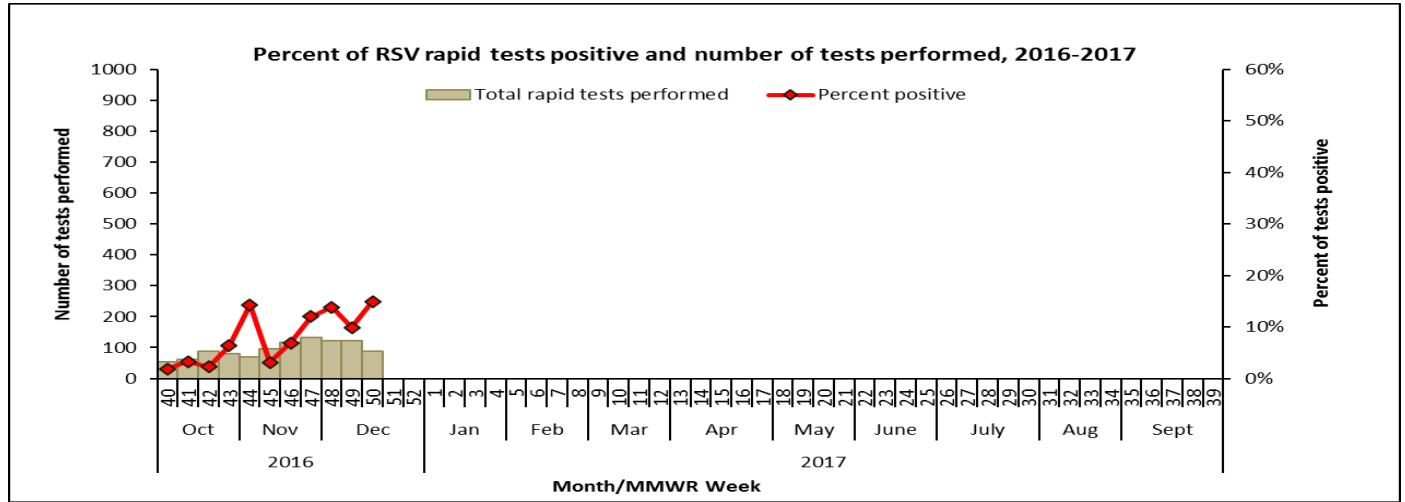
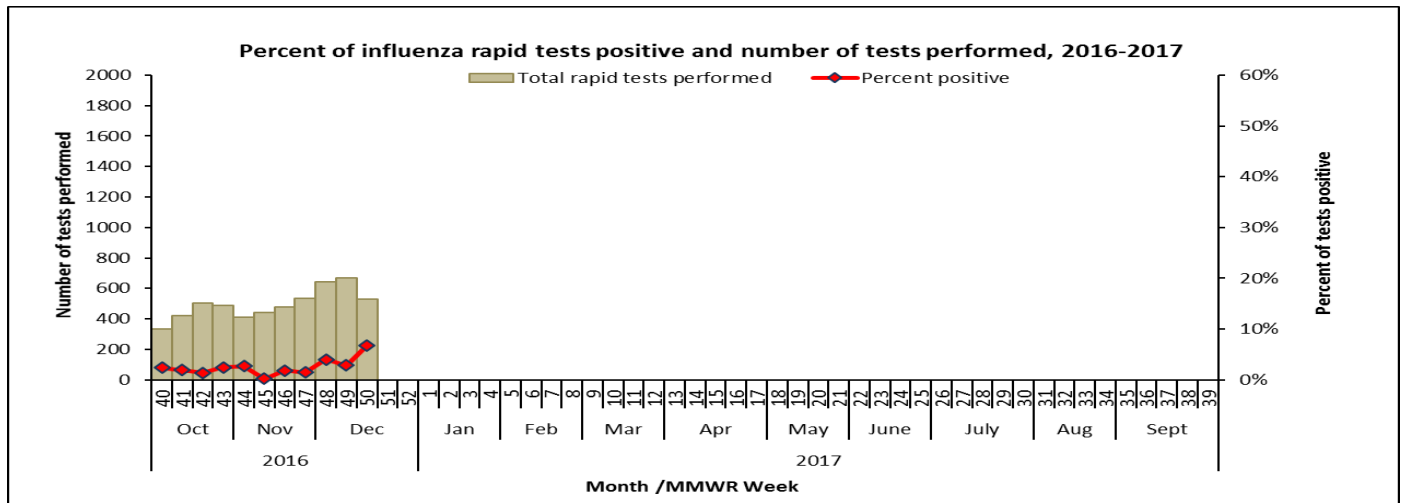
Rapid influenza and RSV test surveillance:

The State Hygienic Laboratory (SHL) runs a weekly web-based survey program where laboratorians report the number of influenza and respiratory syncytial virus (RSV) rapid tests performed and the number of tests positive. This table includes only the number of patients tested for influenza or RSV at laboratory surveillance sites throughout the state. This table does not provide case counts.

Table 2: Percent of influenza rapid tests positive and number of tests performed by region for the present week

REGION*	RAPID ANTIGEN INFLUENZA TESTS				RAPID ANTIGEN RSV TESTS		
	Tested	Flu A	Flu B	% Positive	Tested	Positive	% Positive
Region 1 (Central)	83	4	0	5	13	2	15
Region 2 (NE)	27	5	0	19	2	0	0
Region 3 (NW)	41	5	0	12	11	3	27
Region 4 (SW)	28	0	0	0	5	1	20
Region 5 (SE)	63	2	3	8	7	0	0
Region 6 (Eastern)	286	13	4	6	49	7	14
Total	528	29	7	7	87	13	15

*Region 1- Boone, Calhoun, Carroll, Dallas, Greene, Grundy, Hamilton, Hardin, Jasper, Marshall, Polk, Poweshiek, Story, Tama, Warren, Webster; Region 2- Allamakee, Bremer, Butler, Cerro Gordo, Chickasaw, Emmet, Fayette, Floyd, Franklin, Hancock, Howard, Humboldt, Kossuth, Mitchell, Winnebago, Winneshiek, Worth, Wright; Region 3- Buena Vista, Cherokee, Clay, Crawford, Dickinson, Ida, Lyon, Monona, O'Brien, Osceola, Palo Alto, Plymouth, Pocahontas, Sac, Sioux, Woodbury; Region 4- Adair, Adams, Audubon, Cass, Clarke, Decatur, Fremont, Guthrie, Harrison, Madison, Mills, Montgomery, Page, Pottawattamie, Ringgold, Shelby, Taylor, Union; Region 5- Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Lee, Louisa, Lucas, Mahaska, Marion, Monroe, Muscatine, Van Buren, Wapello, Washington, Wayne; Region 6- Benton, Black Hawk, Buchanan, Cedar, Clayton, Clinton, Delaware, Dubuque, Iowa, Jackson, Johnson, Jones, Linn, Scott.

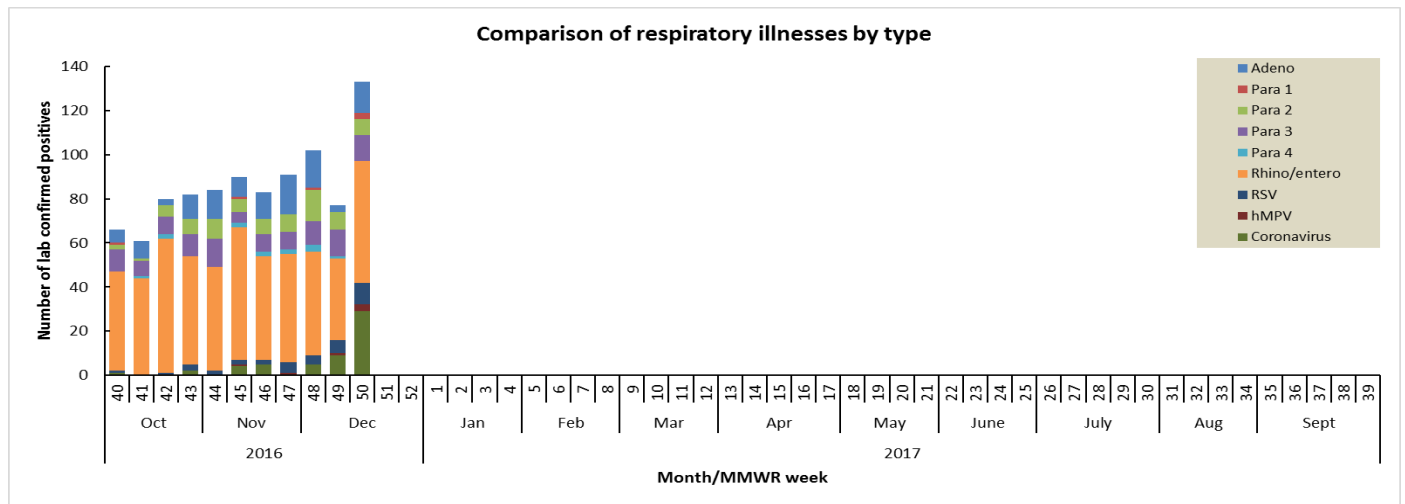


Non-influenza respiratory viruses:

The State Hygienic Laboratory (SHL) runs a weekly web-based survey program where laboratorians report the number of positive tests for non-influenza respiratory viruses. This table also includes the positive non-influenza virus tests reported from the Dunes Medical Laboratories at Mercy Medical Center in Sioux City. The table includes only the number of positive tests at laboratory surveillance sites throughout the state. The table does not provide case counts.

Table 4: Number of positive results for non-influenza respiratory virus collected by SHL, Mercy Dunes in Sioux City and Iowa Methodist Medical Center

Viruses	CURRENT WEEK	CUMULATIVE (10/2/16 – CURRENT WEEK)
Adenovirus	14	114
Parainfluenza Virus Type 1	3	6
Parainfluenza Virus Type 2	7	74
Parainfluenza Virus Type 3	12	104
Parainfluenza Virus Type 4	0	13
Rhinovirus/Enterovirus	55	541
Respiratory syncytial virus (RSV)	10	36
Human metapneumovirus (hMPV)	3	6
Coronavirus	29	55
Total	133	949



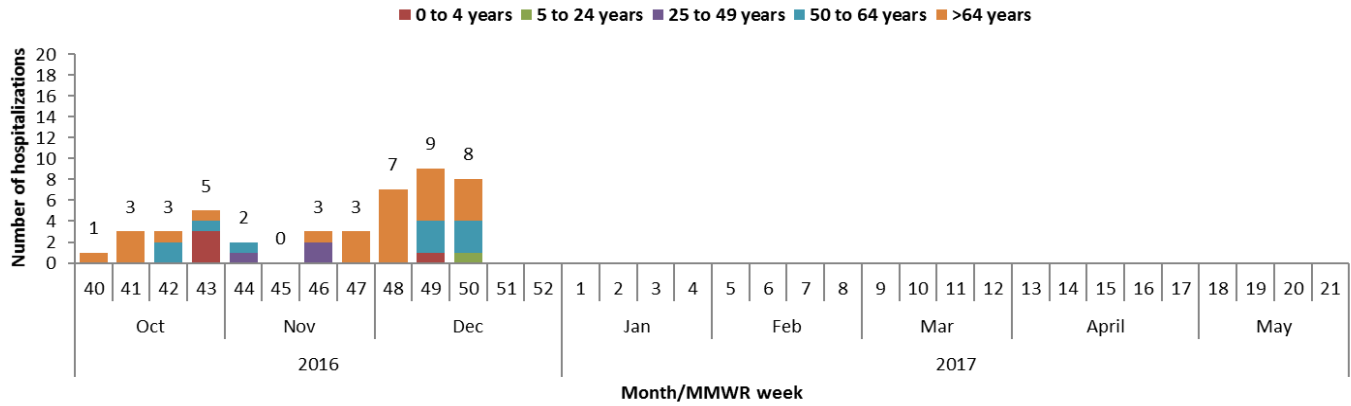
Influenza-associated hospitalizations:

Sentinel hospitals that participate in IISN voluntarily track and report the number of influenza-associated hospitalizations and the total number of inpatients each week. Of the 126 hospitals across the state of Iowa, 27 sentinel hospitals participate in weekly surveillance of influenza-associated hospitalizations for the IISN. Iowa hospitals interested in joining this surveillance program should contact Scott Seltrecht at 515-281-4985 or Scott.Seltrecht@idph.iowa.gov for more information.

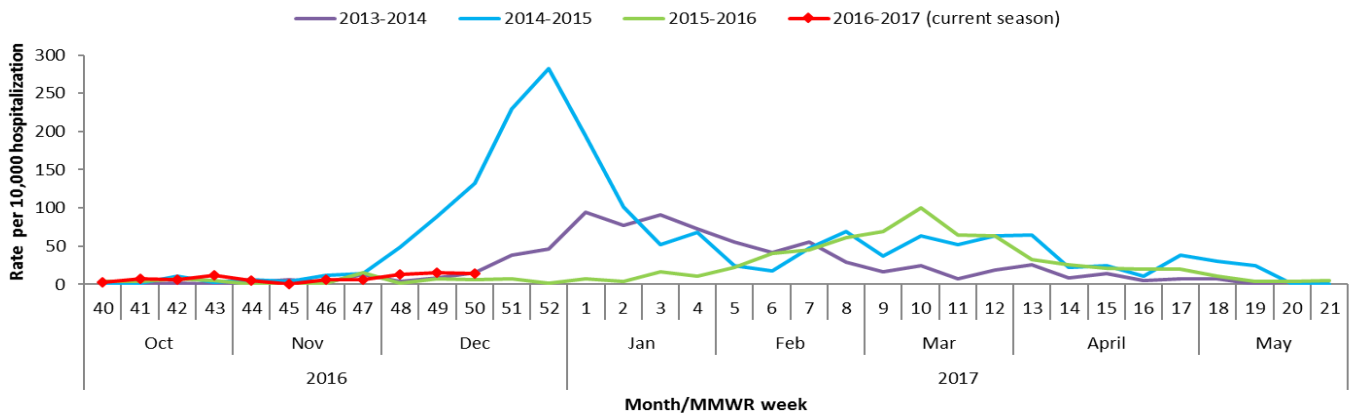
Table 5: Number of influenza-associated hospitalization reported by age group

AGE	CURRENT WEEK	CUMULATIVE (10/2/16 – CURRENT WEEK)
Age 0-4	0	4
Age 5-24	1	1
Age 25-49	0	3
Age 50-64	3	10
Age >64	4	26
Total	8	44

Influenza-associated hospitalizations by age groups, 2016-2017



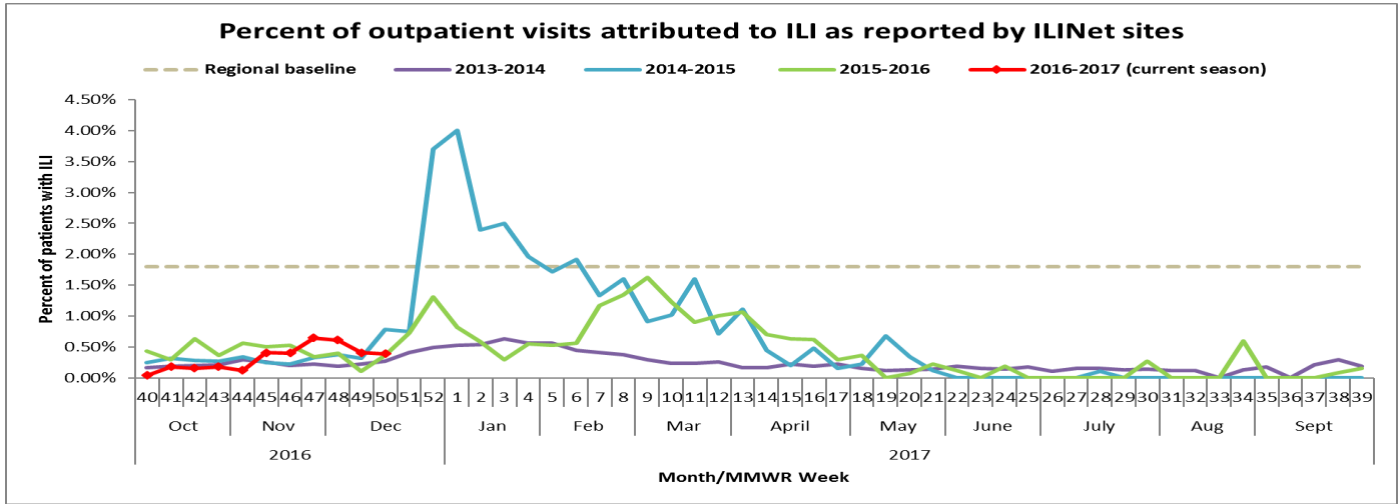
Influenza-associated hospitalizations reported by hospital surveillance sites



Outpatient health care provider surveillance program (ILINet):

Outpatient health care providers who participate in the ILINet (a national influenza surveillance program) report the number of patients seen with influenza-like illness and the total number of patient visits each week. This system is a key part of Iowa’s influenza surveillance. Across the state, 17 providers, ranging from family medicine to student health centers, participate weekly in the ILINet program. Iowa health care providers interested in joining this surveillance program should contact Scott Seltrecht at 515-281-4985 or Scott.Seltrecht@idph.iowa.gov for more information.

Week	%ILI	Total ILI	Age 0-4	Age 5-24	Age 25-49	Age 50-64	Age >64
Week 48, ending December 3	0.61	27	7	9	3	2	6
Week 49, ending December 10	0.41	14	1	6	3	1	3
Week 50, ending December 17	0.39	8	5	0	2	0	1



Long-term Care Outbreaks:

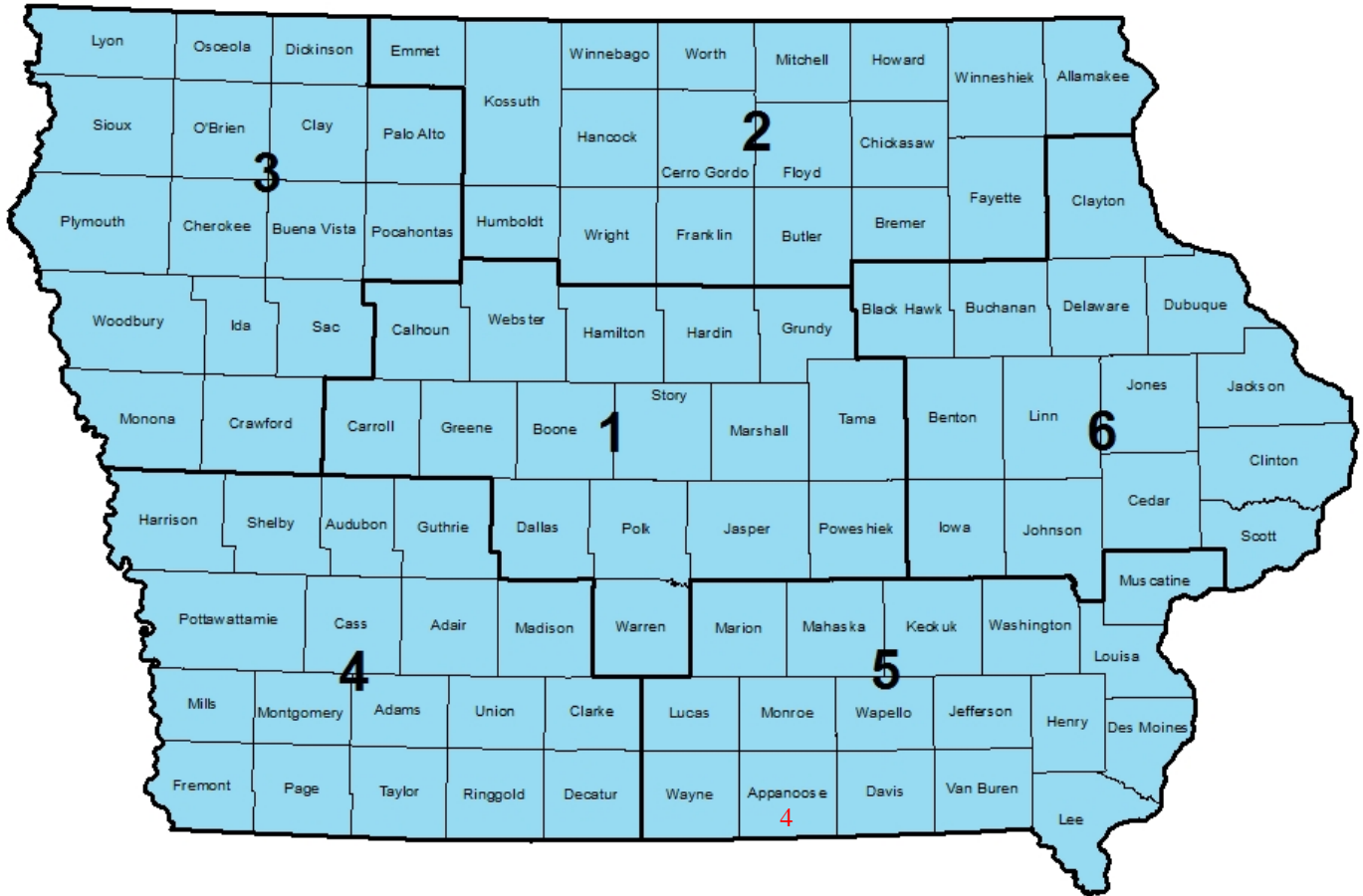
Table 7: Number of long-term care outbreaks investigated

REGION*	CURRENT WEEK	CUMULATIVE (10/2/16 – CURRENT WEEK)
Region 1 (Central)	0	1
Region 2 (NE)	0	0
Region 3 (NW)	0	0
Region 4 (SW)	0	0
Region 5 (SE)	0	0
Region 6 (Eastern)	0	0
Total	0	1

*Region 1- Boone, Calhoun, Carroll, Dallas, Greene, Grundy, Hamilton, Hardin, Jasper, Marshall, Polk, Poweshiek, Story, Tama, Warren, Webster; Region 2- Allamakee, Bremer, Butler, Cerro Gordo, Chickasaw, Emmet, Fayette, Floyd, Franklin, Hancock, Howard, Humboldt, Kossuth, Mitchell, Winnebago, Winneshiek, Worth, Wright; Region 3- Buena Vista, Cherokee, Clay, Crawford, Dickinson, Ida, Lyon, Monona, O'Brien, Osceola, Palo Alto, Plymouth, Pocahontas, Sac, Sioux, Woodbury; Region 4- Adair, Adams, Audubon, Cass, Clarke, Decatur, Fremont, Guthrie, Harrison, Madison, Mills, Montgomery, Page, Pottawattamie, Ringgold, Shelby, Taylor, Union; Region 5- Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Lee, Louisa, Lucas, Mahaska, Marion, Monroe, Muscatine, Van Buren, Wapello, Washington, Wayne; Region 6- Benton, Black Hawk, Buchanan, Cedar, Clayton, Clinton, Delaware, Dubuque, Iowa, Jackson, Johnson, Jones, Linn, Scott.

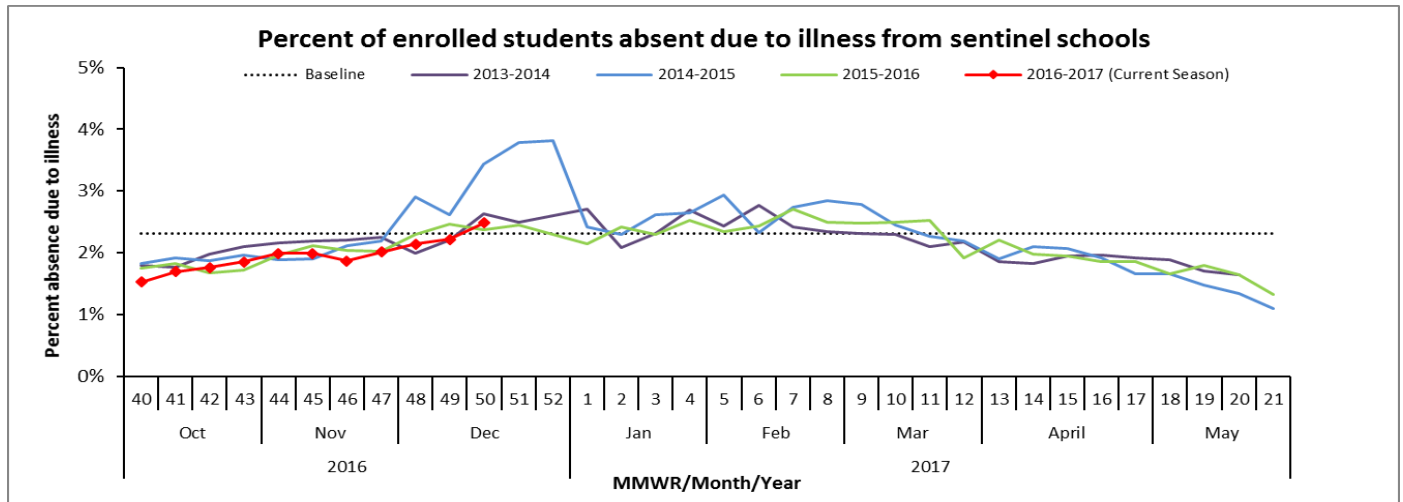
10 percent school absenteeism:

Schools (K-12) track and report outbreaks of influenza-like illness when the number of students absent with illness reaches or exceeds 10 percent of total student enrollment. Regional map with schools that have $\geq 10\%$ absence due to illness for this current reporting week is displayed below (region numbers in black, number of reporting schools by county in red).



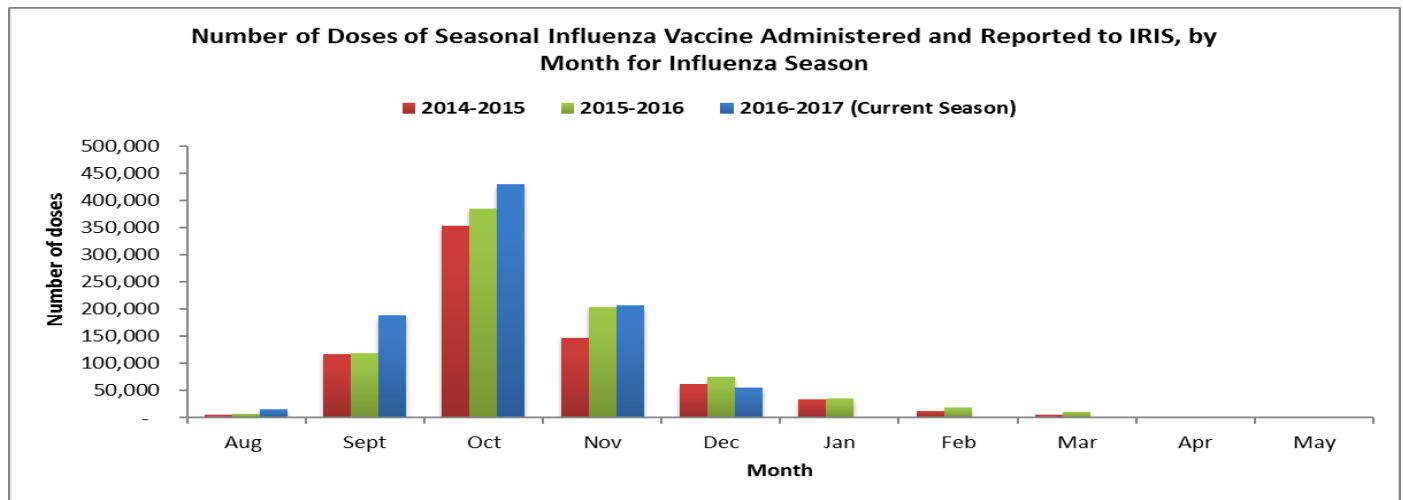
School surveillance program:

Sentinel schools that participate in IISN voluntarily track and report absence due to all illness (including non-influenza illnesses) and the total enrollment each week.



Seasonal influenza vaccination:

Seasonal influenza vaccination data in Iowa is based on doses reported to the Iowa Immunization Registry Information System (IRIS). IRIS is a confidential, computerized, population-based system that tracks immunization for children, adolescents and adults who are seen in a variety of public and private healthcare provider sites throughout the state of Iowa. For more information on the immunization data, contact Kim Tichy, IRIS coordinator at 515-281-4288 or kimberly.tichy@idph.iowa.gov.



Note: The data for the 2016-2017 season is only up to the current week and there is a lag between the vaccine administration date and the date reported to the IRIS. The current season's data will be adjusted as additional data is received.

Other resources:

Vaccine:

Influenza vaccine recommendation: idph.iowa.gov/immmtb/immunization/vaccine

CDC vaccine information: www.cdc.gov/flu/fag/flu-vaccine-types.htm

Vaccine finder: <http://vaccinefinder.org/>

Neighboring states' influenza information:

Illinois: www.dph.illinois.gov/topics-services/diseases-and-conditions/influenza/surveillance

Minnesota: www.health.state.mn.us/divs/idepc/diseases/flu/stats/index.html

Missouri: health.mo.gov/living/healthcondiseases/communicable/influenza/reports.php

South Dakota: doh.sd.gov/diseases/infectious/flu/

Wisconsin: www.dhs.wisconsin.gov/influenza/index.htm