Iowa Influenza Surveillance Network (IISN)

Influenza-like Illness (ILI) and Other Respiratory Viruses

Weekly Activity Report

For the week ending March 30, 2019 - Week 13

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

Iowa Influenza Geographic Spread				
No Activity	Sporadic	Local	Regional	**Widespread**

Note: See CDC activity estimates for definition www.cdc.gov/flu/weekly/overview.htm

Quick Stats	
Predominate influenza subtype	A(H3)
Percent of influenza rapid test positive	20% (441/2161)
Percent of RSV rapid tests positive	9% (18/200)
Influenza-associated hospitalizations	46/5653 inpatients surveyed
Percent of outpatient visits for ILI	2.21% (baseline 1.6%)
Percent school absence due to illness	1.50%
Number of long-term care outbreaks	1
Number of schools with ≥10% absence due to illness	4
Influenza-associated mortality - all ages (Cumulative)	52
Influenza-associated pediatric mortality (Cumulative)	1
Predominate non-influenza virus	Rhinovirus/enterovirus

Note: Deaths are considered influenza-associated when influenza is listed on the death certificate. This is an underestimate of influenza-related deaths. Cumulative mortality totals are from 9/30/2018 to the current week.

Iowa statewide activity summary:

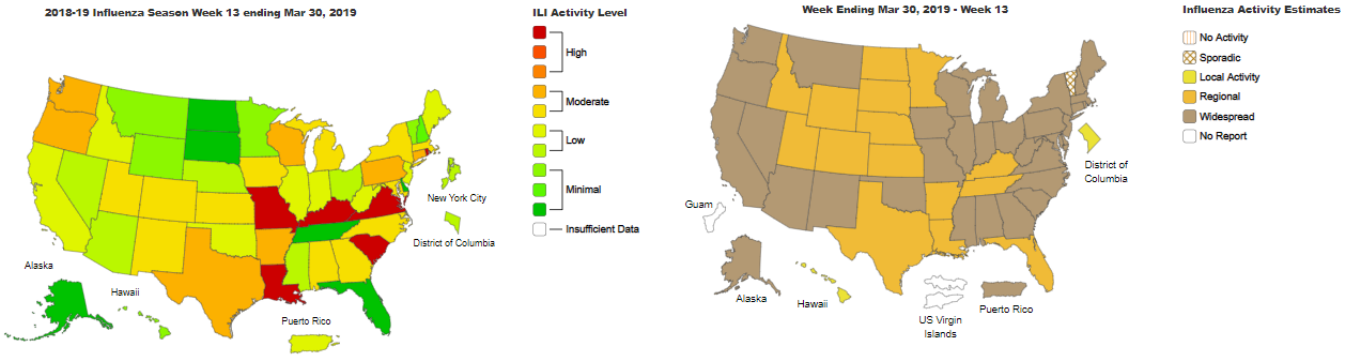
Multiple measures indicate that influenza activity continues to decrease but the geographic spread of influenza in Iowa is still widespread. Influenza A(H3) was the predominate subtype detected at the State Hygienic Laboratory this week with 26 influenza A(H3), 24 influenza A(H1N1)pdm09, two influenza B (Victoria lineage) and one influenza B (Yamagata lineage) viruses detected from submitted samples. Sentinel hospitals reported 46 influenza-related hospitalizations. The proportion of outpatient visits due to influenza-like illness (ILI) decreased to 2.21 percent, which is above the regional baseline of 1.6 percent. One long-term care influenza outbreak was reported with onset in week 13. Four schools reported at least 10 percent absenteeism due to illness. Nine influenza deaths were reported. Surveillance sites most frequently detected the following non-influenza respiratory illnesses: 130 rhinovirus/enterovirus, 63 coronavirus and 59 RSV.

International activity summary - (WHO):

In the temperate zone of the northern hemisphere influenza activity decreased overall. In North America, influenza activity appeared to decrease with influenza A(H3N2) the dominant virus, followed by influenza A(H1N1)pdm09. In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels, with the exception of some parts of Australia where influenza activity remained above inter-seasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

Visit www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/ for more information. It was last updated 4/1/2019.

National activity summary - (CDC)-Last Updated for Week 13:



Synopsis: Influenza activity decreased but remains elevated in the United States. Influenza A(H1N1)pdm09 viruses predominated from October to mid-February, and influenza A(H3N2) viruses have been more commonly identified since late February. Small numbers of influenza B viruses have also been reported. Below is a summary of the key influenza indicators for the week ending March 30, 2019.

Viral Surveillance: The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories decreased. Nationally, during the most recent three weeks, influenza A(H3) viruses were reported more frequently than influenza A(H1N1)pdm09 viruses and in all 10 HHS Regions. The majority of influenza viruses characterized antigenically are similar to the cell-grown reference viruses representing the 2018–2019 Northern Hemisphere influenza vaccine viruses. However, an increasing proportion of influenza A(H3N2) viruses are antigenically distinguishable from A/Singapore/INFIMH-16-0019/2016 (3C.2a1), a cell-propagated reference virus representing the A(H3N2) component of 2018-19 Northern Hemisphere influenza vaccines. However, an increasing proportion of influenza A(H3N2) viruses are antigenically distinguishable from A/Singapore/INFIMH-16-0019/2016 (3C.2a1), a cell-propagated reference virus representing the A(H3N2) component of 2018-19 Northern Hemisphere influenza vaccines. The vast majority of influenza viruses tested (>99%) show susceptibility to oseltamivir and peramivir. All influenza viruses tested showed susceptibility to zanamivir.

Outpatient Illness Surveillance: The proportion of outpatient visits for influenza-like illness (ILI) decreased to 3.2%, and remains above the national baseline of 2.2%. All 10 regions reported ILI at or above their region-specific baseline level.

Geographic Spread of Influenza. The geographic spread of influenza in Puerto Rico and 33 states was reported as widespread; 15 states reported regional activity; the District of Columbia and one state reported local activity; the U.S. Virgin Islands and Guam did not report.

Influenza-associated Hospitalizations: A cumulative rate of 56.4 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (181.8 hospitalizations per 100,000 population).

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

Influenza-associated Pediatric Deaths: Six influenza-associated pediatric deaths were reported to CDC during week 13. Five deaths occurred during the 2018-2019 season and one death occurred during the 2017-2018 season.

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

Laboratory surveillance program:

The State Hygienic Laboratory (SHL) is the primary laboratory in Iowa characterizing specimens for influenza surveillance. SHL reports the number of tests performed and the type and subtype/lineage of positive tests to the influenza surveillance network daily. SHL also sends a portion of specimens to CDC for further characterization.

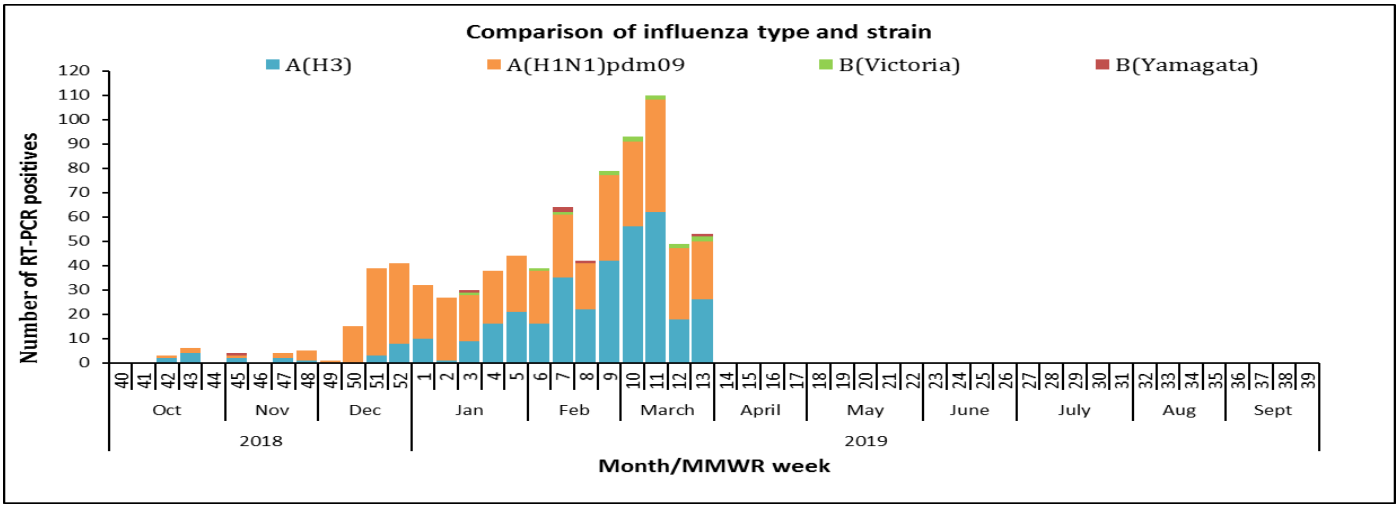
Table 1: Influenza A viruses detected by SHL by age group

Age Group	CURRENT WEEK				CUMULATIVE (9/30/18– CURRENT WEEK)			
	A(H1N1) pdm09	A(H3)	Not subtyped	Total	A(H1N1) pdm09	A(H3)	Not subtyped	Total
0-4	6	4	0	**10 (20%)**	72	18	0	**90 (11%)**
5-17	3	2	0	**5 (10%)**	72	45	1	**118 (14%)**
18-24	4	2	0	**6 (12%)**	31	92	2	**125 (15%)**
25-49	1	2	0	**3 (6%)**	89	28	2	**119 (15%)**
50-64	7	1	0	**8 (16%)**	97	38	3	**138 (17%)**
>64	3	15	0	**18 (36%)**	82	135	11	**228 (28%)**
Total	**24**	**26**	**0**	**50**	**443**	**356**	**19**	**818**
Pct.	**48%**	**52%**	**0%**		**54%**	**44%**	**2%**	

Table 2: Influenza B viruses detected by SHL by age group

Age Group	CURRENT WEEK				CUMULATIVE (9/30/18– CURRENT WEEK)			
	Victoria Lineage	Yamagata Lineage	Not subtyped	Total	Victoria Lineage	Yamagata Lineage	Not subtyped	Total
0-4	1	0	0	**1 (33%)**	1	0	0	**1 (5%)**
5-17	0	0	0	**0 (0%)**	6	3	0	**9 (45%)**
18-24	1	0	0	**1 (33%)**	3	0	0	**3 (15%)**
25-49	0	0	0	**0 (0%)**	2	2	0	**4 (20%)**
50-64	0	0	0	**0 (0%)**	1	0	0	**1 (5%)**
>64	0	1	0	**1 (33%)**	0	1	1	**2 (10%)**
Total	**2**	**1**	**0**	**3**	**13**	**6**	**1**	**20**
Pct.	**67%**	**33%**	**0%**		**65%**	**30%**	**5%**	

Table 1 and 2 Notes: Cell counts of three or less are sometimes suppressed to protect confidentiality. Totals by age may not add up to totals by subtype/lineage due to missing age information. Only cases of Iowa residents are included. Specimens listed as "not subtyped" may be pending or were not able to be subtyped due to weak positive lab results. This can be due to poor collection, timing of collection or stage of infection.



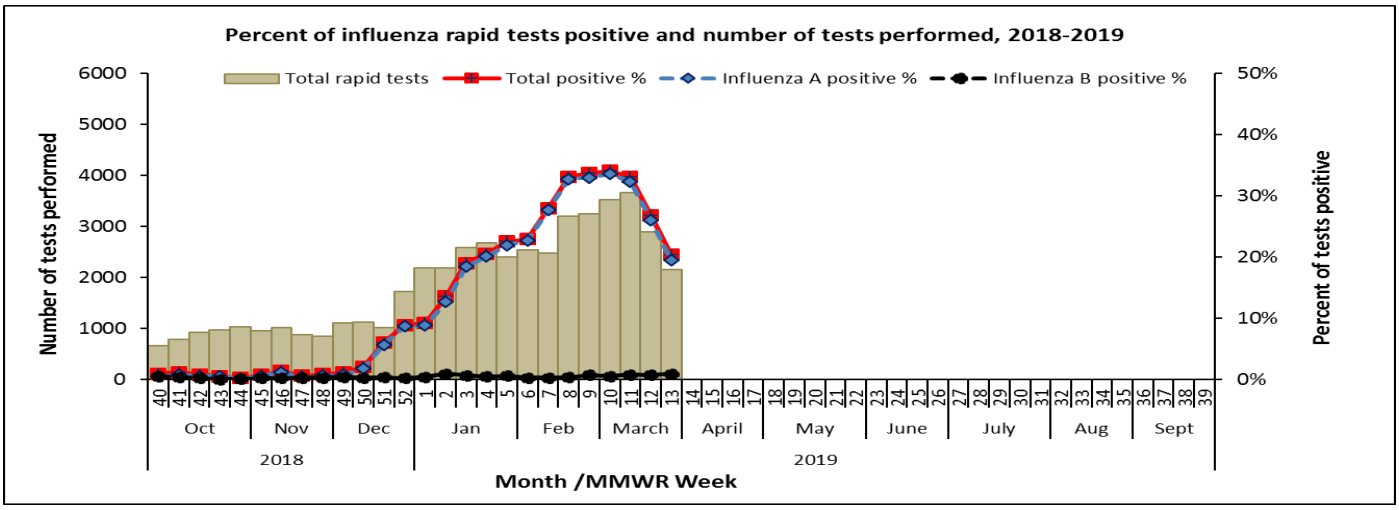
Rapid influenza and RSV test surveillance:

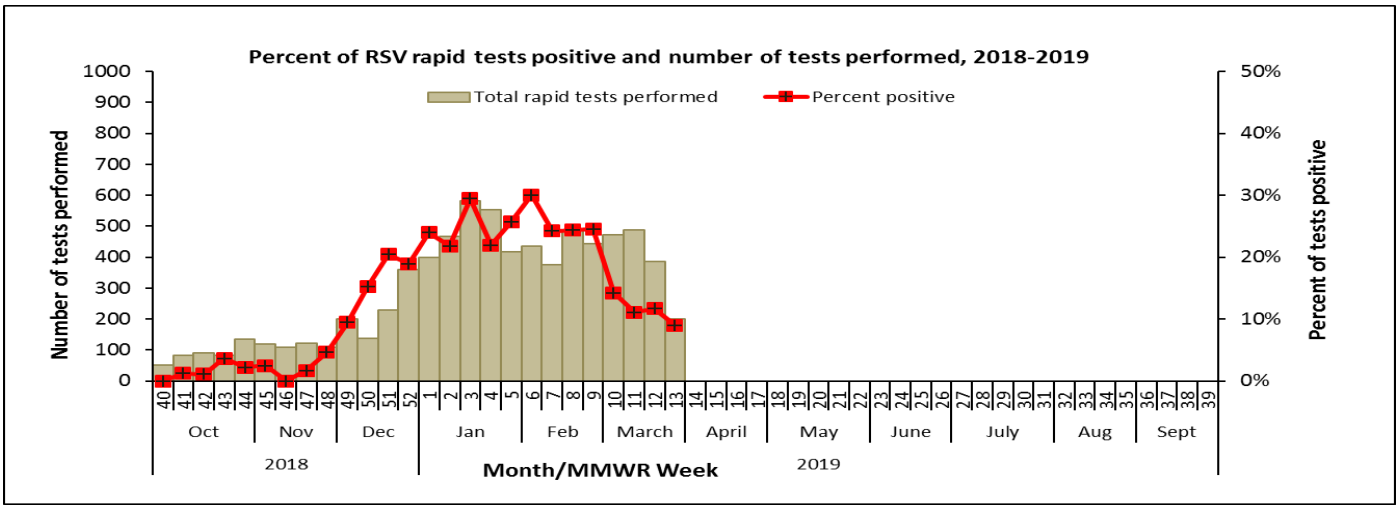
The State Hygienic Laboratory (SHL) runs a weekly web-based survey program where laboratorians report the number of influenza and respiratory syncytial virus (RSV) rapid tests performed and the number of tests positive. This table includes only the number of patients tested for influenza or RSV at laboratory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

Table 3: 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)	926	195	11	22	38	7	18
Region 2 (NE)	187	62	1	34	18	0	0
Region 3 (NW)	160	9	1	6	81	5	6
Region 4 (SW)	130	16	2	14	27	5	19
Region 5 (SE)	68	6	1	10	8	0	0
Region 6 (Eastern)	690	133	4	20	28	1	4
Total	**2161**	**421**	**20**	**20**	**200**	**18**	**9**

Note: see map in the school section for the counties in each region.



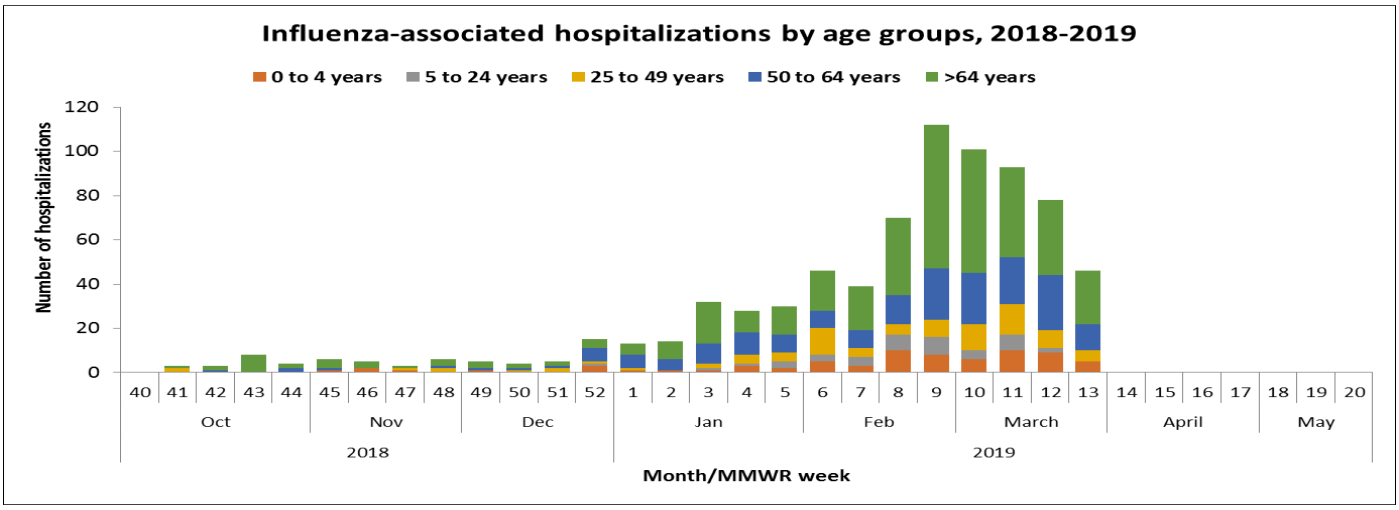


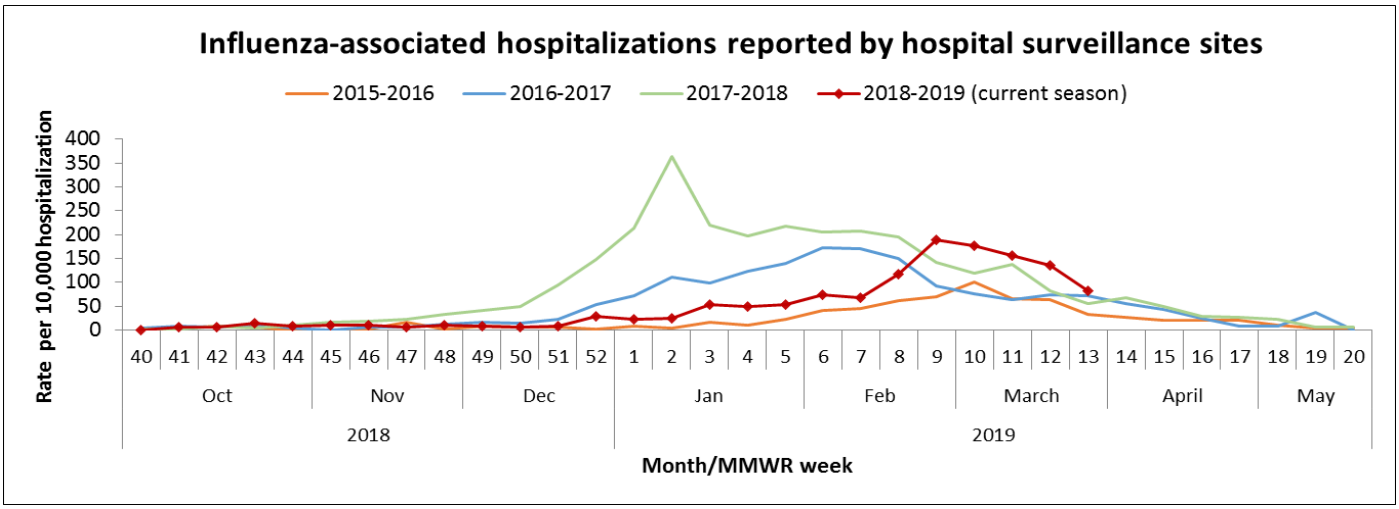
Influenza-associated hospitalizations:

Sentinel hospitals that participate in IISN voluntarily track and report the number of influenza-associated hospitalizations and the total number of inpatients each week. Iowa hospitals interested in joining this surveillance program should contact Andy Weigel at 515-322-1937 or andy.weigel@idph.iowa.gov for more information.

Table 4: Number of influenza-associated hospitalization reported by age group

AGE	CURRENT WEEK	CUMULATIVE (9/30/18– CURRENT WEEK)
Age 0-4	5	72
Age 5-24	0	41
Age 25-49	5	88
Age 50-64	12	185
Age >64	24	383
Total	**46**	**769**





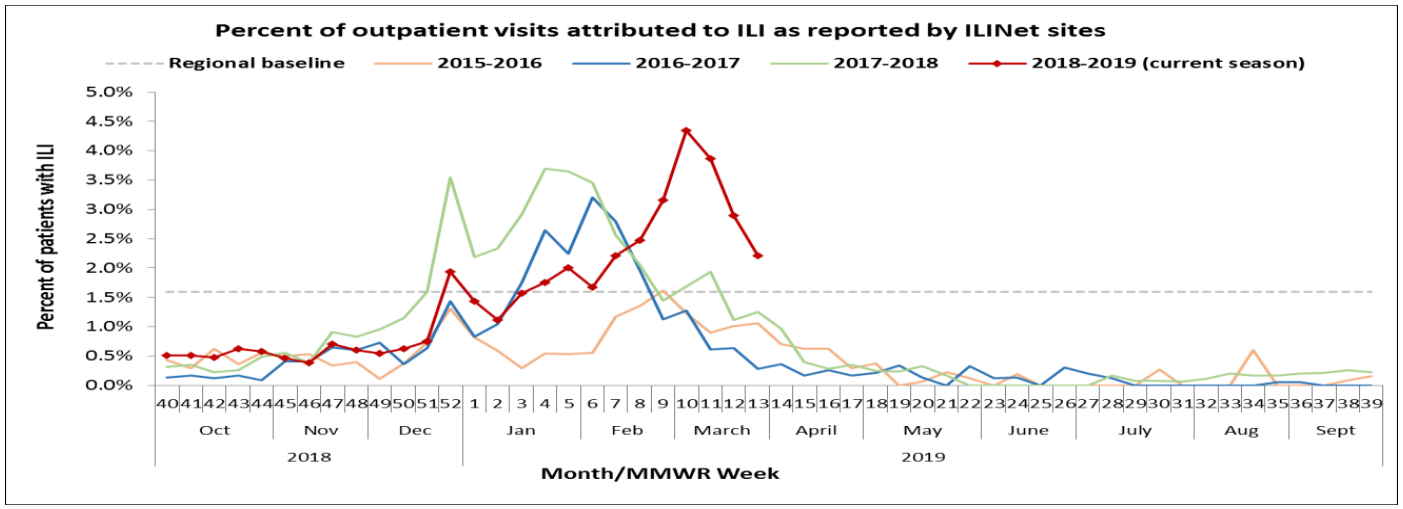
Outpatient health care provider surveillance program (ILINet):

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. Iowa health care providers interested in joining this surveillance program should contact Andy Weigel at 515-322-1937 or andy.weigel@idph.iowa.gov for more information.

Table 5: Outpatient visits for influenza-like illness (ILI)

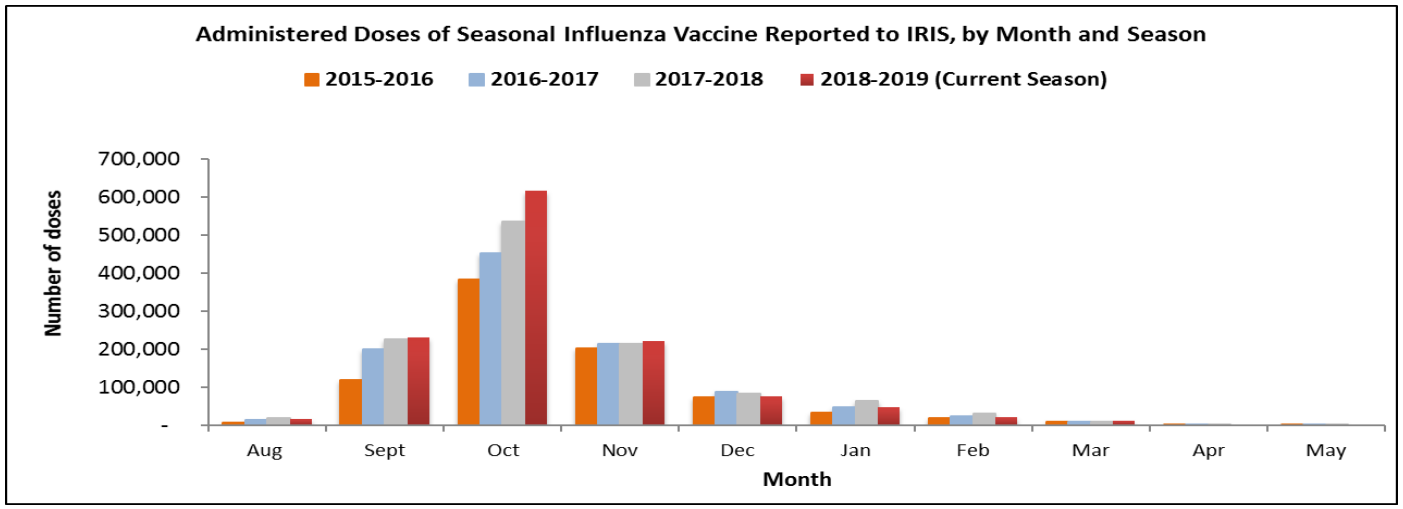
Week	Age 0-4	Age 5-24	Age 25-49	Age 50-64	Age >64	Total ILI	ILI Percent
Week 11, ending Mar 16	83	117	28	13	14	255	3.87
Week 12, ending Mar 23	37	55	23	12	14	141	2.89
Week 13, ending Mar 30	40	32	12	7	7	98	2.21

Note: Influenza-like Illness is defined as a fever of ≥100° F as well as cough and/or sore throat.



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.



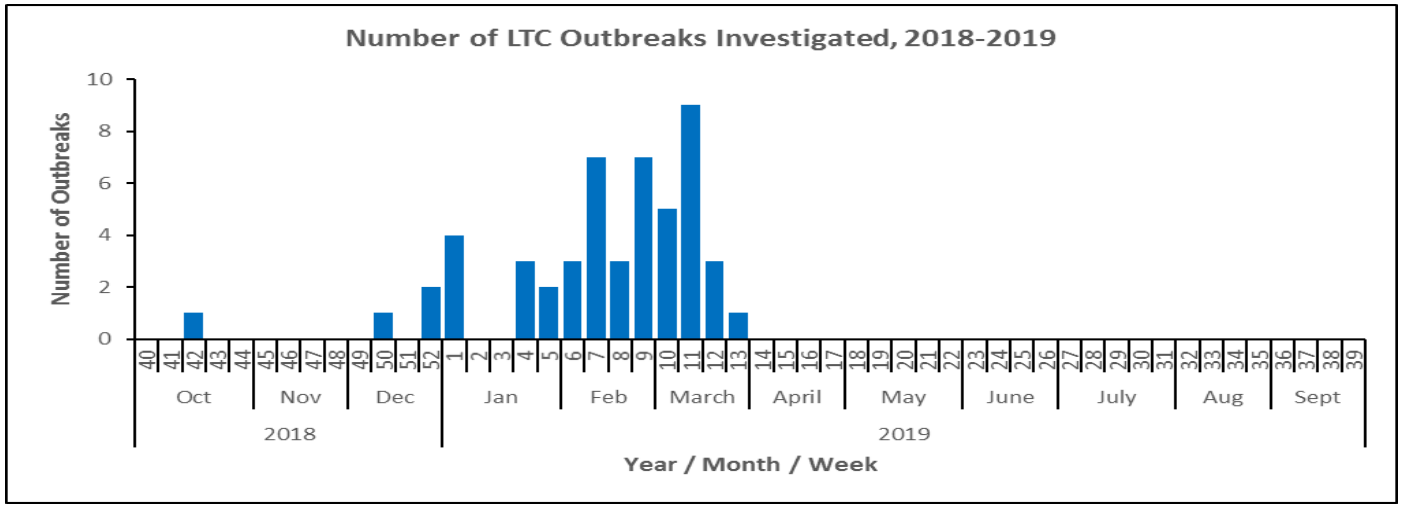
Note: The data for the 2018-2019 season is only up to the current week and there is a lag between the vaccine administration date and the date reported to the IRIS. The current season's data will be adjusted as additional data is received.

Long-term Care Outbreaks:

Table 6: Number of long-term care outbreaks investigated

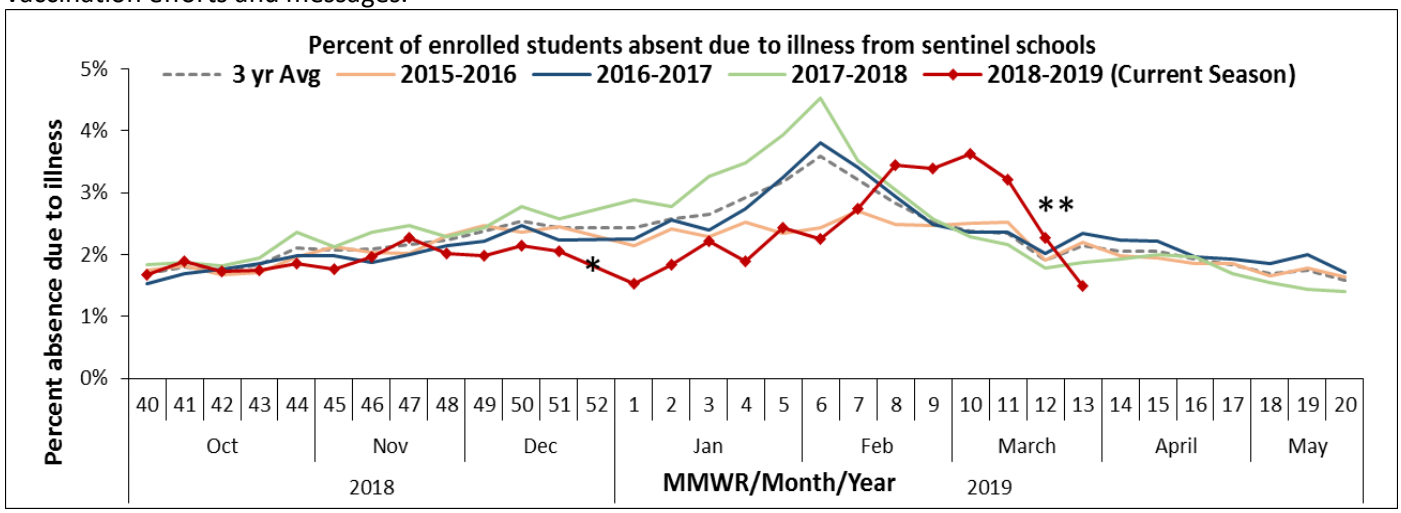
REGION	CURRENT WEEK	CUMULATIVE (9/30/18– CURRENT WEEK)
Region 1 (Central)	1	23
Region 2 (NE)	0	2
Region 3 (NW)	0	5
Region 4 (SW)	0	7
Region 5 (SE)	0	7
Region 6 (Eastern)	0	7
Total	**1**	**51**

Note: see map in the school section for the counties in each region.



School surveillance program

IDPH monitors illnesses in schools from two different types of reporting: 10 percent school absence reports and weekly sentinel illness reporting. Iowa schools (K-12) track and report (including non-influenza illnesses) when the number of students absent with illness reaches or exceeds 10 percent of total student enrollment. Iowa sentinel schools that participate in IISN voluntarily track and report absence due to all illness and the total enrollment each week. This data provides excellent trends for influenza activity as well as age-specific information used to target vaccination efforts and messages.



***School data not reported for week 52 due to holiday closings**

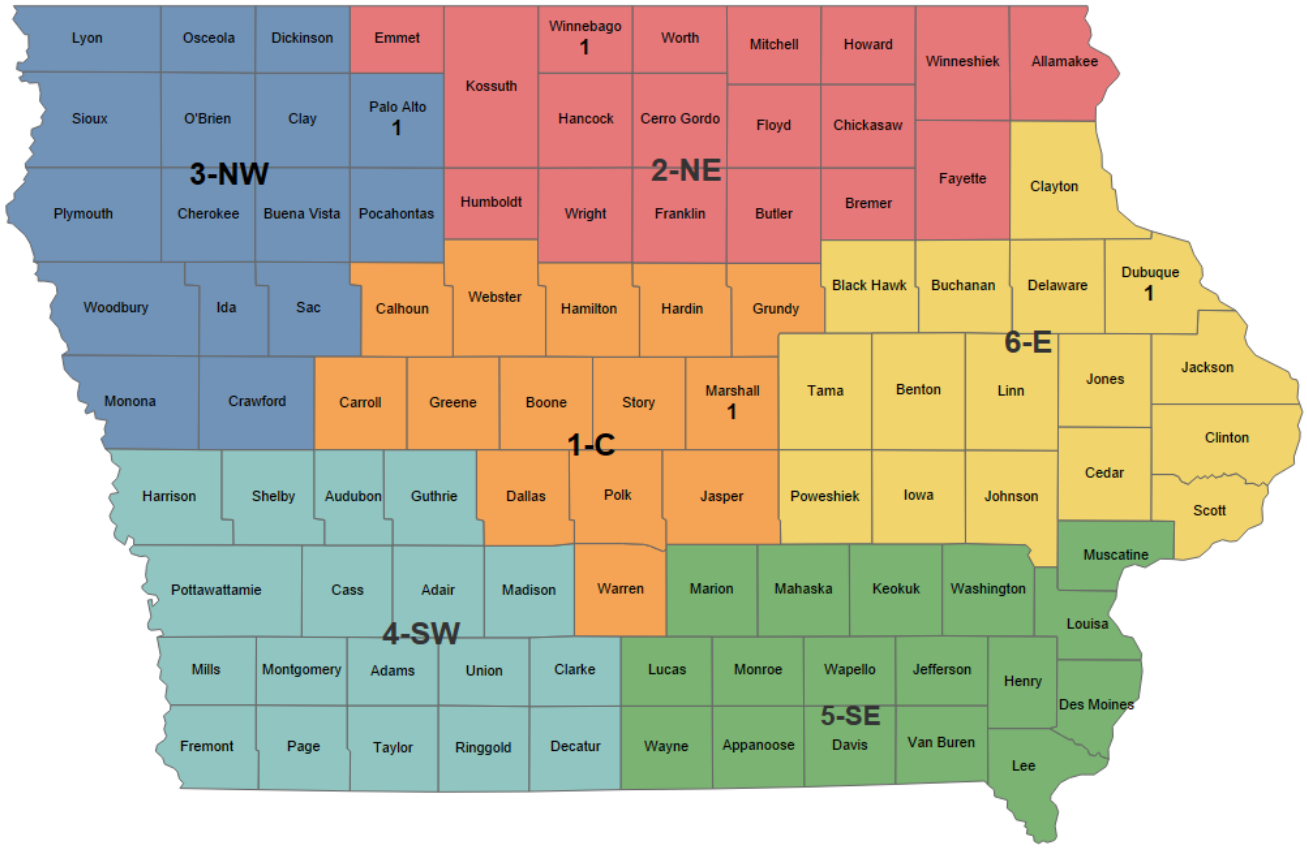
****School data may not accurately reflect illness for week 12 when many schools closed for spring break**

Table 7: Number of schools reporting >10% absenteeism due to any illness

REGION	CURRENT WEEK	CUMULATIVE (9/30/18–CURRENT WEEK)
Region 1 (Central)	1	42
Region 2 (NE)	1	15
Region 3 (NW)	1	26
Region 4 (SW)	0	20
Region 5 (SE)	0	25
Region 6 (Eastern)	1	61
Total	**4**	**189**

Note: See map in the school section for the counties in each region. Each school that reports 10 percent illness is counted only once per week for weekly numbers and only once per season for the cumulative reports.

Iowa Influenza Region Map

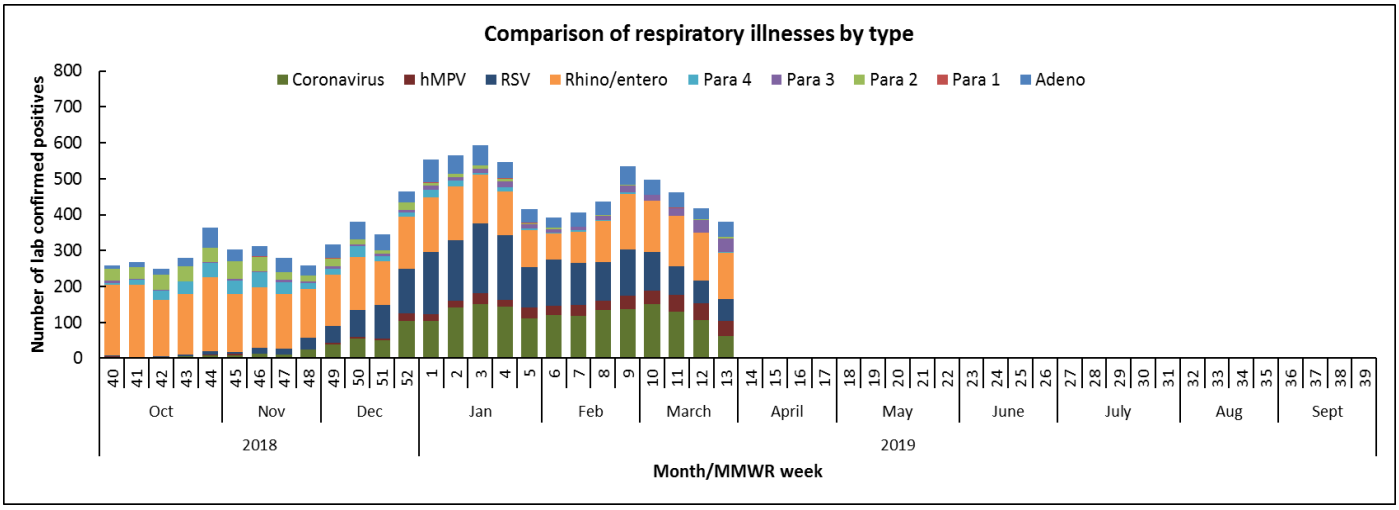


Non-influenza respiratory viruses:

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 8: 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 (9/30/18–CURRENT WEEK)
Adenovirus	44	977
Parainfluenza Virus Type 1	0	14
Parainfluenza Virus Type 2	4	435
Parainfluenza Virus Type 3	38	273
Parainfluenza Virus Type 4	1	397
Rhinovirus/Enterovirus	130	3737
Respiratory syncytial virus (RSV)	59	2059
Human metapneumovirus (hMPV)	42	445
Coronavirus	63	1940
Total	**381**	**10277**



Other resources:

Vaccine:

Influenza vaccine recommendation: idph.iowa.gov/immtb/immunization/vaccine
CDC vaccine information: www.cdc.gov/flu/faq/flu-vaccine-types.htm
Vaccine finder: http://vaccinefinder.org/

Neighboring states' influenza information:

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