

Kane County 2016-17 Influenza Surveillance Summary

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stop the flu
it starts
with **you**

Kane County, Illinois Influenza-Like Illness Surveillance 2016-2017

Each year between October and April, the Kane County Health Department collects and tracks data regarding influenza activity in the county by monitoring:

- Visits to emergency departments for influenza-like illness (ILI)¹
- Hospital laboratory testing for influenza
- ILI-associated absenteeism in public school (grades K-12)
- Influenza-associated pediatric deaths
- Influenza-related ICU admissions and ICU deaths
- Reports of influenza outbreaks in long-term care facilities

The Kane County Health Department would like to thank the hospitals, labs and school districts that participated in the ILI surveillance for 2016-2017 and made this monitoring possible. Below are the summaries for October 2016 - April 2017 regarding the percentage of ER patients seen with ILI, the average ILI absenteeism in Kane County public schools, influenza outbreaks in long-term care facilities, influenza laboratory testing activity, ICU admissions and pediatric deaths related to influenza.

Summary

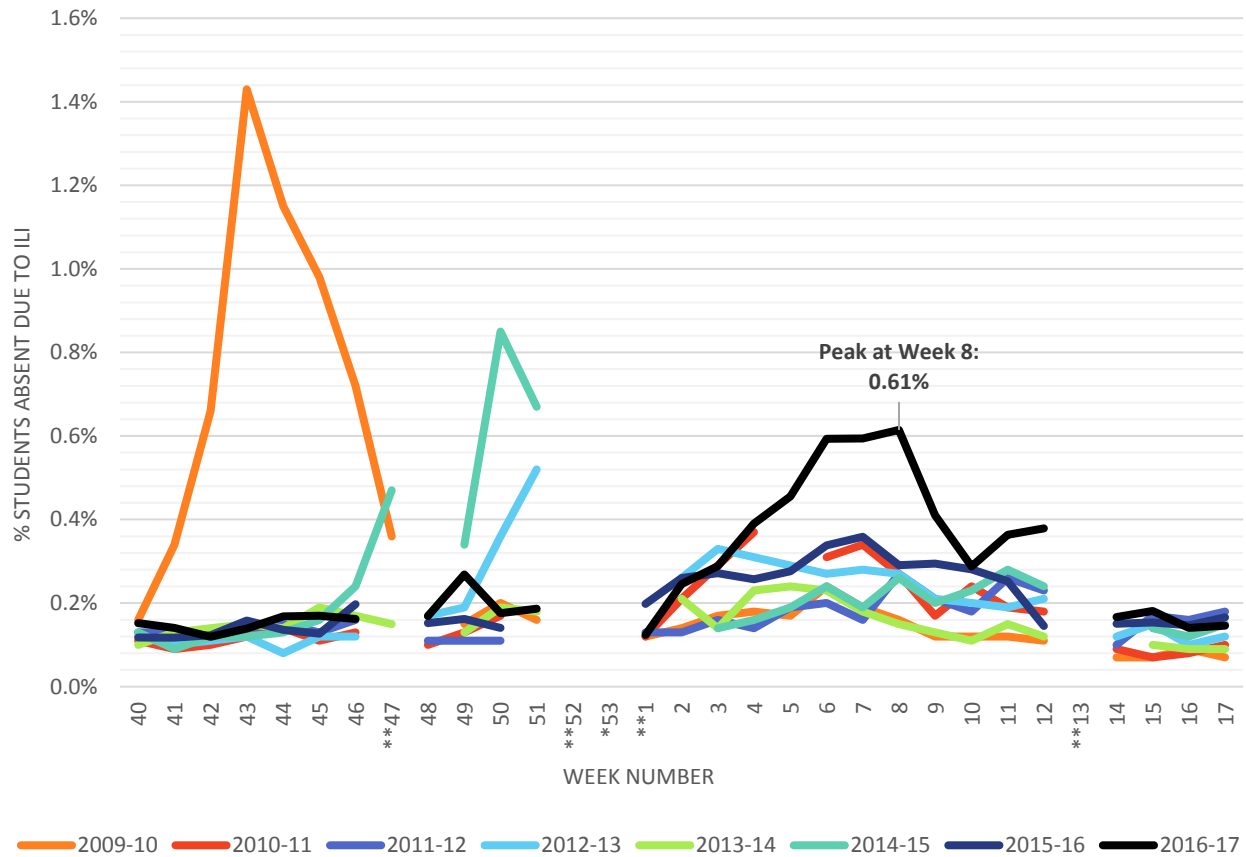
Kane County Health Department conducted surveillance for influenza-like illness for the 2016-2017 season beginning in October 2016 through the end of April 2017. Influenza activity in Kane County during the 2016-2017 season peaked in Week 7 (February 12-18, 2017), a week after the national level peaked. The predominant strain during this peak was Influenza A.

There were three influenza outbreaks in long-term care facilities and 36 ICU admissions for ILI during the 2016-2017 influenza season.

¹Influenza-like illness (ILI) is defined as fever >100°F with cough and/or sore throat without other known cause

School Influenza-Like Illness Surveillance

The data below represent public schools that reported ILI-related absenteeism during the 2016-17 school year. The county average absenteeism for ILI among school-aged children was 0.28%, with a peak of 0.61% in Week 8 (February 22). On average, 137 schools reported data for 96,285 students each week.



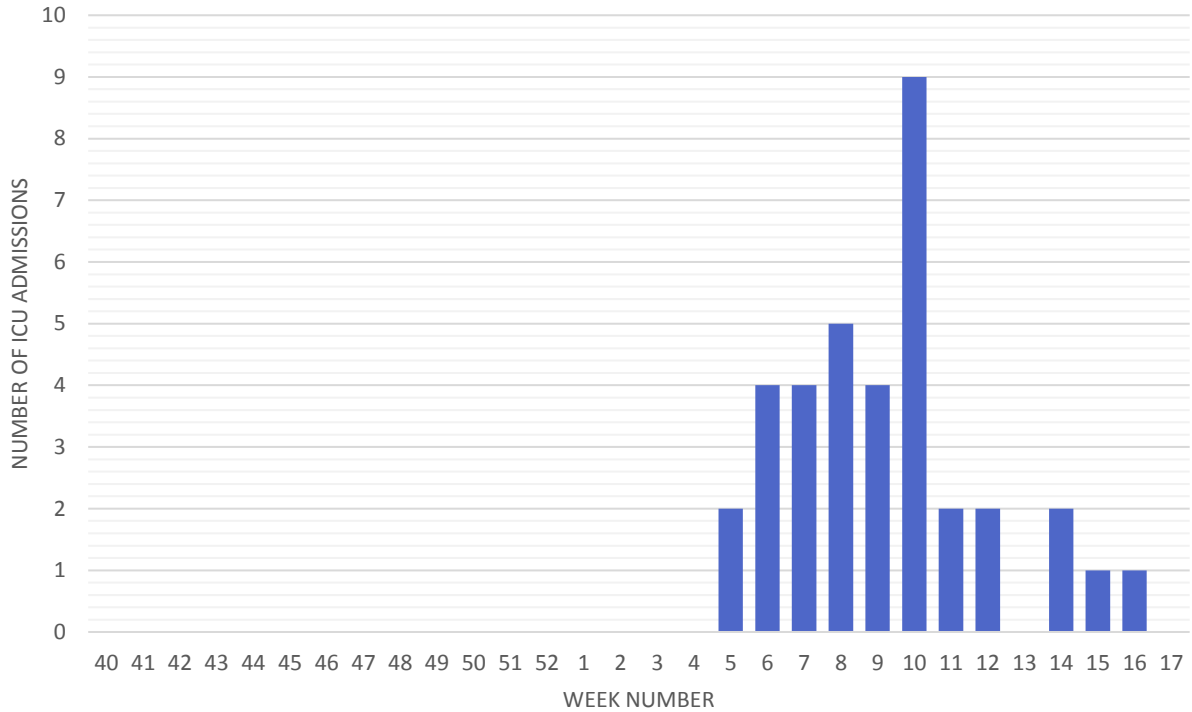
*2014 is the only year with 53 weeks
 **Schools closed for holiday

School Influenza-Like Illness Absenteeism Data

Week	2016-17	Previous Seasons						
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
40	0.15%	0.16%	0.11%	0.13%	0.12%	0.10%	0.13%	0.12%
41	0.14%	0.34%	0.09%	0.13%	0.10%	0.13%	0.09%	0.12%
42	0.12%	0.66%	0.10%	0.13%	0.11%	0.14%	0.12%	0.12%
43	0.14%	1.43%	0.12%	0.14%	0.12%	0.15%	0.12%	0.16%
44	0.17%	1.15%	0.14%	0.15%	0.08%	0.14%	0.13%	0.14%
45	0.17%	0.98%	0.11%	0.13%	0.12%	0.19%	0.16%	0.13%
46	0.16%	0.72%	0.13%	0.16%	0.12%	0.17%	0.24%	0.20%
47	Thanksgiving	0.36%	Thanksgiving	Thanksgiving	Thanksgiving	0.15%	0.47%	Thanksgiving
48	0.17%	Thanksgiving	0.10%	0.11%	0.17%	Thanksgiving	Thanksgiving	0.15%
49	0.27%	0.15%	0.13%	0.11%	0.19%	0.13%	0.34%	0.16%
50	0.18%	0.20%	0.17%	0.11%	0.36%	0.19%	0.85%	0.14%
51	0.19%	0.16%	Winter Break	Winter Break	0.52%	0.18%	0.67%	Winter Break
52	Winter Break	Winter Break	Winter Break	Winter Break	Winter Break	Winter Break	Winter Break	Winter Break
1	0.12%	0.12%	0.12%	0.13%	Winter Break	Winter Break	Winter Break	0.20%
2	0.25%	0.14%	0.21%	0.13%	0.26%	0.21%	Winter Break	0.26%
3	0.29%	0.17%	0.29%	0.16%	0.33%	0.14%	0.14%	0.27%
4	0.39%	0.18%	0.37%	0.14%	0.31%	0.23%	0.16%	0.26%
5	0.46%	0.17%	Snow Day	0.19%	0.29%	0.24%	0.19%	0.28%
6	0.59%	0.24%	0.31%	0.20%	0.27%	0.23%	0.24%	0.34%
7	0.59%	0.19%	0.34%	0.16%	0.28%	0.18%	0.19%	0.36%
8	0.61%	0.16%	0.27%	0.27%	0.27%	0.15%	0.26%	0.29%
9	0.41%	0.12%	0.17%	0.21%	0.21%	0.13%	0.20%	0.29%
10	0.29%	0.12%	0.24%	0.18%	0.20%	0.11%	0.23%	0.28%
11	0.36%	0.12%	0.19%	0.26%	0.19%	0.15%	0.28%	0.25%
12	0.38%	0.11%	0.18%	0.23%	0.21%	0.12%	0.24%	0.15%
13	Spring Break	Spring Break	Spring Break	Spring Break	Spring Break	Spring Break	Spring Break	Spring Break
14	0.17%	0.07%	0.09%	0.10%	0.12%	Spring Break	Spring Break	0.15%
15	0.18%	0.07%	0.07%	0.17%	0.15%	0.10%	0.14%	0.15%
16	0.14%	0.09%	0.08%	0.16%	0.10%	0.09%	0.12%	0.15%
17	0.15%	0.07%	0.10%	0.18%	0.12%	0.09%	0.15%	0.17%

Influenza-related ICU Admissions

There were a total of 36 ILI-related ICU admissions reported to the Health Department during the 2016-2017 influenza season. The number of admissions peaked in Week 10 (March 5-11). There were no pediatric deaths related to ILI.

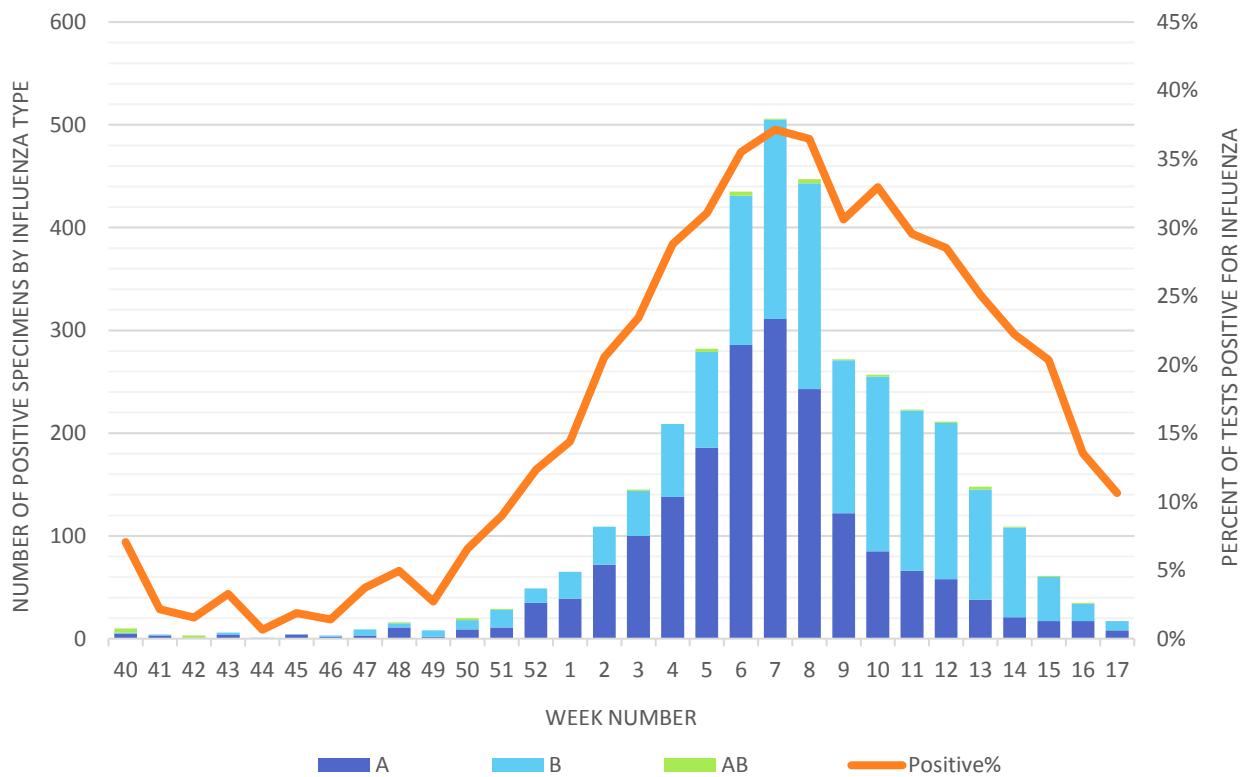


ICU Admissions Case Count	Number	Percent
Total Cases	36	-
0-4 years	1	2.8%
5-24 years	5	13.9%
25-64 years	9	25.0%
65+ years	21	58.3%

Laboratory Surveillance

Each week, six laboratories in Kane County reported data on rapid influenza testing done in their facilities during the influenza season. Overall, 24.3% of tested respiratory specimens were positive for influenza (3,693 out of 15,185). The number of positive tests peaked in Week 7, when 506 specimens tested positive for influenza, producing a peak positivity rate of 37.2%. After the peak (beginning in Week 9), the flu season switched from being predominantly Influenza A, to being predominantly Influenza B. Throughout surveillance, 51.4% of all positive tests were Influenza A, 47.7% were Influenza B, and 0.9% were Influenza AB.

**Kane County Health Department Influenza-Like-Illness Surveillance:
Rapid Influenza Tests**



Laboratory Influenza Type Results	Number	Percent
Specimens tested	15,185	-
Specimens positive	3,693	24.3%
Positive Specimens by Type		
Influenza A	1,897	51.4%
Influenza B	1,762	47.7%
Influenza AB	34	0.9%

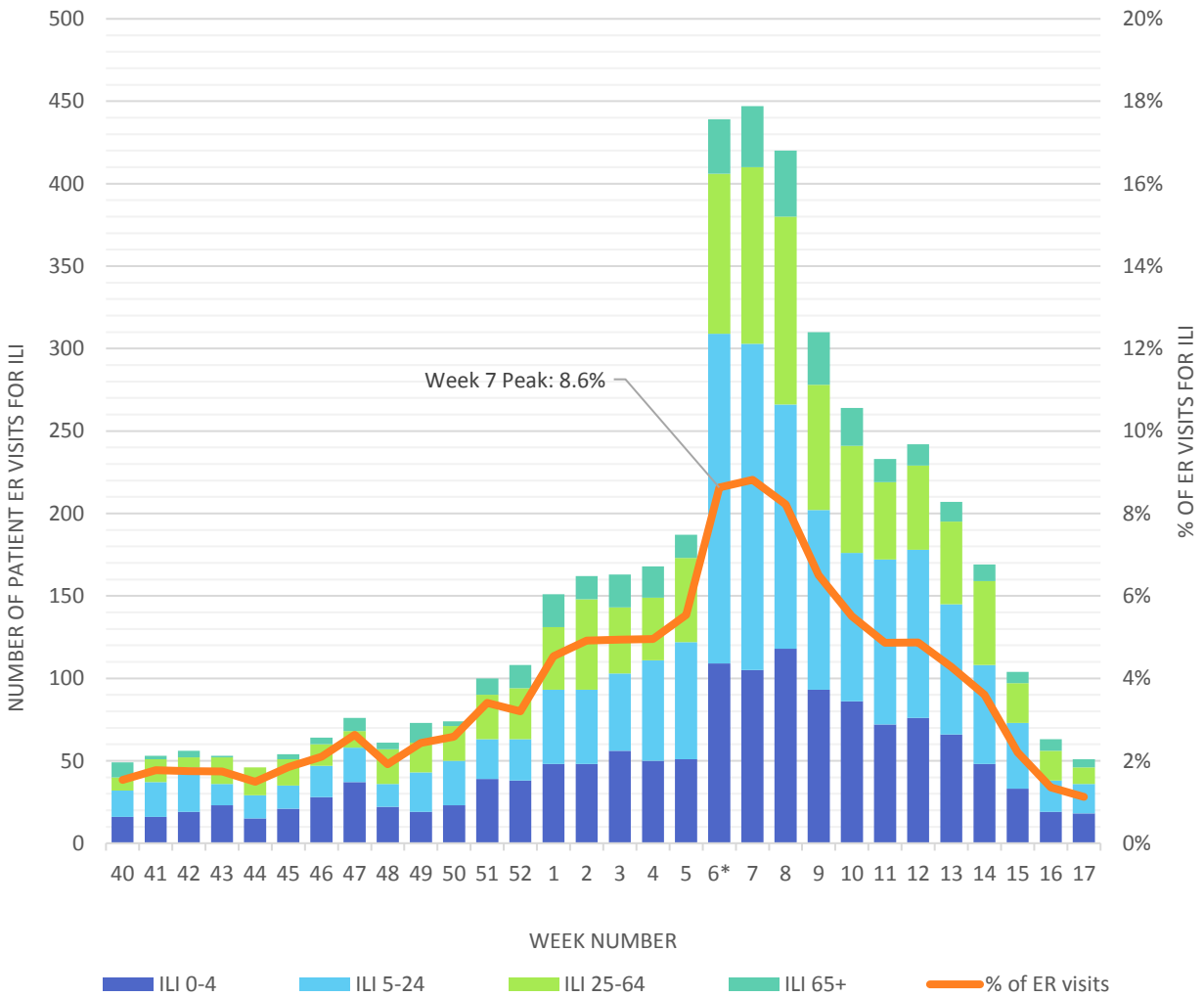
Rapid Influenza Tests 2016-2017

Week	Number of Tests	Total Number Positive Tests	% Positive	% of Positive Tests			
				A	B	AB	Unknown
40	142	10	7.0%	50.0%	10.0%	40.0%	0.0%
41	187	4	2.1%	75.0%	25.0%	0.0%	0.0%
42	194	3	1.5%	33.3%	0.0%	66.7%	0.0%
43	184	6	3.3%	66.7%	33.3%	0.0%	0.0%
44	153	1	0.7%	0.0%	100.0%	0.0%	0.0%
45	213	4	1.9%	100.0%	0.0%	0.0%	0.0%
46	214	3	1.4%	66.7%	33.3%	0.0%	0.0%
47	243	9	3.7%	33.3%	66.7%	0.0%	0.0%
48	323	16	5.0%	68.8%	25.0%	6.3%	0.0%
49	295	8	2.7%	25.0%	75.0%	0.0%	0.0%
50	305	20	6.6%	45.0%	45.0%	10.0%	0.0%
51	323	29	9.0%	37.9%	58.6%	3.4%	0.0%
52	397	49	12.3%	71.4%	28.6%	0.0%	0.0%
1	452	65	14.4%	60.0%	40.0%	0.0%	0.0%
2	531	109	20.5%	66.1%	33.9%	0.0%	0.0%
3	619	145	23.4%	69.0%	30.3%	0.7%	0.0%
4	726	209	28.8%	66.0%	34.0%	0.0%	0.0%
5	908	282	31.1%	66.0%	33.0%	1.1%	0.0%
6	1,225	435	35.5%	65.7%	33.3%	0.9%	0.0%
7	1,362	506	37.2%	61.5%	38.3%	0.2%	0.0%
8	1,225	447	36.5%	54.4%	44.7%	0.9%	0.0%
9	889	272	30.6%	44.9%	54.8%	0.4%	0.0%
10	780	257	32.9%	33.1%	66.1%	0.8%	0.0%
11	755	223	29.5%	29.6%	70.0%	0.4%	0.0%
12	740	211	28.5%	27.5%	72.0%	0.5%	0.0%
13	590	148	25.1%	25.7%	72.3%	2.0%	0.0%
14	491	109	22.2%	19.3%	79.8%	0.9%	0.0%
15	300	61	20.3%	27.9%	70.5%	1.6%	0.0%
16	259	35	13.5%	48.6%	48.6%	2.9%	0.0%
17	160	17	10.6%	47.1%	52.9%	0.0%	0.0%

ILI Emergency Room Surveillance

The percent of ER visits that were ILI-related peaked in Week 7 (Feb. 12-18) at 8.8%. During this peak, 23.5% of ILI-related ER visits were among people aged 0-4, 44.3% were among people aged 5-24, 23.9% were among people aged 25-64, and 8.3% were among people aged 65 and older. The percent of ER visits that were ILI-related remained above 5.0% until Week 11, when it decreased to 4.9%.

Overall, ILI-related visits accounted for an average 4.06% of all ER visits. During the 2015-2016 influenza surveillance season ILI-related visits peaked around the same time, in Week 8 at 6.9%.



*Additional hospital started reporting in Week 6 - accounts for increased number of visits

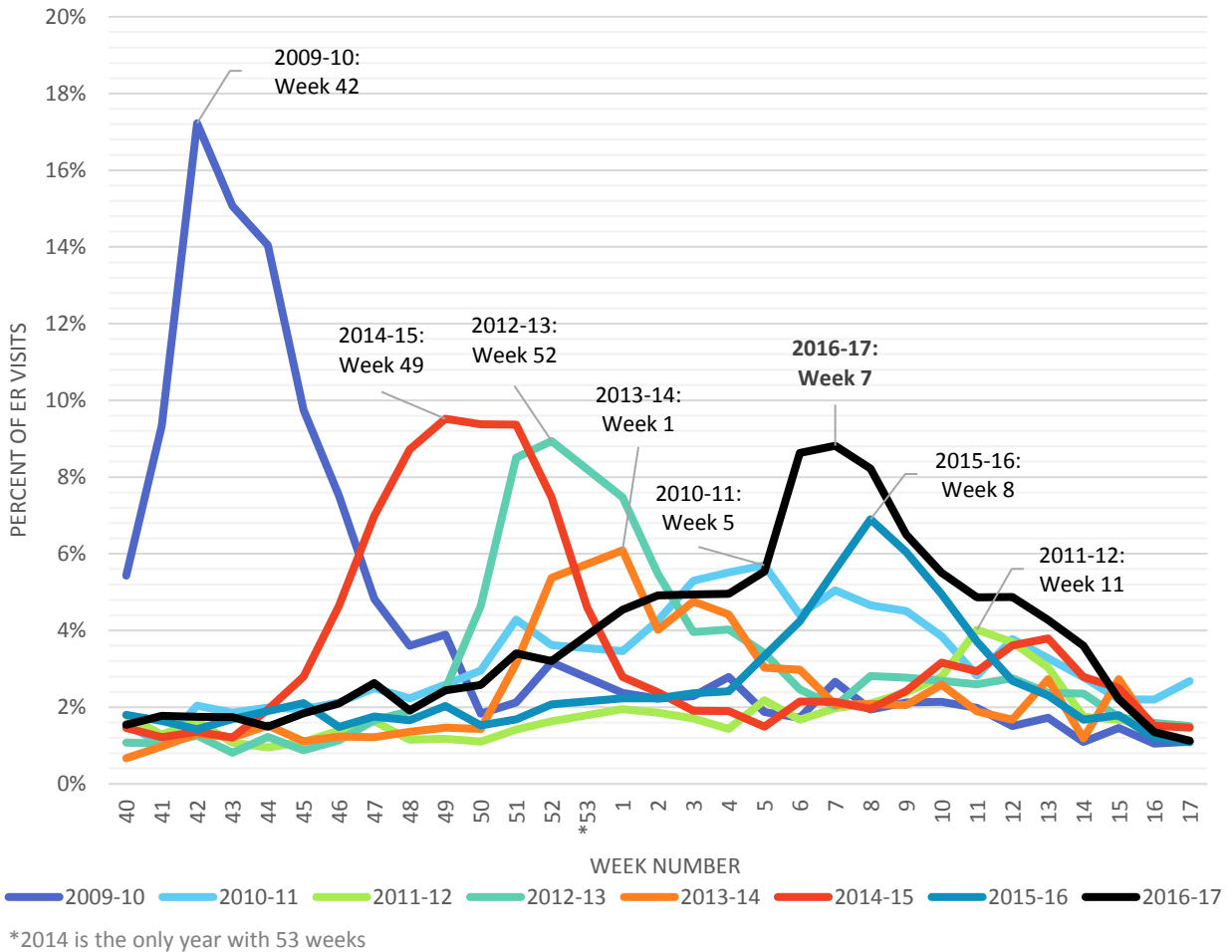
Week	2016-2017							Previous % ER Visits due to ILI						
	ER Visits	ER Visits for ILI	% of ER Visits due to ILI	% of ILI ER Visits				2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
				0-4 years	5-24 years	25-64 years	65+ years							
40	3,185	49	1.5%	32.7%	32.7%	16.3%	18.4%	5.4%	1.6%	1.8%	1.1%	0.7%	1.5%	1.8%
41	2,986	53	1.8%	30.2%	39.6%	26.4%	3.8%	9.3%	1.0%	1.3%	1.0%	1.0%	1.2%	1.6%
42	3,199	56	1.8%	33.9%	48.2%	10.7%	7.1%	17.2%	2.0%	1.6%	1.3%	1.3%	1.4%	1.4%
43	3,043	53	1.7%	43.4%	24.5%	30.2%	1.9%	15.1%	1.9%	1.1%	0.8%	1.2%	1.2%	1.7%
44	3,085	46	1.5%	32.6%	30.4%	37.0%	0.0%	14.0%	2.0%	1.0%	1.2%	1.5%	1.9%	1.9%
45	2,929	54	1.8%	38.9%	25.9%	29.6%	5.6%	9.7%	2.0%	1.1%	0.9%	1.1%	2.8%	2.1%
46	3,055	64	2.1%	43.8%	29.7%	20.3%	6.3%	7.5%	2.1%	1.4%	1.1%	1.2%	4.6%	1.5%
47	2,891	76	2.6%	48.7%	27.6%	13.2%	10.5%	4.8%	2.5%	1.6%	1.7%	1.2%	7.0%	1.8%
48	3,190	61	1.9%	36.1%	23.0%	34.4%	6.6%	3.6%	2.2%	1.2%	1.9%	1.4%	8.7%	1.7%
49	2,997	73	2.4%	26.0%	32.9%	24.7%	16.4%	3.9%	2.6%	1.2%	2.5%	1.5%	9.5%	2.0%
50	2,866	74	2.6%	31.1%	36.5%	28.4%	4.1%	1.8%	3.0%	1.1%	4.6%	1.4%	9.4%	1.5%
51	2,937	100	3.4%	39.0%	24.0%	27.0%	10.0%	2.1%	4.3%	1.4%	8.5%	3.1%	9.4%	1.7%
52	3,375	108	3.2%	35.2%	23.1%	28.7%	13.0%	3.2%	3.6%	1.6%	8.9%	5.4%	7.5%	2.1%
53*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.6%	N/A
1	3,327	151	4.5%	31.8%	29.8%	25.2%	13.2%	2.4%	3.5%	1.9%	7.5%	6.1%	2.8%	2.2%
2	3,294	162	4.9%	29.6%	27.8%	34.0%	8.6%	2.2%	4.3%	1.9%	5.5%	4.0%	2.4%	2.2%
3	3,299	163	4.9%	34.4%	28.8%	24.5%	12.3%	2.3%	5.3%	1.7%	4.0%	4.8%	1.9%	2.4%
4	3,390	168	5.0%	29.8%	36.3%	22.6%	11.3%	2.8%	5.5%	1.4%	4.0%	4.4%	1.9%	2.4%
5	3,377	187	5.5%	27.3%	38.0%	27.3%	7.5%	1.9%	5.7%	2.2%	3.4%	3.0%	1.5%	3.3%
6**	5,088	439	8.6%	24.8%	45.6%	22.1%	7.5%	1.7%	4.4%	1.7%	2.5%	3.0%	2.2%	4.2%
7	5,070	447	8.8%	23.5%	44.3%	23.9%	8.3%	2.7%	5.1%	2.0%	2.0%	2.1%	2.1%	5.6%
8	5,108	420	8.2%	28.1%	35.2%	27.1%	9.5%	1.9%	4.7%	2.1%	2.8%	2.1%	2.0%	6.9%
9	4,766	310	6.5%	30.0%	35.2%	24.5%	10.3%	2.1%	4.5%	2.4%	2.8%	2.1%	2.4%	6.0%
10	4,793	264	5.5%	32.6%	34.1%	24.6%	8.7%	2.1%	3.9%	2.8%	2.7%	2.6%	3.2%	4.9%
11	4,790	233	4.9%	30.9%	42.9%	20.2%	6.0%	2.0%	2.8%	4.0%	2.6%	1.9%	2.9%	3.7%
12	4,970	242	4.9%	31.4%	42.1%	21.1%	5.4%	1.5%	3.8%	3.7%	2.8%	1.7%	3.6%	2.7%
13	4,840	207	4.3%	31.9%	38.2%	24.2%	5.8%	1.7%	3.3%	3.0%	2.4%	2.7%	3.8%	2.3%
14	4,687	169	3.6%	28.4%	35.5%	30.2%	5.9%	1.1%	2.8%	1.8%	2.4%	1.2%	2.8%	1.7%
15	4,719	104	2.2%	31.7%	38.5%	23.1%	6.7%	1.5%	2.2%	1.7%	1.7%	2.7%	2.5%	1.8%
16	4,660	63	1.4%	30.2%	30.2%	28.6%	11.1%	1.1%	2.2%	1.5%	1.6%	1.4%	1.5%	1.2%
17	4,538	51	1.1%	35.3%	35.3%	19.6%	9.8%	1.1%	2.7%	1.5%	1.5%	1.1%	1.5%	1.1%

*2014 is the only year with 53 weeks

**Additional hospital began reporting in in Week 6 of 2016-2017

ILI Data for Past Influenza Season

The below chart shows that the 2016-17 influenza season had a peak in ER visits for Influenza-like Illness similarly timed to last year, but occurring later in the year compared to most previous seasons.



Long-term Care Facilities (LTCF) Influenza Outbreaks

During the 2016-17 influenza surveillance season, three influenza outbreaks was reported in long-term care facilities in Kane County.

Special thanks to the Kane County Health Department Communicable Disease and Community Health Resources programs for compiling the information and data in this report. Thanks to our reporters at the school, hospitals, long-term care facilities, and laboratories who contributed data each week.

Resources:

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Epidemiological Weeks of 2016-2017 Influenza Season		
Week Number	Start Date (Sunday)	End Date (Saturday)
40	2-Oct-16	8-Oct-16
41	9-Oct-16	15-Oct-16
42	16-Oct-16	22-Oct-16
43	23-Oct-16	29-Oct-16
44	30-Oct-16	5-Nov-16
45	6-Nov-16	12-Nov-16
46	13-Nov-16	19-Nov-16
47	20-Nov-16	26-Nov-16
48	27-Nov-16	3-Dec-16
49	4-Dec-16	10-Dec-16
50	11-Dec-16	17-Dec-16
51	18-Dec-16	24-Dec-16
52	25-Dec-16	31-Dec-16
1	1-Jan-17	7-Jan-17
2	8-Jan-17	14-Jan-17
3	15-Jan-17	21-Jan-17
4	22-Jan-17	28-Jan-17
5	29-Jan-17	4-Feb-17
6	5-Feb-17	11-Feb-17
7	12-Feb-17	18-Feb-17
8	19-Feb-17	25-Feb-17
9	26-Feb-17	4-Mar-17
10	5-Mar-17	11-Mar-17
11	12-Mar-17	18-Mar-17
12	19-Mar-17	25-Mar-17
13	26-Mar-17	1-Apr-17
14	2-Apr-17	8-Apr-17
15	9-Apr-17	15-Apr-17
16	16-Apr-17	22-Apr-17
17	23-Apr-17	29-Apr-17