Delaware Weekly Influenza Report
MMWR Week 16 (April 15 - 21, 2018)
Delaware Division of Public Health

National Influenza Synopsis 2017-2018:

National data are updated Friday of each week. Please visit http://www.cdc.gov/flu/weekly/ for the most current information. During MMWR Week 16 (April 15 - 21, 2018) influenza activity decreased in the United States. Overall, influenza A(H3) viruses have predominated this season. Since early March, influenza B viruses have been more frequently reported than influenza A viruses. The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased. **Widespread influenza activity** was reported by four states (Connecticut, Delaware, Massachusetts, and New York). **Regional influenza activity** was reported by Guam, Puerto Rico and nine states (Arizona, Kentucky, Maine, New Hampshire, New Jersey, Ohio, Rhode Island, Utah, and Wisconsin). **Local influenza activity** was reported by 25 states (Alaska, California, Colorado, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Pennsylvania, South Carolina, South Dakota, Vermont, Virginia, Washington, and West Virginia). **Sporadic influenza activity** was reported by the District of Columbia, the U.S. Virgin Islands and 10 states (Arkansas, Idaho, Indiana, Louisiana, Nevada, North Carolina, Oregon, Tennessee, Texas, and Wyoming). **No influenza activity** was reported by two states (Alabama and Mississippi). Both national and state data are provisional and subject to change as additional reports are received.

Delaware Influenza Surveillance 2017-2018:

During MMWR Week 16, there were 65 laboratory-confirmed cases of influenza reported among Delaware residents, bringing the total to 8,944 confirmed cases for the 2017-2018 season. The increase of an additional 448 cases in the seasonal total reflects a late submission of electronic laboratory records from one reporting facility in Sussex County. Reports of influenza-like illness (ILI) received from participating providers, facilities and institutions in Delaware show ILI is 0.34% compared with Delaware's 2017-2018 baseline of 2.0%. Nationally, ILI is 1.7%, below the 2017-2018 national baseline of 2.2%.

Level of Influenza Activity in Delaware, MMWR Week 16:

Widespread	Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

Influenza-like illness (ILI) is defined as patients presenting with fever of 100º F or greater, cough and/or sore throat in the absence of a known cause other than influenza.

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 laboratory-confirmed 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 two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.*[3]

Widespread: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[1] 2017-2018 Region 3 (DE, DC, MD, PA, VA and WV) baseline = 2.0%.

[2] Laboratory-confirmed case = case confirmed by viral culture or PCR.

[3] Region = population under surveillance in a defined geographical subdivision of a state. Regions typically include several counties. Regional doesn't apply to states with ≤ four counties.

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Table 1a. Influenza positive[1] cases reported[2] statewide and county by subtype (A) or lineage (B)[3], Delaware 2017-18

Confirmed Flu Cases by Subtype / Lineage		Wk 40-52	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14	Wk 15	Wk 16	YTD	YTD Total	YTD County %
STATEWIDE	A / 2009 H1N1	17	4	15	16	32	45	37	43	17	18	6	3	1	2	0	0	2	**258**		
	A / 2012 H3N2	60	24	26	26	42	39	38	53	34	14	9	6	8	3	1	3	0	**386**		
	A / no subtype	230	117	242	256	461	720	869	945	495	205	101	77	56	36	16	19	10	**4,855**		
	Co-infection	0	1	1	5	5	6	8	3	4	1	1	0	0	0	0	0	0	**35**	**8,944**	
	B / Yamagata	19	8	6	6	4	9	31	30	24	11	11	12	10	7	3	1	3	**195**		
	B / Victoria	1	1	0	2	5	1	11	12	12	17	9	6	3	5	2	3	3	**93**		
	B / no lineage	79	49	74	84	152	235	352	592	363	193	194	166	196	166	102	78	47	**3,122**		
New Castle County	A / 2009 H1N1	8	1	4	6	7	18	14	20	6	12	2	2	1	0	0	0	1	**102**		
	A / 2012 H3N2	53	19	19	20	26	25	25	41	22	9	6	2	3	1	1	1	0	**273**		
	A / no subtype	45	39	109	98	137	183	279	270	144	54	27	17	19	5	8	1	3	**1,438**		
	Co-infection	0	1	0	3	2	0	2	1	2	0	0	0	0	0	0	0	0	**11**	**3,146**	**35.2%**
	B / Yamagata	14	8	5	6	3	8	25	22	17	10	8	7	5	3	1	0	1	**143**		
	B / Victoria	1	1	0	2	5	1	11	9	9	15	7	4	2	4	1	1	2	**75**		
	B / no lineage	36	16	28	43	56	72	134	208	148	81	70	51	54	47	35	19	6	**1,104**		
Kent County	A / 2009 H1N1	6	3	8	6	18	17	20	17	5	4	3	0	0	2	0	0	0	**109**		
	A / 2012 H3N2	3	2	0	2	7	8	6	7	9	1	0	0	1	1	0	0	0	**47**		
	A / no subtype	64	26	48	65	154	213	247	258	116	38	20	13	9	7	0	5	3	**1,286**		
	Co-infection	0	0	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	**5**	**2,115**	**23.7%**
	B / Yamagata	0	0	0	0	0	0	3	5	3	0	1	2	3	2	1	1	0	**21**		
	B / Victoria	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	1	1	**5**		
	B / no lineage	6	10	12	21	20	54	64	140	76	35	32	24	43	42	26	22	15	**642**		
Sussex County	A / 2009 H1N1	3	0	3	4	7	10	3	6	6	2	1	1	0	0	0	0	1	**47**		
	A / 2012 H3N2	4	3	7	4	9	6	7	5	3	4	3	4	4	1	0	2	0	**66**		
	A / no subtype	121	52	85	93	170	324	343	417	235	113	54	47	28	24	8	13	4	**2,131**		
	Co-infection	0	0	1	2	2	6	5	0	1	1	1	0	0	0	0	0	0	**19**	**3,683**	**41.2%**
	B / Yamagata	5	0	1	0	1	1	3	3	4	1	2	3	2	2	1	0	2	**31**		
	B / Victoria	0	0	0	0	0	0	0	3	1	2	2	2	1	0	1	1	0	**13**		
	B / no lineage	37	23	34	20	76	109	154	244	139	77	92	91	99	77	41	37	26	**1,376**		

Table 1b. Influenza positive[1] cases reported[2] statewide and county by age group, Delaware 2017-18

Confirmed Flu Cases by Age Group		Wk 40-52	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14	Wk 15	Wk 16	YTD	YTD Total	YTD County %
STATEWIDE	0-4 years	41	21	48	62	127	194	272	324	196	92	68	50	56	46	28	23	11	**1,659**		
	5-24 years	80	34	83	105	223	409	518	663	349	158	149	108	88	59	29	21	18	**3,094**		
	25-49 years	77	38	69	85	144	173	233	263	136	71	38	31	35	34	11	13	14	**1,465**	**8,944**	
	50-64 years	82	43	57	62	98	123	136	174	106	48	34	28	31	36	25	21	8	**1,112**		
	65+ years	126	68	107	81	109	156	187	254	162	90	42	53	64	44	31	26	14	**1,614**		
New Castle County	0-4 years	17	8	13	25	36	49	117	120	96	44	27	17	29	20	12	9	3	**642**		
	5-24 years	32	15	37	48	70	99	162	204	114	59	46	29	22	13	11	3	5	**969**		
	25-49 years	36	12	33	37	51	52	90	96	38	22	9	12	8	10	4	2	3	**515**	**3,146**	**35.2%**
	50-64 years	30	18	33	27	35	53	59	56	37	18	15	8	9	9	9	6	0	**422**		
	65+ years	42	32	49	41	44	54	62	95	63	38	23	17	16	8	10	2	2	**598**		
Kent County	0-4 years	6	4	14	15	48	64	71	85	39	22	12	9	5	9	5	4	1	**413**		
	5-24 years	18	9	15	29	64	117	145	178	81	20	24	13	21	15	7	6	6	**768**		
	25-49 years	10	12	14	20	35	51	60	77	39	16	10	4	9	9	3	5	9	**383**	**2,115**	**23.7%**
	50-64 years	17	7	10	17	25	24	26	40	28	7	7	6	6	9	6	4	1	**240**		
	65+ years	28	9	15	13	28	36	39	49	25	13	3	7	15	13	6	10	2	**311**		
Sussex County	0-4 years	18	9	21	22	43	81	84	119	61	26	29	24	22	17	11	10	7	**604**		
	5-24 years	30	10	31	28	89	193	211	281	154	79	79	66	45	31	11	12	7	**1357**		
	25-49 years	31	14	22	28	58	70	83	90	59	33	19	15	18	15	4	6	2	**567**	**3,683**	**41.2%**
	50-64 years	35	18	14	18	38	46	51	78	41	23	12	14	16	18	10	11	7	**450**		
	65+ years	56	27	43	27	37	66	86	110	74	39	16	29	33	23	15	14	10	**705**		

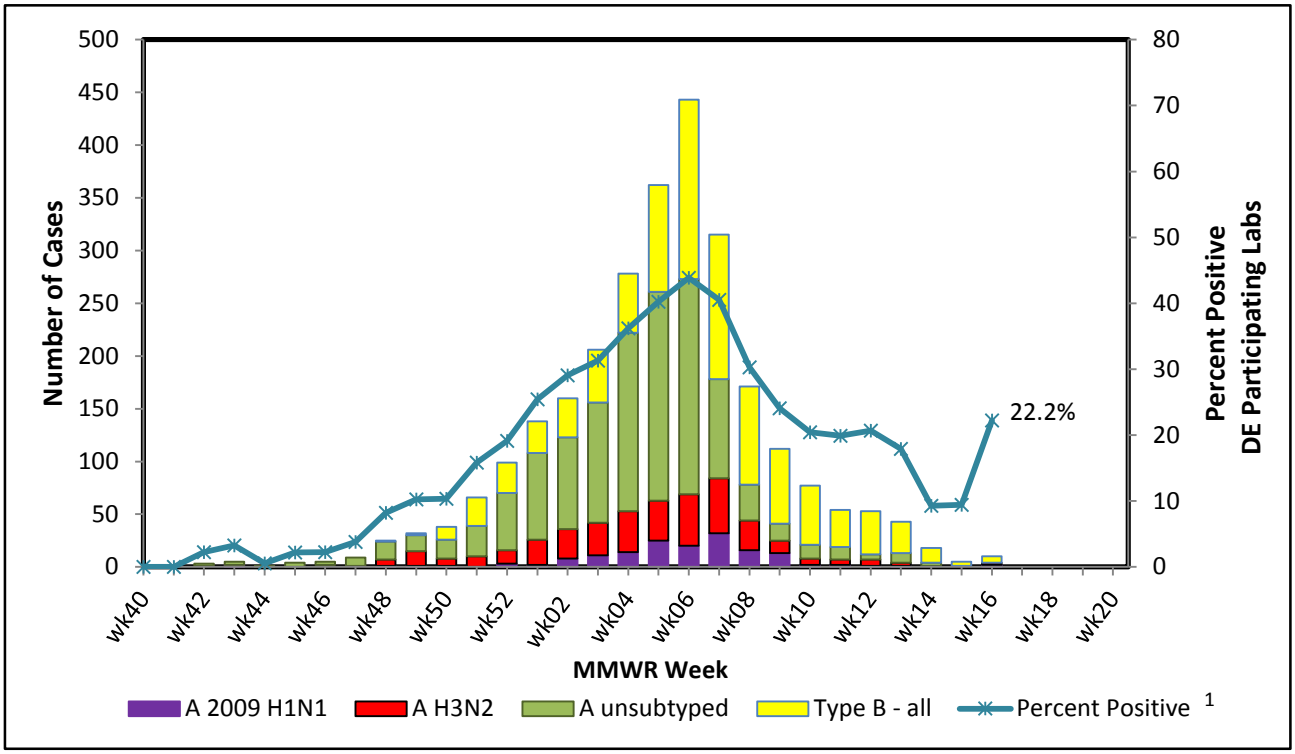
[1] Based on patients with positive nucleic acid or viral culture test results reported to the Division of Public Health.

[2] Reports are by the date the laboratory results are obtained. As a result, prior weeks' counts may be adjusted to reflect additional cases received.

[3] The Division of Public Health Laboratory now has the capability to identify lineage for Influenza B. Since some laboratories in the state do not have this capability, those influenza cases will be categorized as Influenza B, no lineage identified.

MMWR Week 16 = April 15 - 21, 2018.

Figure 1. Confirmed cases[1] of influenza by type and subtype/lineage, Delaware 2017-18*



[1] Based on patients with positive nucleic acid or viral culture test results reported to the Delaware Division of Public Health.
Data Source: Season 2017 - 2018 Influenza Positive Specimens from Delaware, Reported by WHO/NREVSS Collaborating Laboratories

Table 2. Influenza-related hospitalizations statewide and county, by age group, Delaware 2017-18

Hospitalized Flu Cases by Age Group		Wk 40-52	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14	Wk 15	Wk 16	YTD	YTD Total	YTD County %
STATEWIDE	0-4 years	3	1	0	1	8	8	17	5	7	4	3	2	2	3	2	2	0	**68**		
	5-24 years	4	1	1	2	4	6	7	7	7	3	6	3	2	0	1	1	0	**55**		
	25-49 years	6	2	10	4	6	8	20	11	9	7	6	3	1	0	1	0	2	**96**	**1,204**	
	50-64 years	24	11	16	10	21	19	27	35	24	14	11	4	7	3	8	5	1	**240**		
	65+ years	57	37	59	40	56	74	86	100	66	46	20	27	25	21	16	8	7	**745**		
New Castle County	0-4 years	2	1	0	1	7	4	15	4	6	2	3	2	1	1	2	2	0	**53**		
	5-24 years	3	1	1	2	2	6	5	5	4	2	6	3	1	0	1	1	0	**43**		
	25-49 years	6	0	6	3	5	3	13	7	2	1	2	3	1	0	1	0	2	**55**	**664**	**55.4%**
	50-64 years	14	8	13	8	8	13	17	16	11	11	7	3	3	2	3	2	0	**139**		
	65+ years	29	23	32	23	23	35	44	48	35	28	15	13	11	4	7	2	2	**374**		
Kent County	0-4 years	0	0	0	0	1	4	0	1	0	2	0	0	0	0	0	0	0	**8**		
	5-24 years	0	0	0	0	1	0	1	2	2	1	0	0	0	0	0	0	0	**7**		
	25-49 years	0	2	1	0	0	4	5	2	6	4	3	0	0	0	0	0	0	**27**	**254**	**21.2%**
	50-64 years	4	2	3	1	8	3	3	10	5	1	2	0	3	0	2	1	0	**48**		
	65+ years	14	5	10	4	18	22	21	23	11	9	0	4	6	7	5	3	2	**164**		
Sussex County	0-4 years	1	0	0	0	0	0	2	0	1	0	0	0	1	2	0	0	0	**7**		
	5-24 years	1	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	**5**		
	25-49 years	0	0	3	1	1	1	2	2	1	2	1	0	0	0	0	0	0	**14**	**286**	**23.4%**
	50-64 years	6	1	0	1	5	3	7	9	8	2	2	1	1	1	3	2	1	**53**		
	65+ years	14	9	17	13	15	17	21	29	20	9	5	10	8	10	4	3	3	**207**		

Table 3. Influenza-related deaths, Delaware 2017-18

Influenza-Related Deaths	Wk 40-52	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Wk 13	Wk 14	Wk 15	Wk 16	YTD
	1	0	1	1	0	3	7	6	6	4	**0**	**1**	**1**	**2**	**0**	**0**	**1**	**35**

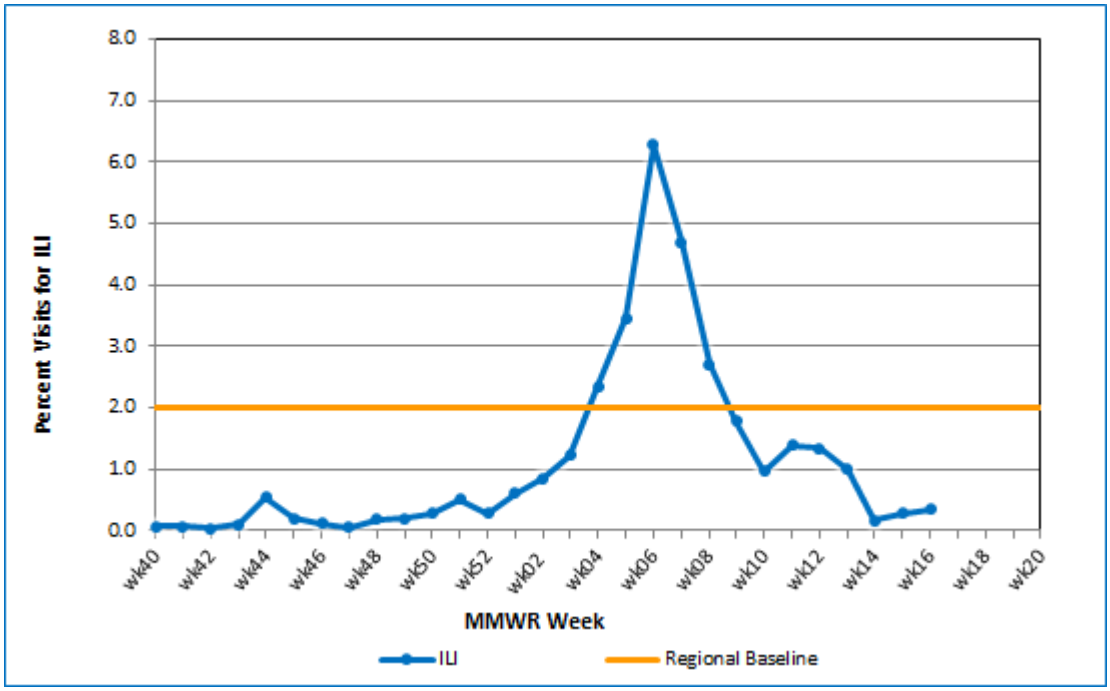
Table 4. Annual number of influenza cases reported by flu season, Delaware 2004-05 through 2017-18

Influenza Season	Total Annual Influenza Cases
2004 – 2005	995
2005 – 2006	541
2006 – 2007	508
2007 – 2008	1,401
2008 – 2009	738
2009 – 2010	2,247
2010 – 2011	1,479
2011 – 2012	267
2012 – 2013	1,781
2013 – 2014	1,842
2014 – 2015	2,390
2015 – 2016	2,250
2016 – 2017	4,590
2017 – 2018 (YTD)	**8,944**

U.S. Outpatient Influenza-Like Illness Surveillance Network (ILINet) Sentinel Providers

An ILINet (sentinel) provider conducts surveillance for influenza-like illness (ILI) in collaboration with the Division of Public Health and the Centers for Disease Control and Prevention (CDC). Data reported by ILINet providers, in combination with other influenza surveillance data, provide a national and statewide picture of influenza activity in the U.S.

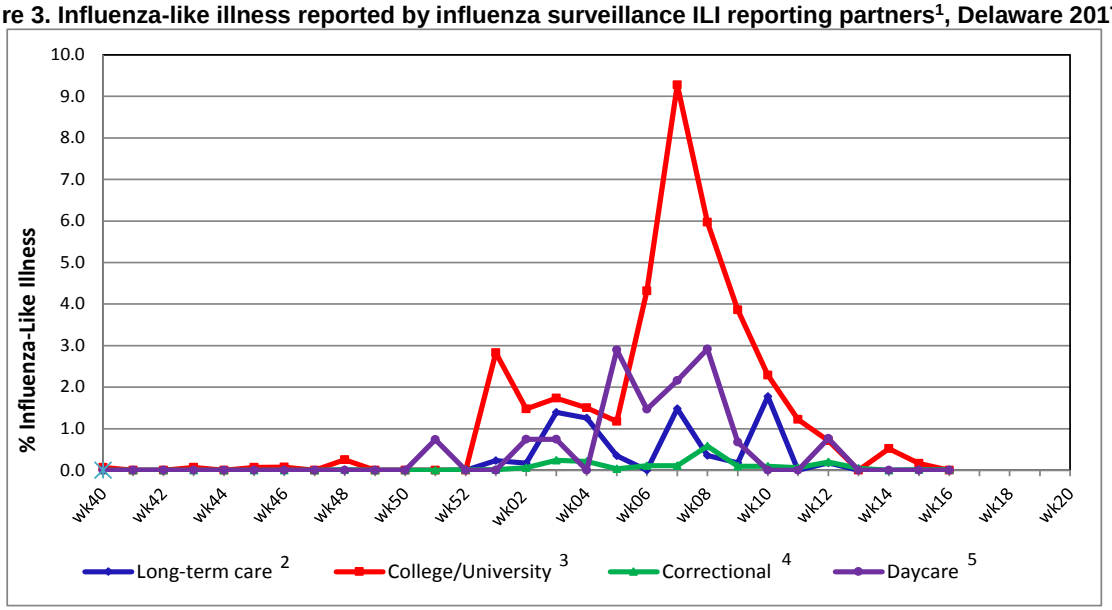
Figure 2. Percentage of visits for influenza-like illness reported by sentinel providers[1] participating in the U.S. Outpatient ILI Surveillance Network (ILINet), Delaware 2017-18



[1] Eleven of 13 sentinel providers reported.

[2] Regional baseline is calculated by CDC using non-influenza weeks from the previous three influenza seasons. Delaware is in Region 3 that also includes DC, MD, PA, VA and WV.

Figure 3. Influenza-like illness reported by influenza surveillance ILI reporting partners[1], Delaware 2017-18



[1] ILINet reporting partners include long-term care facilities, colleges / universities, correctional facilities and daycare facilities.
[2] % ILI= percentage of residents with ILI symptoms: Five long-term care facilities reported.
[3] % ILI= percentage of student visits for ILI; Two universities reported.
[4] % ILI= percentage of visits for ILI at the correctional facility; Nine correctional facilities reported.
[5] % ILI= percentage of children absent with ILI; One daycare provider reported.

Figure 4a. Percentage of emergency department (ED) visits due to ILI/Flu by MMWR Week, Delaware 2017-18

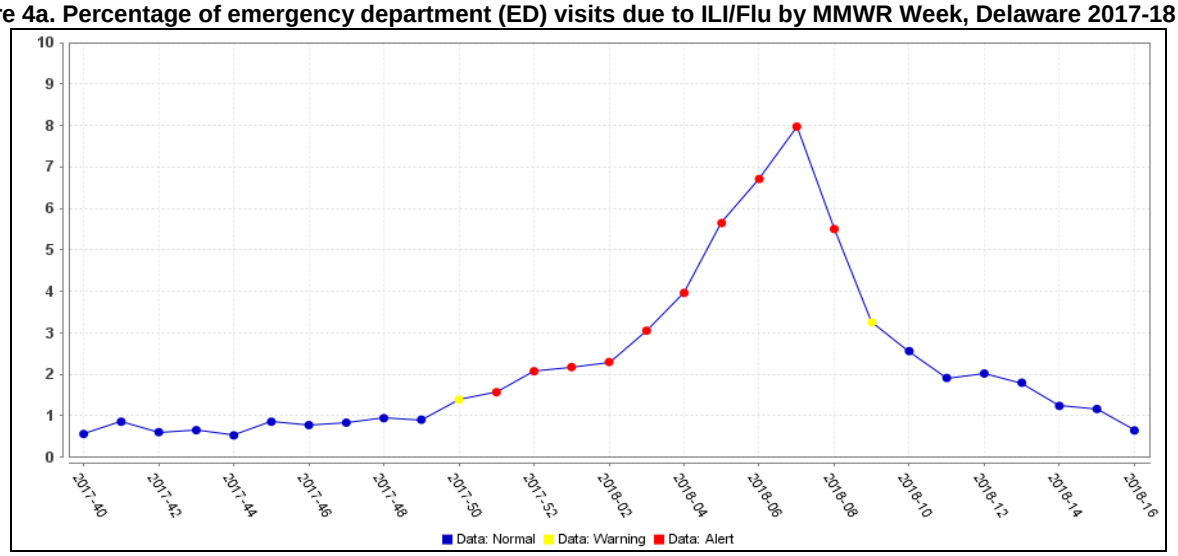
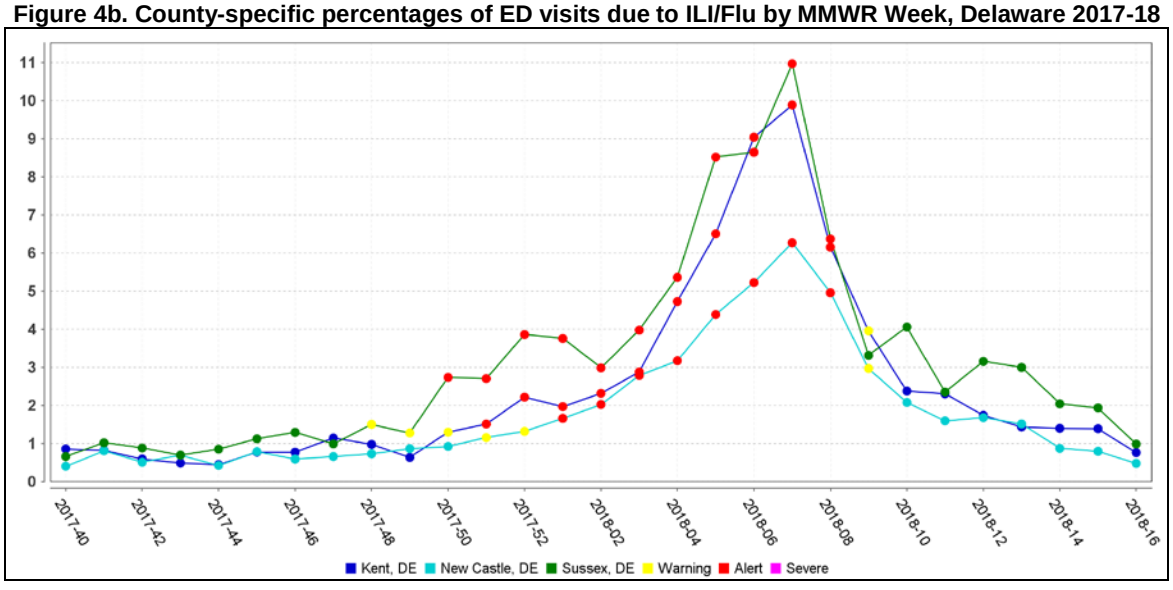


Figure 4b. County-specific percentages of ED visits due to ILI/Flu by MMWR Week, Delaware 2017-18



Summary of International Influenza Activity

Influenza activity decreased in most of the countries in the temperate zone of the northern hemisphere, with exception of Eastern Europe where activity continued to increase. In the temperate zone of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.

In North America, influenza activity continued to decrease. Influenza indicators continued to decrease in Canada and the United States, with influenza B virus most frequently detected in the former and influenza A(H3N2) and influenza B viruses co-circulating in the latter. In Mexico, influenza activity was reported as decreased, with detection of all seasonal influenza subtypes.

In the Caribbean, influenza activity increased in general. In the Dominican Republic, influenza activity appeared to increase with influenza A(H1N1)pdm09 predominating. In Central American countries, influenza activity remained low in general. Influenza detections increased slightly in Guatemala and Honduras.

In the European region, influenza viruses continued to circulate widely, but most of the countries reported low to medium intensity. In Eastern Europe, influenza activity continued to increase with detections of influenza A and B viruses. In particular, influenza activity remained high in Latvia and the Russian Federation. In Northern and South West Europe, influenza A and B virus detections continued to decrease.

In Northern Africa, influenza activity decreased across most of the region, with the exception of Egypt where detections remained high. In Western Africa, influenza activity remained low across the region. In Middle Africa, sporadic cases were reported in the Central African Republic. In Eastern Africa, influenza activity decreased in Madagascar and in the United Republic of Tanzania and detections of A(H1N1)pdm09 virus were reported in Mozambique.

In Western Asia, influenza activity appeared to decrease across the region, with all seasonal influenza subtypes present in the region. In Central Asia, influenza activity decreased across the region, although Kazakhstan reported high number of influenza detections in recent weeks. In East Asia, influenza activity decreased across the region. In Northern and Southern China influenza detections continued to decrease, with influenza A(H1N1)pdm09 and influenza B viruses predominating. Low influenza activity was reported in Japan and the Republic of Korea. In Southern Asia, influenza activity remained low in general, based on the countries reporting in this period. In Southeast Asia, influenza activity appeared to be low across the region.

Overall in the temperate zone of the Southern Hemisphere, influenza activity remained at inter-seasonal levels in most countries.

Reference: World Health Organization (WHO), 2017. Influenza Update number 313 (4/16/18). Retrieved April 20, 2018, from http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/. Reports are updated biweekly.

NOTE: Data provided do not reflect the total number of individuals who have been infected with the influenza virus in Delaware during the reporting period due to the following factors:

- Many people ill with influenza-like symptoms do not seek medical care.
- Many who do seek medical care are not tested for influenza.
- The Delaware Public Health Laboratory is limited by capacity to processing a maximum of three specimens per day from each reporting entity.

The Delaware Division of Public Health (DPH) is committed to serving you better by providing the most accurate, up-to-date influenza data available.

- For general information on influenza, visit flu.delaware.gov or http://dhss.delaware.gov/dhss/dph/dpc/immunize-flu.html.
- For specific information on DPH flu clinics, visit http://dhss.delaware.gov/dhss/dph/fluclinics.html.
- For questions on Delaware's weekly flu report, call the DPH Office of Infectious Disease Epidemiology: 302-744-4990.
- For questions regarding influenza vaccination, please call 302-744-1060.