

Influenza Surveillance Report

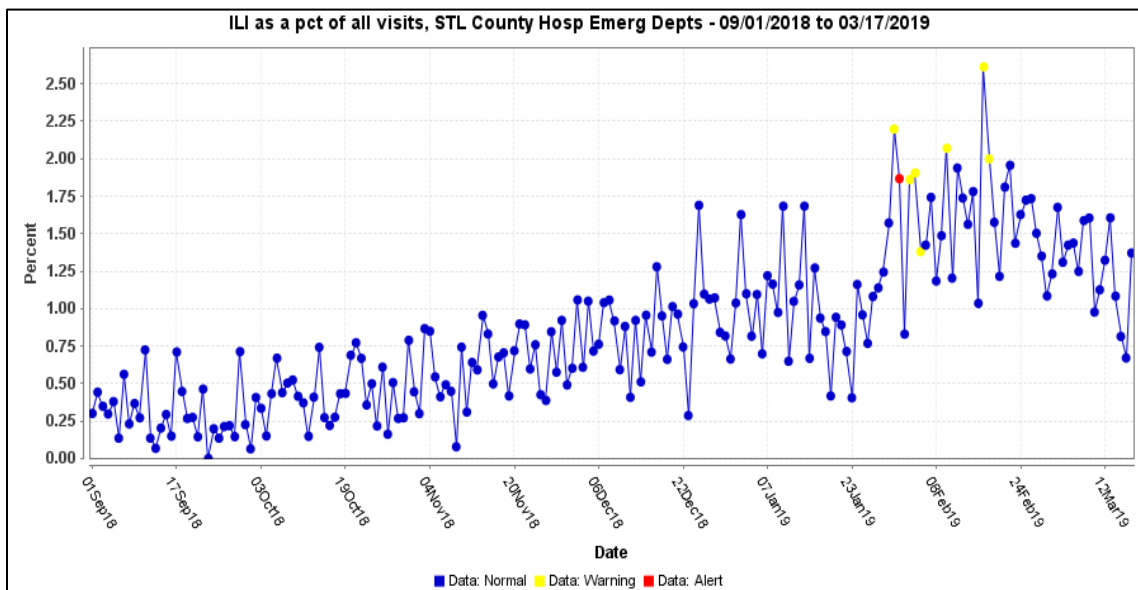
Saint Louis County Department of Public Health
Week Ending 03/17/2019 – Week 11



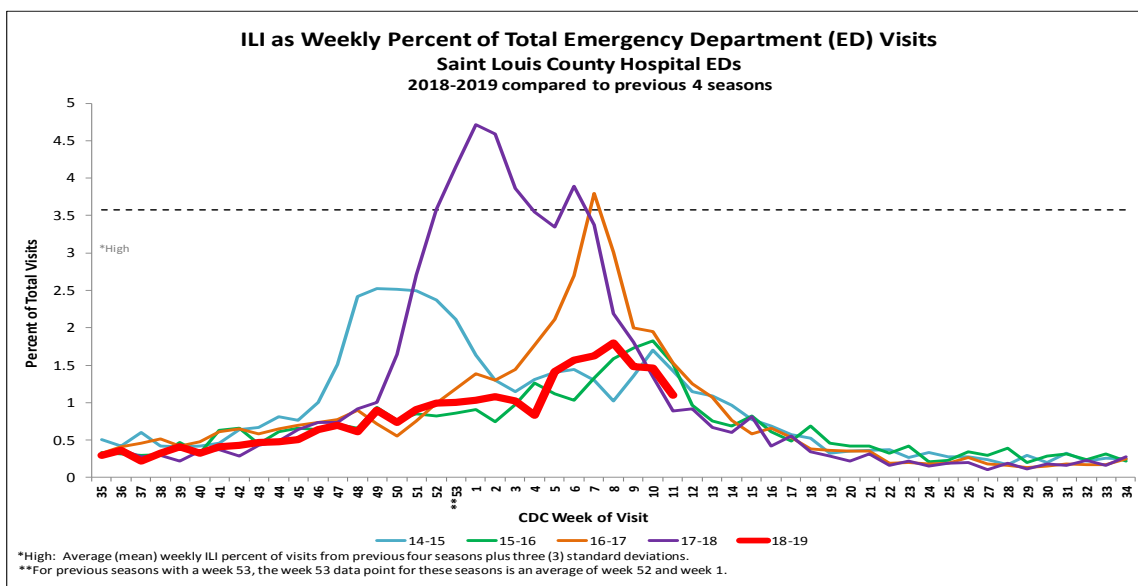
Influenza Surveillance

The Saint Louis County Department of Public Health (DPH) conducts influenza surveillance using three methods – *passive surveillance*, *active surveillance*, and *syndromic surveillance*. Each surveillance method contributes unique information, allowing DPH to gain a fuller picture of influenza activity in Saint Louis County. Although influenza illness occurs year-round, DPH’s seasonal influenza reporting begins in week 40 of one year (e.g., 2018) and continues through week 20 of the following year (e.g., 2019) in order to capture data throughout a typical “flu season.” For additional information on the three types of influenza surveillance, please see the notes at the end of the report.

Syndromic Surveillance for Influenza-Like-Illness (ILI)



As determined by ESSENCE, ILI accounted for 0.67% to 1.61% of daily visits to Saint Louis County hospital emergency departments (EDs) during the week ending 03/17/2019. The number of visits to local hospital EDs for ILI ranged from 9 to 25 per day during the week ending 03/17/2019.



*High: Average (mean) weekly ILI percent of visits from previous four seasons plus three (3) standard deviations.
**For previous seasons with a week 53, the week 53 data point for these seasons is an average of week 52 and week 1.

ILI as a weekly percentage of all visits in Saint Louis County hospital EDs was 1.10%, compared to 0.89% in 2018 and 1.53% in 2017, for week 11.

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Saint Louis County Department of Public Health, Week Ending 03/17/2019



Active Influenza Surveillance

Surveillance sites reported 299 cases of influenza A and 12 cases of influenza B for the week ending 03/17/2019. Influenza A accounted for 96.1% (vs. 3.9% for influenza B) of total influenza cases for the week ending 03/17/2019. For the previous week (ending 03/10/2019), influenza A accounted for 95.6% of total influenza cases. Overall for the 2018-2019 influenza season, influenza A has accounted for 97.4% of total influenza cases.

Influenza Cases by Report Week and Type

Saint Louis County Residents Only

For Cases Reported between 09/24/2018 and 03/17/2019

Week Ending	Type A	Type B	Unk Type	Total
9/30/2018	1	1	0	2
10/7/2018	5	1	0	6
10/14/2018	0	2	0	2
10/21/2018	4	1	0	5
10/28/2018	11	1	0	12
11/4/2018	11	2	0	13
11/11/2018	5	2	0	7
11/18/2018	11	1	0	12
11/25/2018	18	3	0	21
12/2/2018	9	2	0	11
12/9/2018	19	1	0	20
12/16/2018	71	2	0	73
12/23/2018	84	6	0	90
12/30/2018	191	5	0	196
1/6/2019	174	2	0	176
1/13/2019	164	3	0	167
1/20/2019	226	1	0	227
1/27/2019	276	3	0	279
2/3/2019	370	2	0	372
2/10/2019	456	6	0	462
2/17/2019	486	7	0	493
2/24/2019	468	15	0	483
3/3/2019	409	15	0	424
3/10/2019	347	16	0	363
3/17/2019	299	12	0	311
Total	4115	112	0	4227

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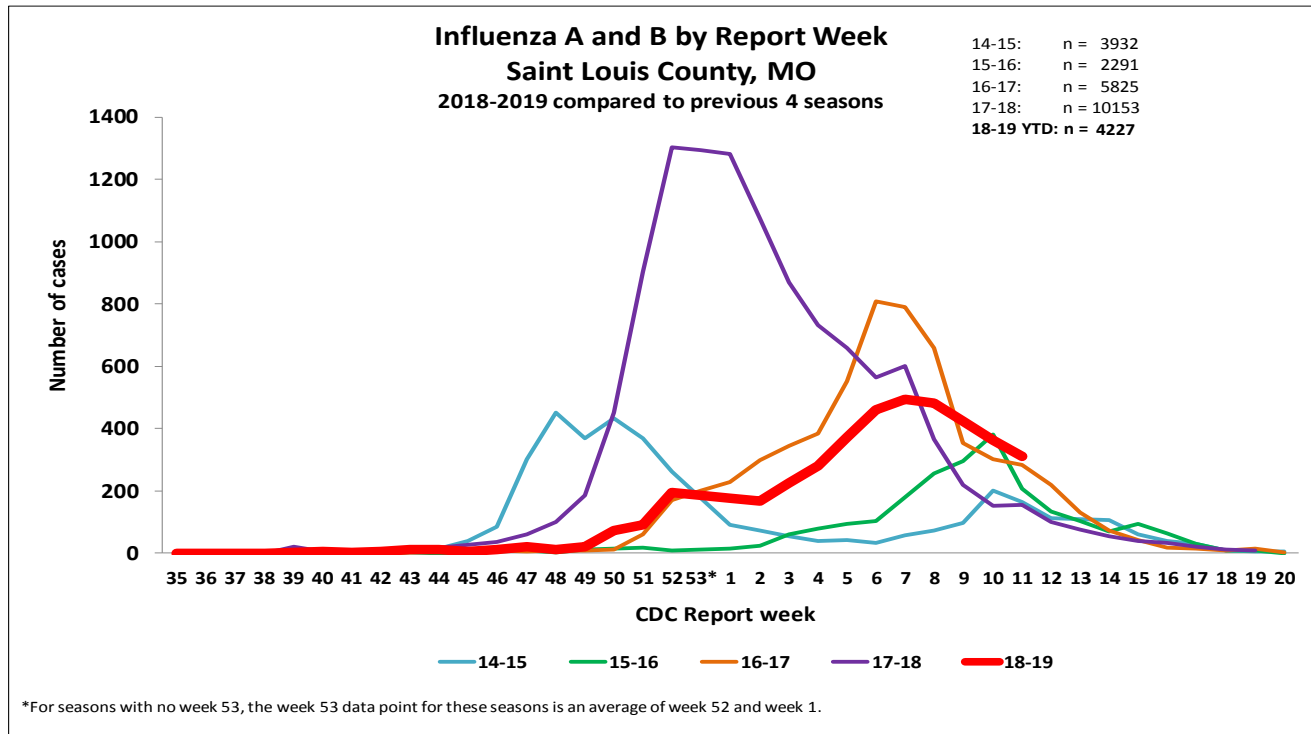
Influenza Cases by Age and Type

Saint Louis County Residents Only

For Cases Reported between 09/24/2018 and 03/17/2019

Age Group	Type A	Type B	Unk Type	Total
	n (% of total)	n (% of total)	n (% of total)	n (%)
00 to <02	352 (8)	6 (0)	0 (0)	358 (8)
02 to 04	565 (13)	6 (0)	0 (0)	571 (14)
05 to 14	1124 (27)	10 (0)	0 (0)	1134 (27)
15 to 24	287 (7)	12 (0)	0 (0)	299 (7)
25 to 49	904 (21)	38 (1)	0 (0)	942 (22)
50 to 64	486 (11)	17 (0)	0 (0)	503 (12)
65+	397 (9)	23 (1)	0 (0)	420 (10)
Total	4115 (97)	112 (3)	0 (0)	4227 (100)

Influenza A and B Cases by CDC Report Week, 2018-2019 Compared to the Previous Four Seasons

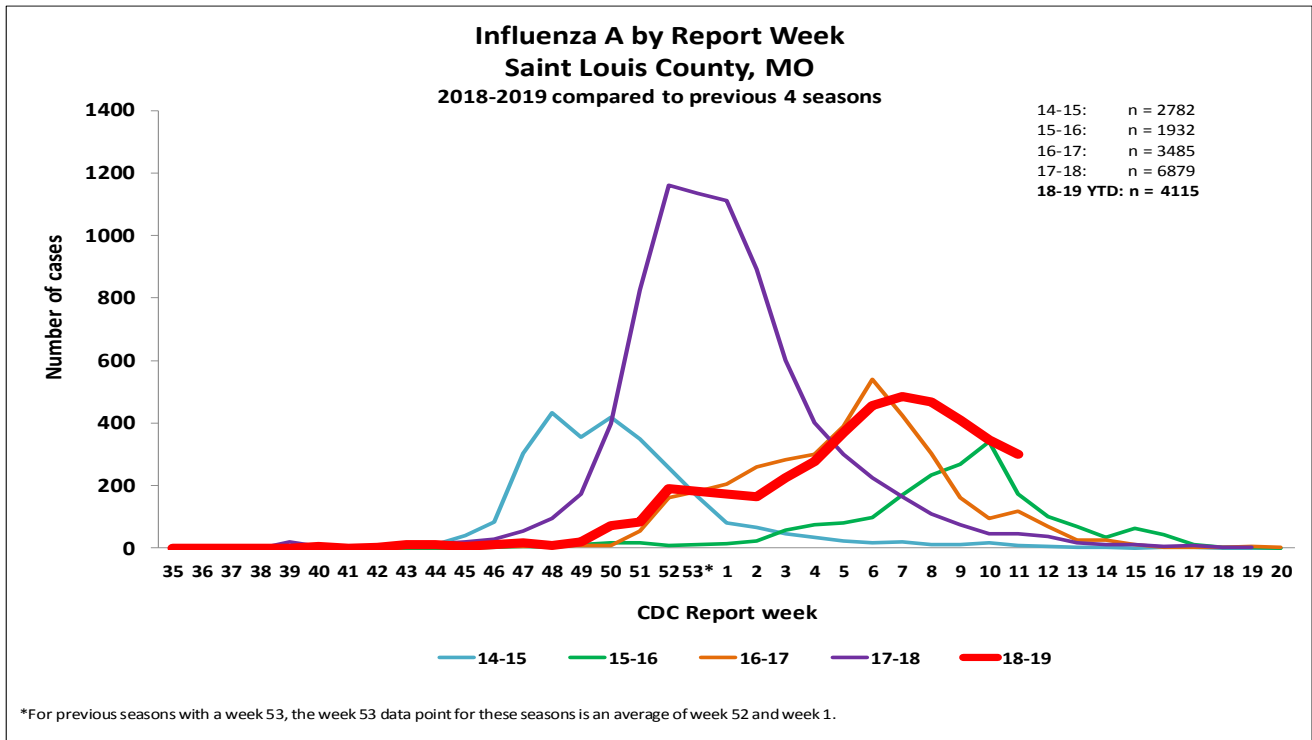


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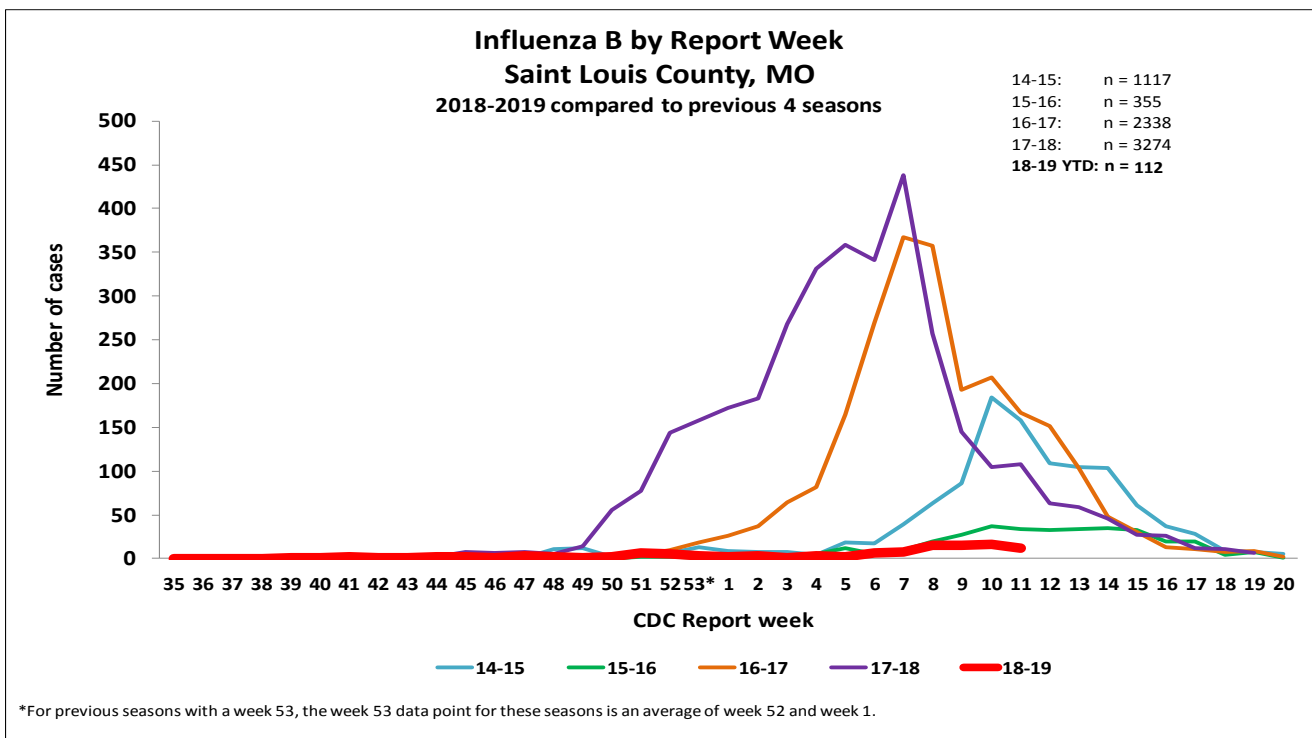
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Influenza A Cases by CDC Report Week, 2018-2019 Compared to the Previous Four Seasons



Influenza B Cases by CDC Report Week, 2018-2019 Compared to the Previous Four Seasons

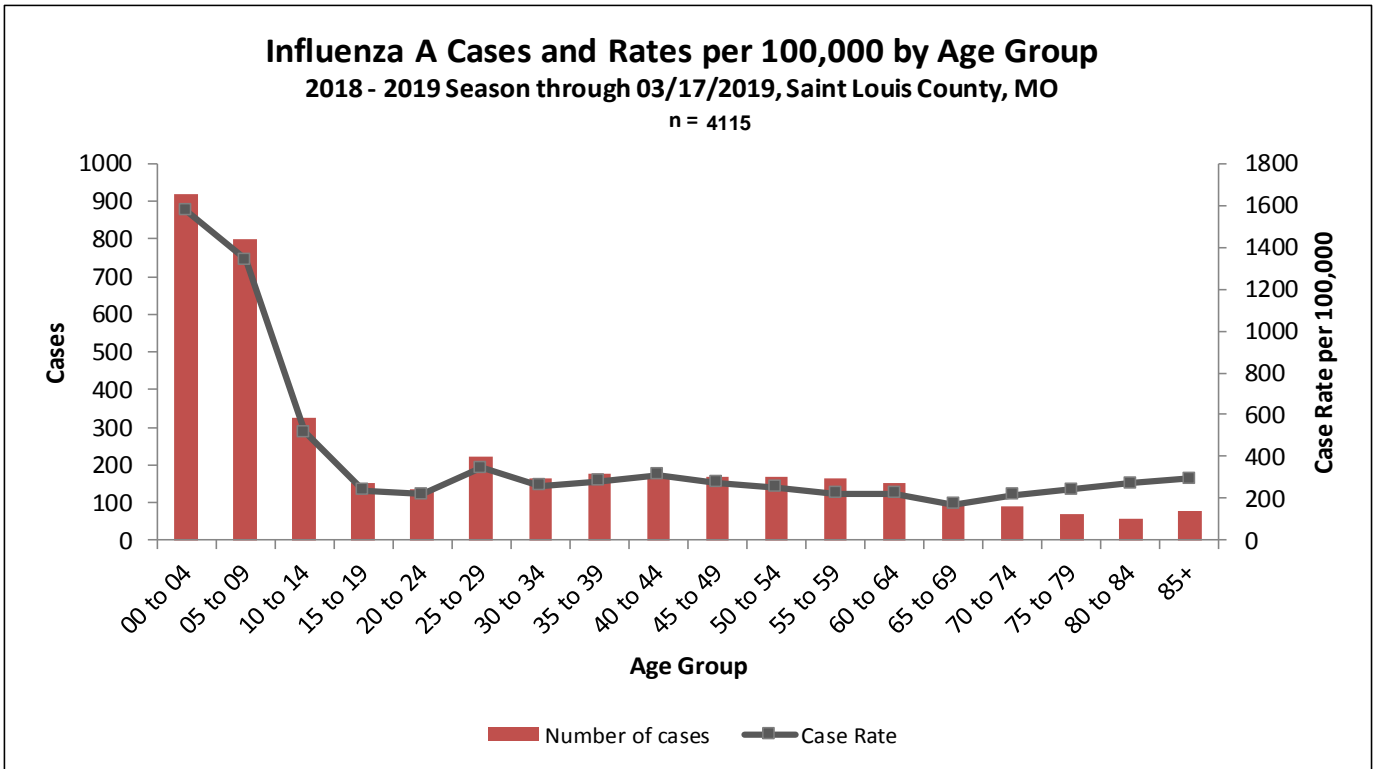


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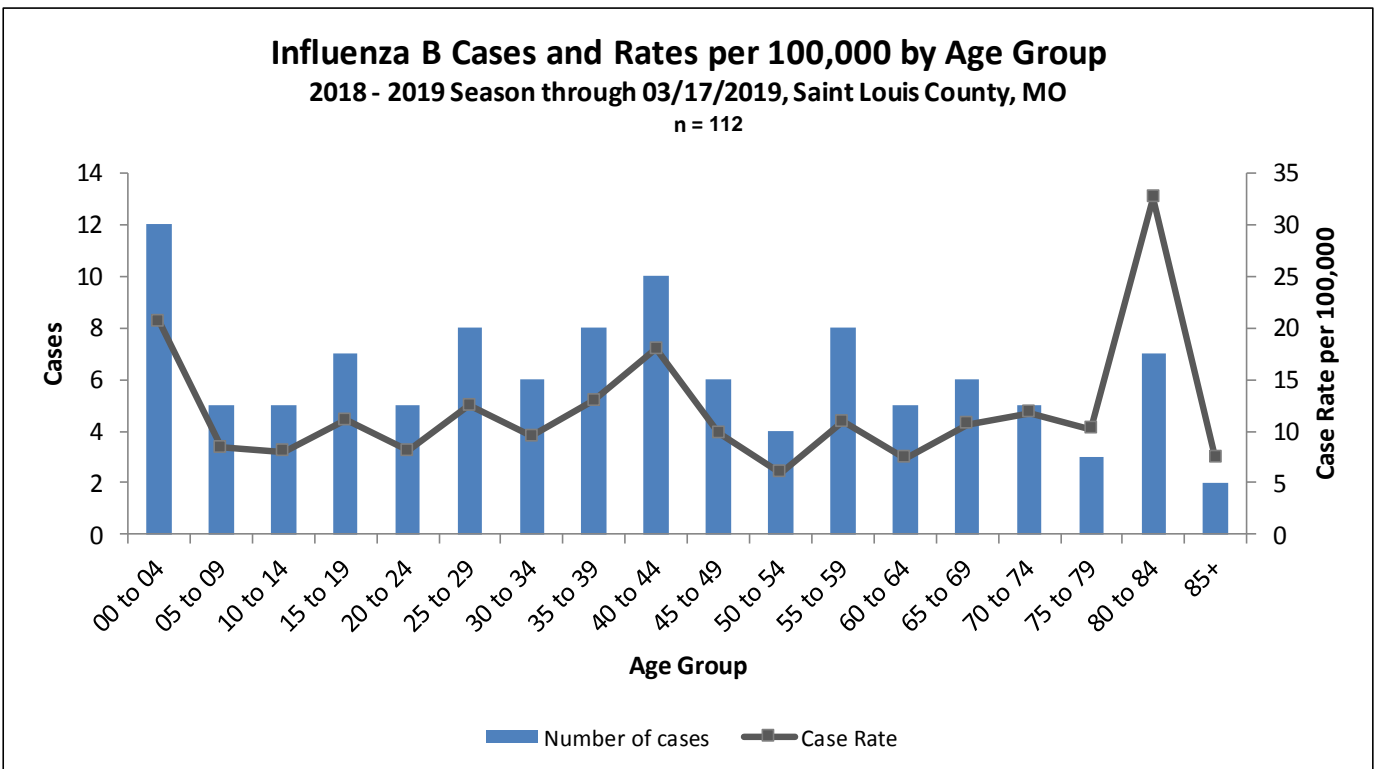
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Influenza A Cases and Rates by Age Group



Influenza B Cases and Rates by Age Group

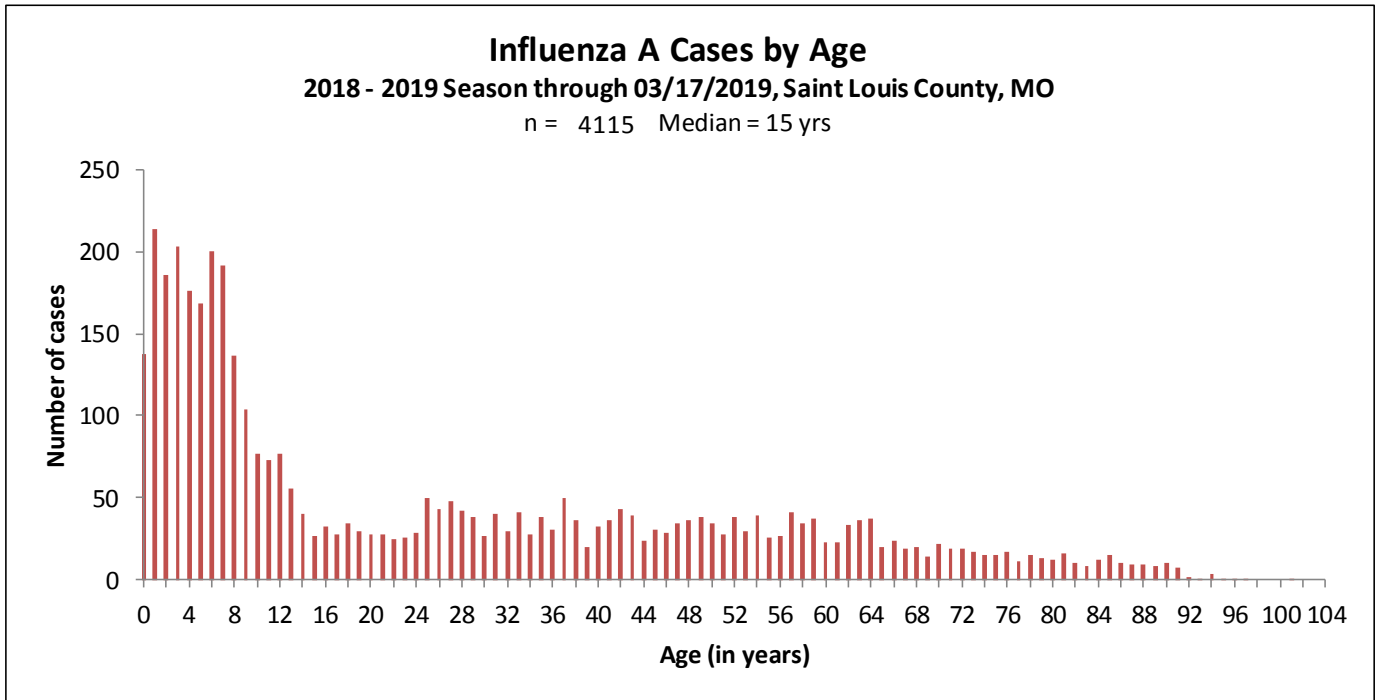


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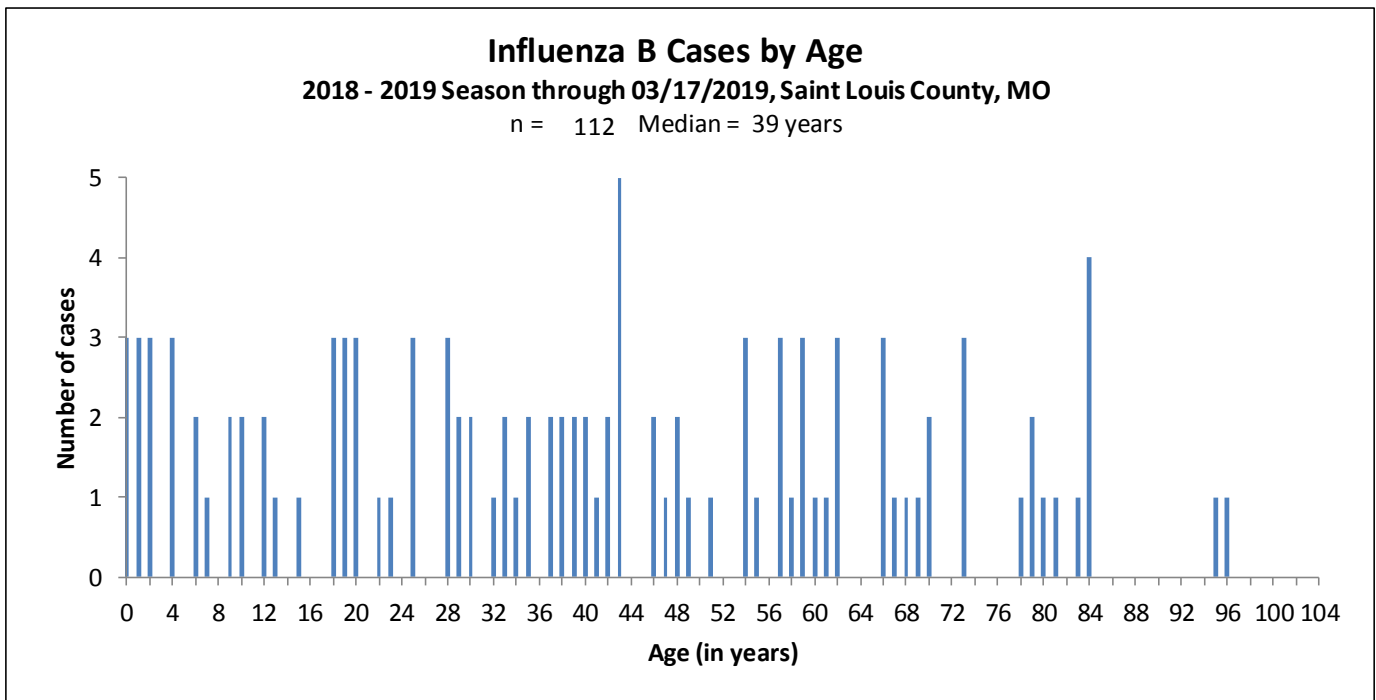
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Influenza A Cases by Age



Influenza B Cases by Age



Influenza Surveillance Report

Saint Louis County Department of Public Health, Week Ending 03/17/2019



Passive Influenza Surveillance

Four-hundred ninety-four total cases of influenza A and 33 cases of influenza B were reported to DPH during the week ending 03/17/2019. Influenza A accounted for 93.7% of total flu cases reported to DPH (vs. 6.3% for influenza B) for the week ending 03/17/2019. For the previous week (ending 03/10/2019), influenza A accounted for 94.4% of total reported influenza cases. Overall for the 2018-2019 influenza season, influenza A has accounted for 95.7% of total reported influenza cases.

Influenza by Report Week and Type

Saint Louis County Residents Only

For Cases Reported between 09/24/2018 and 03/17/2019

Week Ending	Type A	Type B	Unk Type	Total
9/30/2018	5	5	0	10
10/7/2018	7	1	0	8
10/14/2018	8	5	0	13
10/21/2018	7	8	0	15
10/28/2018	13	5	0	18
11/4/2018	16	5	0	21
11/11/2018	14	7	0	21
11/18/2018	20	6	0	26
11/25/2018	21	7	0	28
12/2/2018	11	4	0	15
12/9/2018	28	4	0	32
12/16/2018	78	8	0	86
12/23/2018	108	10	0	118
12/30/2018	227	12	0	239
1/6/2019	232	13	0	245
1/13/2019	235	8	0	243
1/20/2019	237	9	0	246
1/27/2019	412	10	0	422
2/3/2019	562	3	0	565
2/10/2019	728	16	0	744
2/17/2019	912	19	0	931
2/24/2019	740	27	0	767
3/3/2019	716	27	0	743
3/10/2019	588	35	0	623
3/17/2019	494	33	0	527
Total	6419	287	0	6706

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Saint Louis County Influenza Outbreaks:

As of the week ending 03/17/2019, there have been two outbreaks of influenza reported to DPH. Both of these outbreaks occurred in elementary schools.

Weekly Virus/Microbiology Update, St. Louis Children's Hospital*:

<http://slchlabtestguide.bjc.org/Default.aspx?url=de9290b6-e23f-4ab1-95f8-7b481a8eeaa4>

**courtesy of Gregory Storch, MD, and the St. Louis Children's Hospital Clinical Laboratory*

For additional information on national influenza surveillance, please visit the Centers for Disease Control and Prevention website:

<https://www.cdc.gov/flu/weekly/>

For additional information on statewide influenza surveillance, please visit the Missouri Department of Health and Senior Services website:

<http://health.mo.gov/living/healthcondiseases/communicable/influenza/reports.php>

Active, Passive, and Syndromic Influenza Surveillance

Passive surveillance

Influenza is a reportable condition in the state of Missouri; positive influenza tests are reported to DPH year-round. DPH conducts passive influenza surveillance by collecting and aggregating data on all positive influenza tests in Saint Louis County residents. Passive surveillance provides information on the true burden of influenza illness in Saint Louis County, but is limited by variations in testing and reporting practices. If diagnostic tests are not conducted on patients presenting to health care providers with influenza-like-illness, or if test results (e.g., of rapid influenza tests) are not reported to DPH, those persons will not be included in the passive surveillance data. Thus, passive surveillance is likely an underestimate of the true burden of influenza illness in Saint Louis County.

Active surveillance

DPH conducts active influenza surveillance through a network of sentinel providers. This network is geographically distributed throughout the county, comprised of a wide range of care providers, and designed to capture a representative sample of provider types. Although active influenza surveillance does not capture the true magnitude of disease burden, it allows for year-to-year comparisons of influenza data. DPH can then assess trends in influenza data, as well as the relative magnitude of disease burden with respect to previous influenza seasons. Further, DPH works closely with sentinel sites throughout the influenza season, making the active surveillance data less susceptible to bias arising from testing or reporting variation. Because of these advantages, active surveillance using a network of sentinel providers is the primary method of influenza surveillance utilized by DPH.

Syndromic surveillance

DPH uses the ESSENCE system to conduct syndromic surveillance for ILI at Saint Louis County hospital EDs. ESSENCE captures data on all ED visits in persons with chief complaints (rather than final diagnoses or positive laboratory tests) of ILI. ILI chief complaints are those which include the word "influenza" or those that the ESSENCE system parses to [fever and (cough or sore throat)]. The syndromic surveillance data presented above include all visits for ILI (regardless of county of residence) to the ten Saint Louis County hospital EDs that contribute data to the ESSENCE system. Data from private physicians, clinics, or urgent care centers are not included in ESSENCE. Syndromic surveillance contributes to our understanding of the burden of influenza experienced by the health care system, as well as demonstrating the relative impact over time of influenza with respect to other illnesses.