



Dedicated to protecting and improving the health and environment of the people of Colorado

2016-2017 Influenza Season
Reporting through the week ending January 21, 2017
(All data are provisional and may change as more reports are received.)

Overview:

Surveillance for the 2016 -2017 Influenza Season officially began on October 2, 2016, and will run through May 27, 2017. The Colorado Flu Report is published weekly to provide a concise and up to date summary of influenza activity in the State of Colorado. Current surveillance activities include: reporting of hospitalizations due to influenza, reporting of influenza-like illness (ILI) visits by selected sites, reporting of influenza testing activity by sentinel hospital labs, monitoring circulating influenza viruses through molecular typing, reporting outbreaks of influenza in long-term care facilities (LTCF), and reporting of pediatric deaths due to influenza.

Case Reporting:

Beginning with the 2016-2017 influenza season, CDPHE will be using the standard Council of State and Territorial Epidemiologist case definition for hospitalized influenza cases. As of October 2nd, hospitalized flu cases with any positive flu test (including rapid tests) will be considered confirmed. This will allow us to be consistent with other states, the Emerging Infections Program, and CDC. In previous seasons, cases with positive rapid tests were not counted as cases until influenza was widely circulating in the community.

Synopsis: For the week ending January 21, flu activity continued to increase with significant increases in influenza hospitalizations and reports of numerous long-term care facility outbreaks.

- For the week ending January 21, 2017 there were 94 additional influenza hospitalizations reported. The total number of hospitalizations since the beginning of the 2016-17 season is 842.
- Since October 2, 2016, 337 specimens were subtyped by PCR from hospitalized patients. Three-hundred twenty-seven tested positive for influenza A, H3N2 and ten tested positive for influenza A, 2009 H1N1. Four-hundred fifty-nine specimens were positive for influenza A but were not subtyped and 46 were positive for influenza B. Seven of the influenza B specimens had lineage determined - six were Yamagata lineage and one was Victoria lineage.
- Influenza-like illness reported by Kaiser Permanente for the Denver-Boulder metropolitan area increased from 1.3% to 1.4%. Influenza-like illness reported by Mesa County increased from 1.7% to 2.3%.
- Sentinel hospital labs (24 of 26 reporting) tested 1848 specimens and 307 (16.6%) were positive for influenza.
- There have been a total of 49 outbreaks associated with influenza A in long-term care facilities reported since the beginning of the 2016-17 season. Twenty-six of those outbreaks were reported during the first two weeks of January and seven additional outbreaks were reported for the week ending January 21. Of those that have had specimens sub-typed by PCR, they have been overwhelmingly influenza A, H3N2.
- No pediatric deaths associated with influenza have been reported.

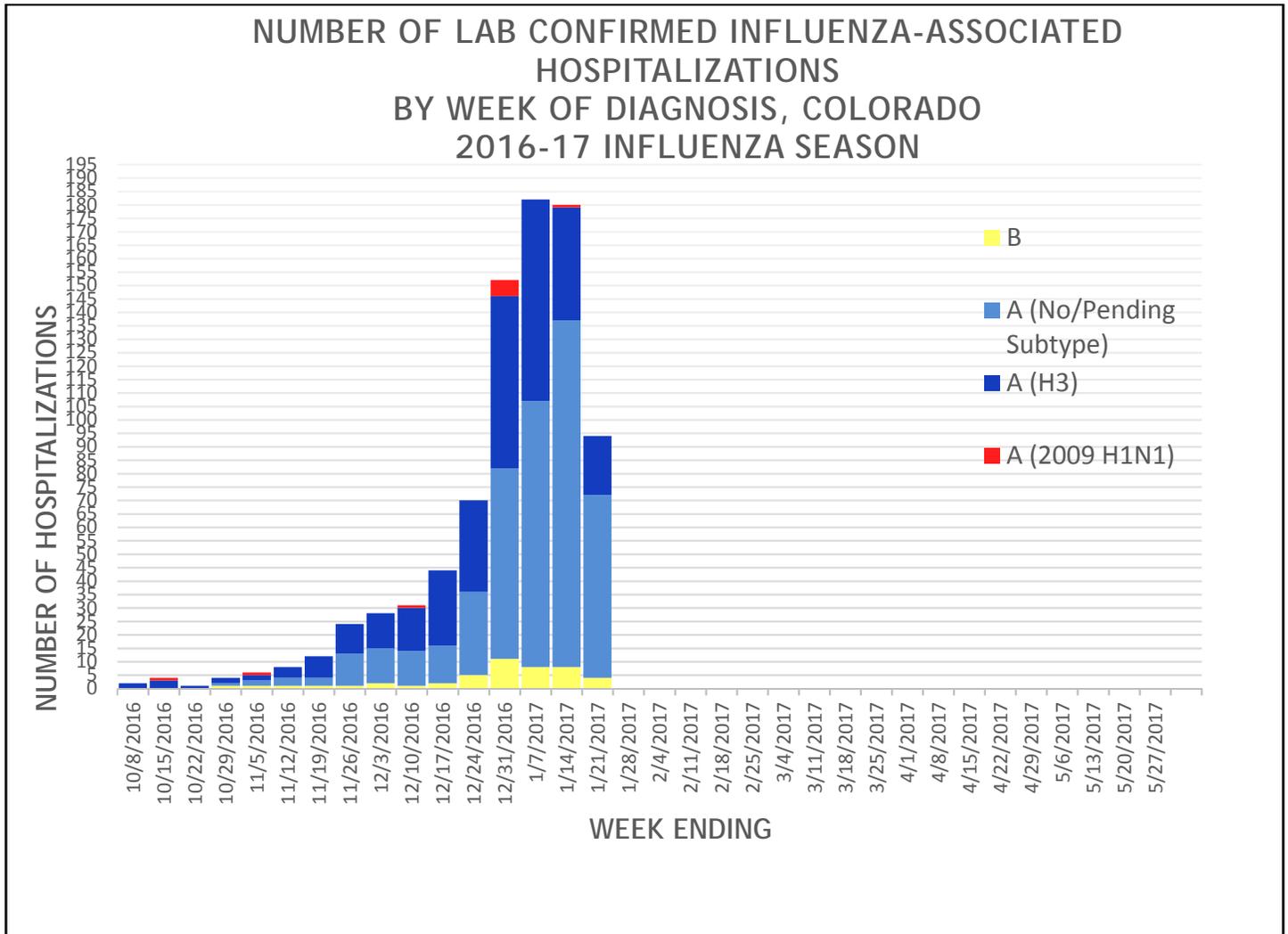
To view Colorado's weekly flu surveillance report, go to:
<https://www.colorado.gov/pacific/cdphe/influenza>

To view the weekly CDC flu surveillance Reports, go to:
<http://www.cdc.gov/flu/about/season/current.htm>

Hospitalizations

Due to reporting delays, the numbers of hospitalizations by week are recalculated each week.

Figure 1.



It should be noted that more confirmatory testing is being done in the Denver Metro area due to a CDC funded enhanced surveillance project. This is expected to result in more complete ascertainment of influenza hospitalizations in the Denver Metro area compared to other parts of the state.

Table 1. Influenza Associated Hospitalizations by County by Diagnosis Date, 2016 - 2017

County	1/15/17 through 1/21/17 Current Week Diagnosed Cases					10/02/16 through 1/21/17 Cumulative Diagnosed Cases					Rate per 100,000
	2009 H1N1	H3	Type A	Type B	TOTAL	2009 H1N1	H3	Type A	Type B	TOTAL	
Total	0	22	68	4	94	10	327	459	46	842	15.5
Adams	0	1	5	1	7	0	30	31	7	68	13.9
Alamosa					0	0	0	1	0	1	6.2
Arapahoe	0	2	9	0	11	2	43	47	5	97	15.4
Archuleta					0					0	0.0
Baca					0	0	0	1	0	1	27.8
Bent					0	0	0	1	0	1	17.1
Boulder	0	0	1	0	1	2	6	27	0	35	11.0
Broomfield					0	0	3	5	0	8	12.3
Chaffee	0	0	0	1	1	0	0	0	1	1	5.4
Cheyenne					0					0	0.0
Clear Creek					0					0	0.0
Conejos					0					0	0.0
Costilla					0					0	0.0
Crowley					0					0	0.0
Custer					0	0	0	1	0	1	22.4
Delta	0	0	2	0	2	0	0	4	1	5	16.7
Denver	0	2	8	0	10	0	57	65	8	130	19.0
Dolores					0					0	0.0
Douglas	0	0	3	0	3	1	15	26	2	44	13.7
Eagle					0	0	1	2	0	3	8.5
El Paso	0	0	9	1	10	1	47	69	4	121	17.9
Elbert					0	0	0	1	0	1	4.0
Fremont	0	0	5	0	5	0	1	12	1	14	30.1
Garfield	0	2	0	0	2	2	9	0	1	12	20.7
Gilpin					0					0	0.0
Grand					0	0	0	1	0	1	6.8
Gunnison					0					0	0.0
Hinsdale					0					0	0.0
Huerfano					0					0	0.0
Jackson					0	0	0	1	0	1	74.0
Jefferson	0	3	7	1	11	2	32	50	3	87	15.4
Kiowa					0					0	0.0
Kit Carson					0	0	0	1	0	1	12.1
Lake					0					0	0.0

La Plata					0	0	0	4	3	7	12.7
Larimer	0	2	0	0	2	0	23	18	1	42	12.6
Las Animas	0	0	1	0	1	0	0	2	0	2	14.2
Lincoln					0					0	0.0
Logan					0	0	1	1	0	2	9.0
Mesa	0	5	6	0	11	0	18	18	2	38	25.5
Mineral					0					0	0.0
Moffat					0	0	1	0	0	1	7.7
Montezuma					0	0	0	0	1	1	3.8
Montrose	0	0	1	0	1	0	1	2	0	3	7.3
Morgan					0	0	2	5	0	7	24.8
Otero	0	1	0	0	1	0	1	0	0	1	5.5
Ouray					0					0	0.0
Park					0	0	1	4	1	6	36.0
Phillips					0					0	0.0
Pitkin					0	0	0	0	1	1	5.6
Prowers					0	0	1	0	0	1	8.4
Pueblo	0	4	7	0	11	0	20	44	2	66	40.4
Rio Blanco					0					0	0.0
Rio Grande					0					0	0.0
Routt	0	0	1	0	1	0	0	4	0	4	16.6
Saguache					0					0	0.0
San Juan					0					0	0.0
San Miguel					0					0	0.0
Sedgwick					0					0	0.0
Summit					0	0	0	1	0	1	3.3
Teller					0	0	0	0	1	1	4.3
Washington					0					0	0.0
Weld	0	0	3	0	3	0	14	9	1	24	8.4
Yuma					0	0	0	1	0	1	9.9

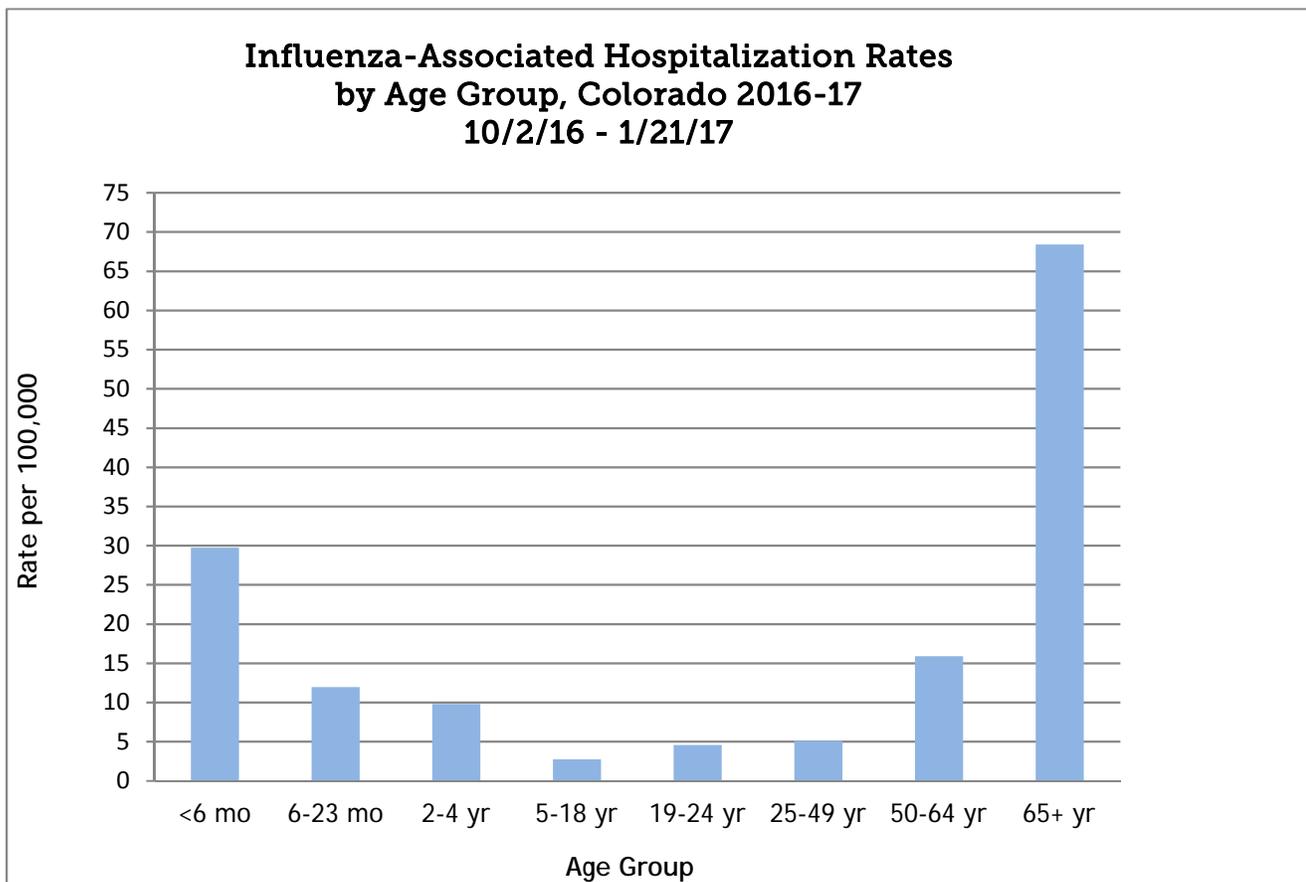
Counties listed above have reported influenza-associated hospitalizations during the 2016/17 season

Table 2. Influenza-Associated Hospitalizations by Age Group, Colorado 2016-2017

October 2, 2016 -January 21, 2017

Age	No.*	%	CO population	Rate per 100,000
<6 mo	10	1.2	33657	29.7
6-23 mo	12	1.4	100574	11.9
2-4 yr	20	2.4	203660	9.8
5-18 yr	28	3.3	1017121	2.8
19-24 yr	21	2.5	461147	4.6
25-49 yr	95	11.3	1863842	5.1
50-64 yr	169	20.1	1064243	15.9
65+ yr	487	57.8	712208	68.4
Total	842	100	5456452	15.5

Figure 2.



Influenza specimens from hospitalized patients are tested by hospital labs and the Colorado Department of Public Health and Environment laboratory. The table below reflects both PCR and rapid antigen testing performed, by current week and cumulative totals since Oct 2, 2016. Forty-percent of influenza specimens submitted from hospitalized patients were subtyped by PCR and of those specimens, influenza A H3N2 is the predominant subtype identified through January 21.

Table 3. Virologic Surveillance, Colorado 2016-2017

	January 15-21, 2017 (Week 3)	Data Cumulative Oct 2, 2016-Jan 21, 2017
Total Positive Specimens (Rapid and PCR)	94	842
Influenza A	90 (96%)	796 (95%)
A (2009 H1N1)	0 (0%)	10 (1%)
H3N2	22 (24%)	327 (41%)
Subtyping not performed	68 (76%)	459 (58%)
Influenza B	4 (4%)	46 (5%)
Yamagata lineage	0 (0%)	6 (13%)
Victoria lineage	0 (0%)	1 (2%)
Lineage not performed	4 (100%)	39 (85%)

Influenza-Like Illness (ILI) Surveillance

The percentages shown in the graphs below are based on the number of primary care office visits assigned a diagnosis consistent with influenza-like illness, divided by the total number of clinic visits for the week from Kaiser Permanente Colorado (Denver-Boulder area) and Primary Care Partners, P.C. in Mesa County.

Figure 3.

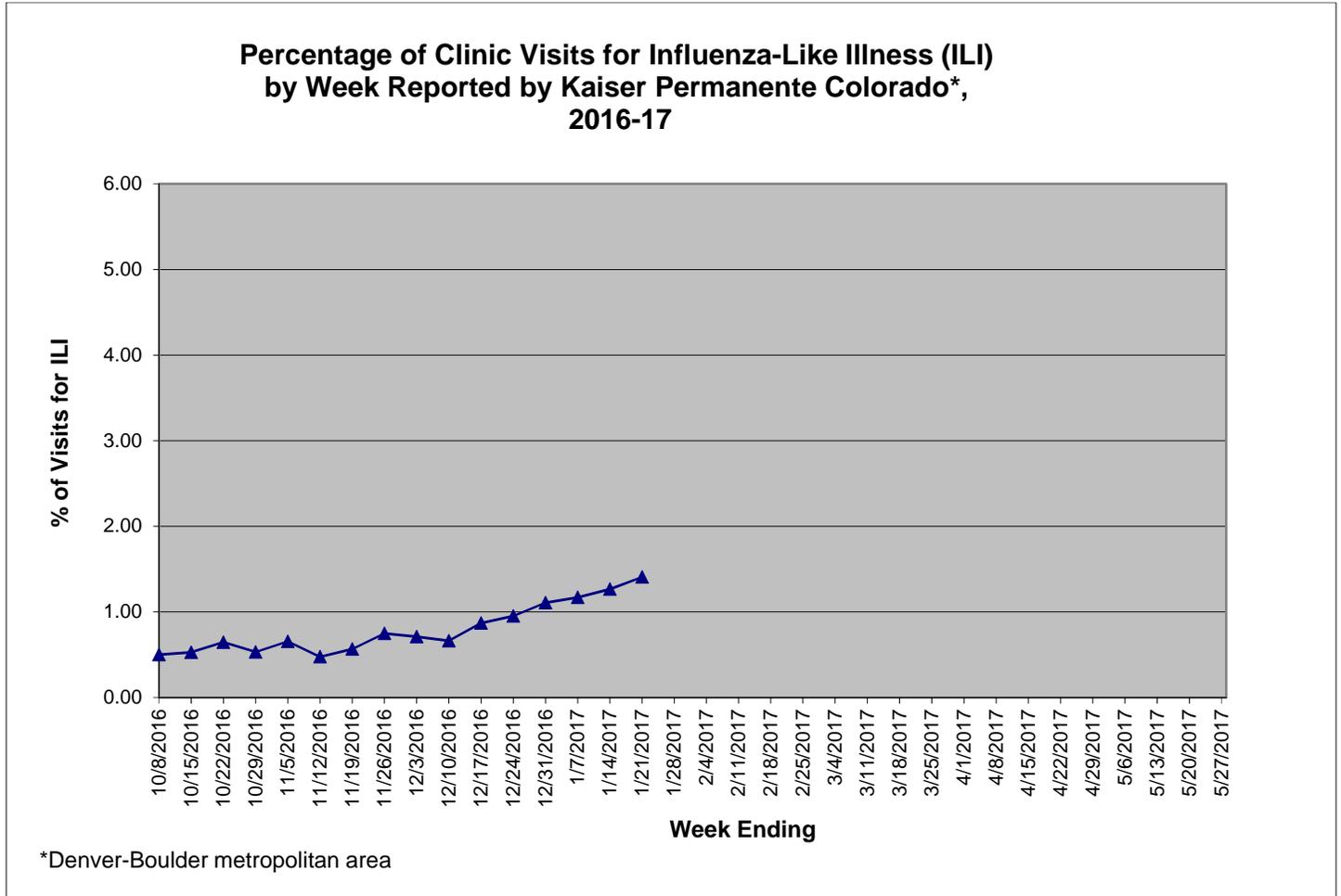


Figure 4.

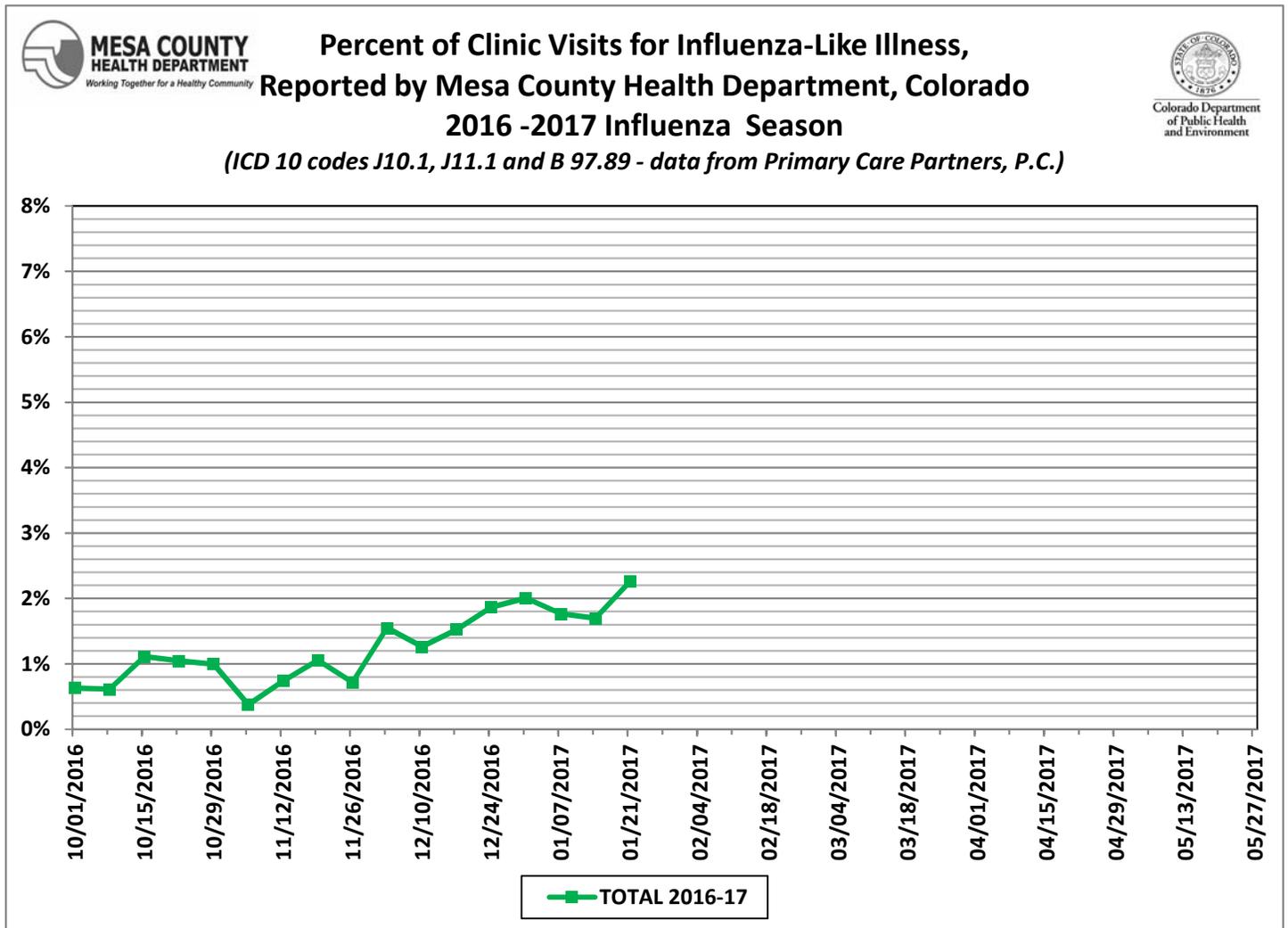


Figure 5.

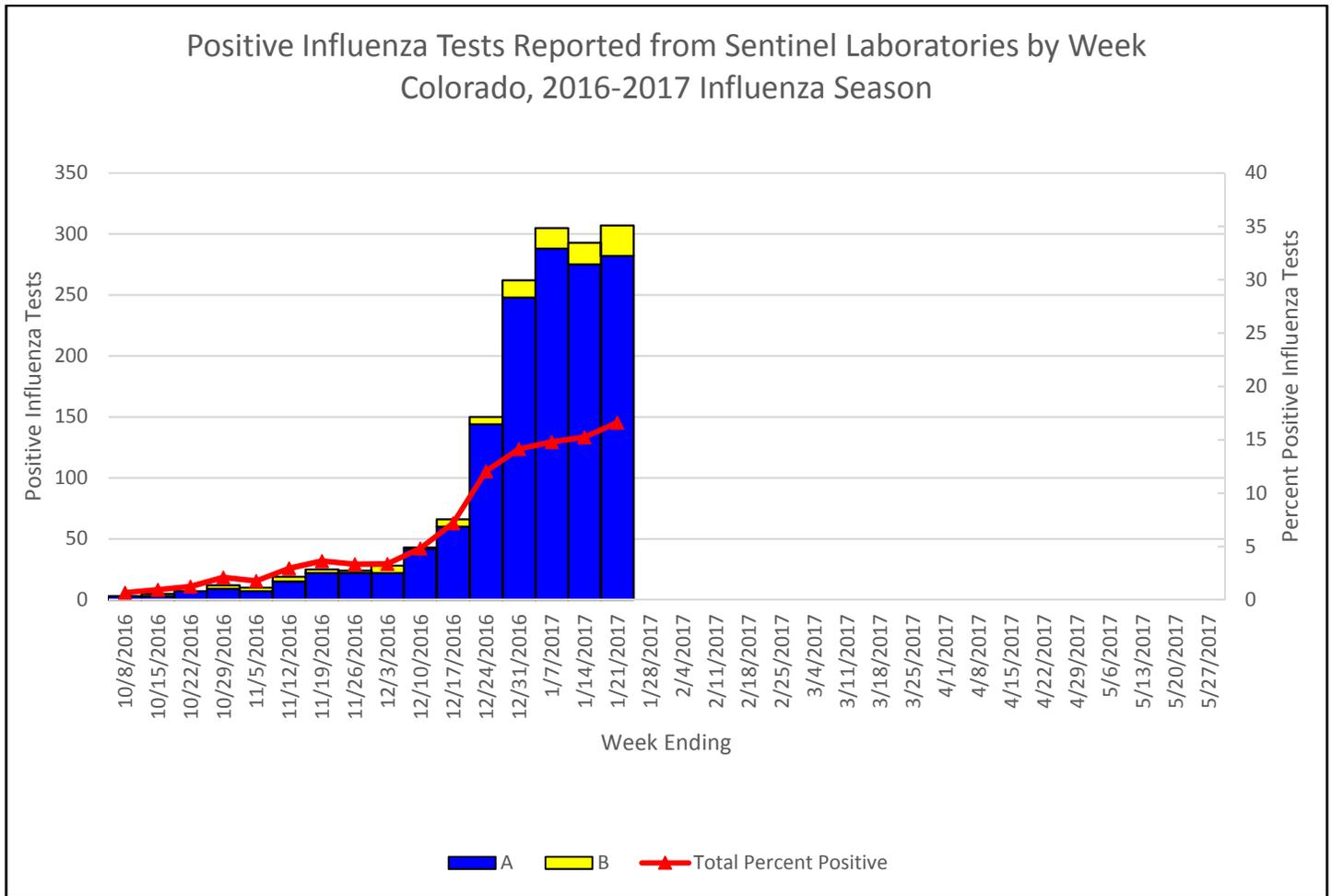
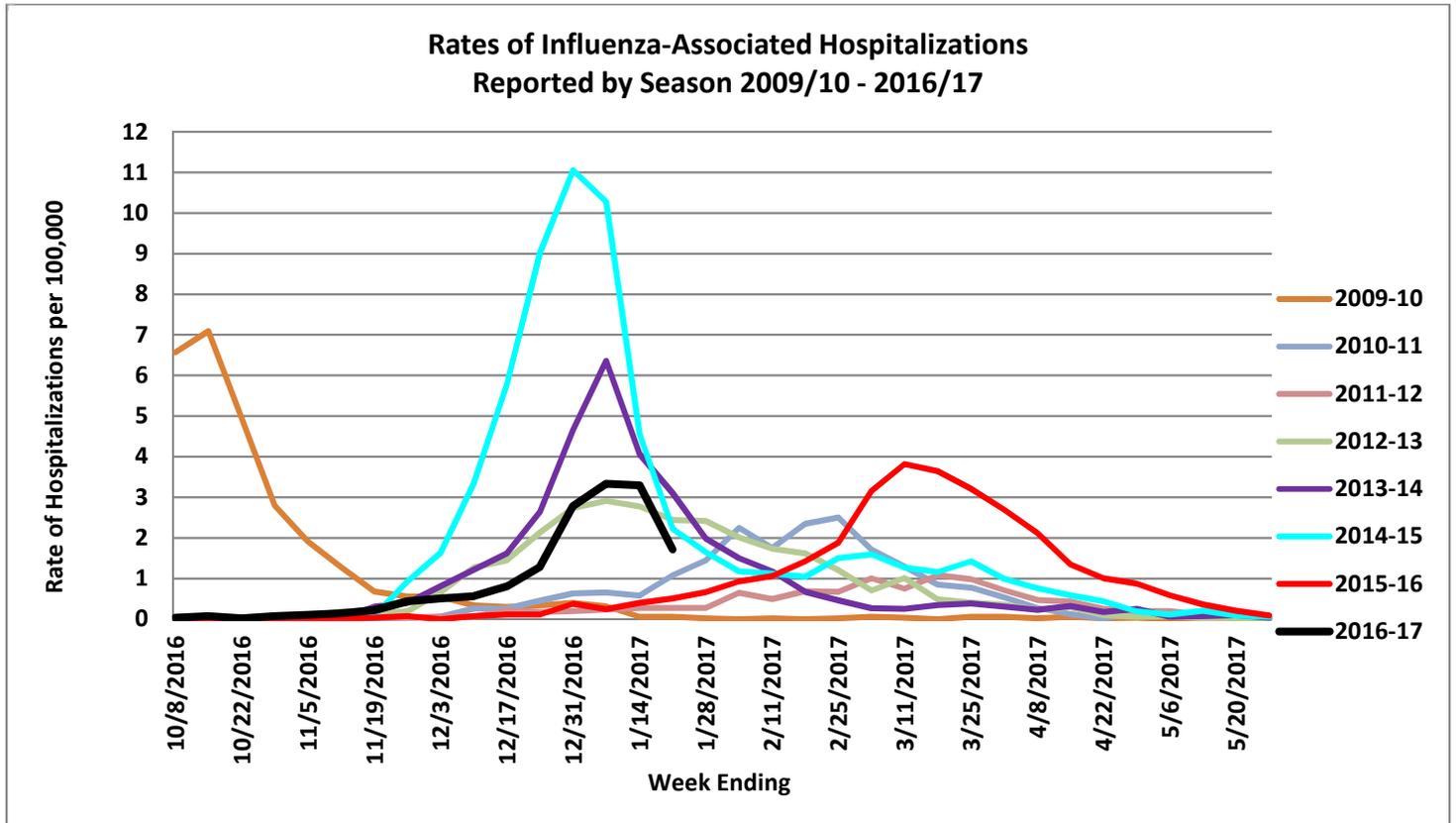


Figure 6.



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