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Influenza Surveillance Summary Colorado, 2007-2008

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http://www.cdphe.state.co.us/dc/Influenza/index.html

Summary

Influenza activity in Colorado during the 2007-2008 season was greater than the previous two seasons. Based on data from influenza-associated hospitalizations and sentinel providers' reports, activity peaked in mid-to-late February. As in previous years, influenza-associated hospitalization rates showed a bimodal distribution with the highest rates in children less than two years of age and adults 70+ years old. There were two reported pediatric deaths. The number of outbreaks reported from long-term care facilities was considerably higher than previous years.

Influenza Type B was identified in 35% of reported hospitalizations. Influenza B viruses antigenically characterized by CDC belonged to a different lineage than the one included in this season's vaccine.

Components of Colorado's influenza surveillance

Influenza surveillance in Colorado during the 2007-2008 season was based on the following components: reports of influenza-associated hospitalizations, influenza-like illness (ILI) reported by sentinel providers and Kaiser Permanente Colorado, numbers and percent positive influenza lab tests reported by sentinel laboratories, circulating strain surveillance, influenza-associated pediatric deaths and reports of influenza outbreaks in long-term care facilities (LTCF).

Reports of influenza-associated hospitalizations

Influenza activity remained low until January, steadily increasing until the peak for both Type A and Type B-associated hospitalizations during the week ending February 23rd. There were a total of 1004 reported influenza-associated hospitalizations from 09/30/07 through 5/24/08 in Colorado. Among reported cases with specified influenza virus type, 65% were type A and 35% were type B.

The highest age group specific rates of reported hospitalizations were in infants <6 months of age (Table 2), followed by persons 80 years of age or older. Children 6-23 months of age and adults 70-79 years old had the third and fourth highest rates. Among the type B-associated hospitalizations, 43% were persons over 70 years of age (compared to 29% of type A-associated hospitalizations in this age group).

Reported rates of influenza-associated hospitalizations are especially likely to under-represent true rates of influenza-related hospitalizations among older persons. Such persons are probably less likely to be tested for influenza and rapid flu tests have been demonstrated to be less sensitive in adults than in children.

Table 1. Numbers of Reported Influenza-Associated Hospitalizations Colorado, 2004/05 – 2007/08

Flu Season	Hospitalizations
2004-05	980
2005-06	848
2006-07	364
2007-08	1004

Number of reported influenza-associated hospitalizations by week of diagnosis, Colorado 2007-08 influenza season

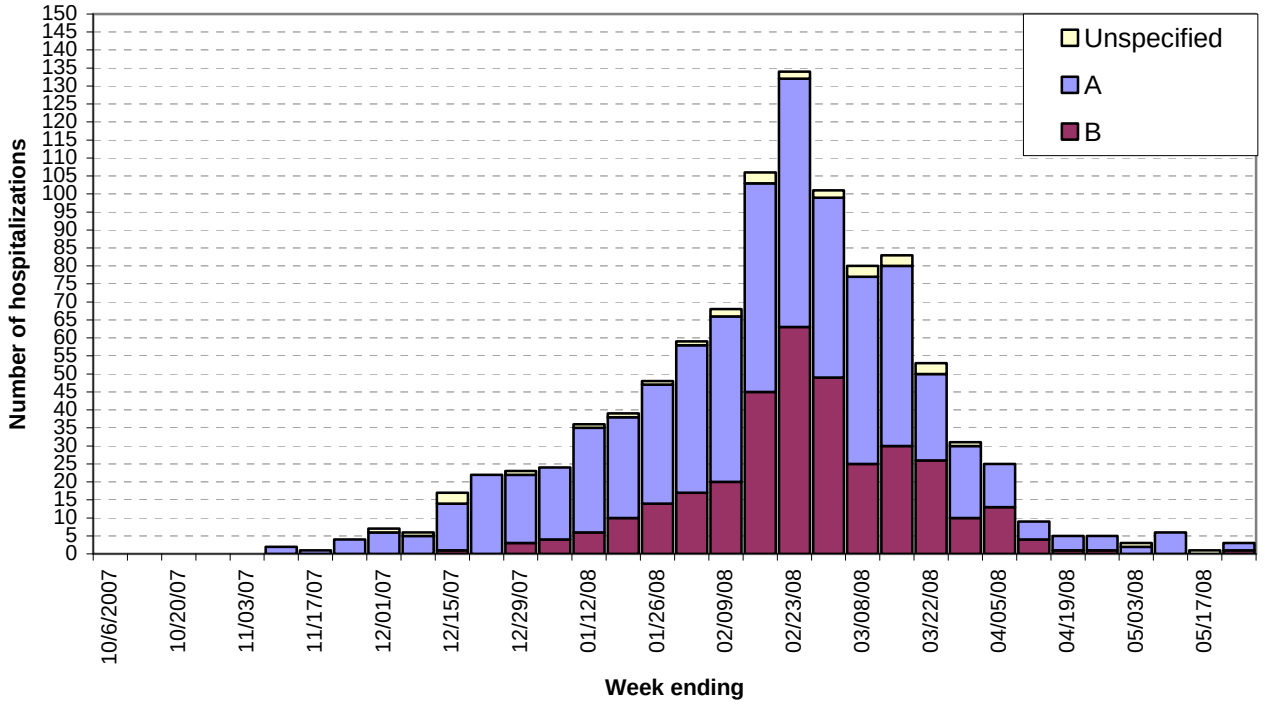
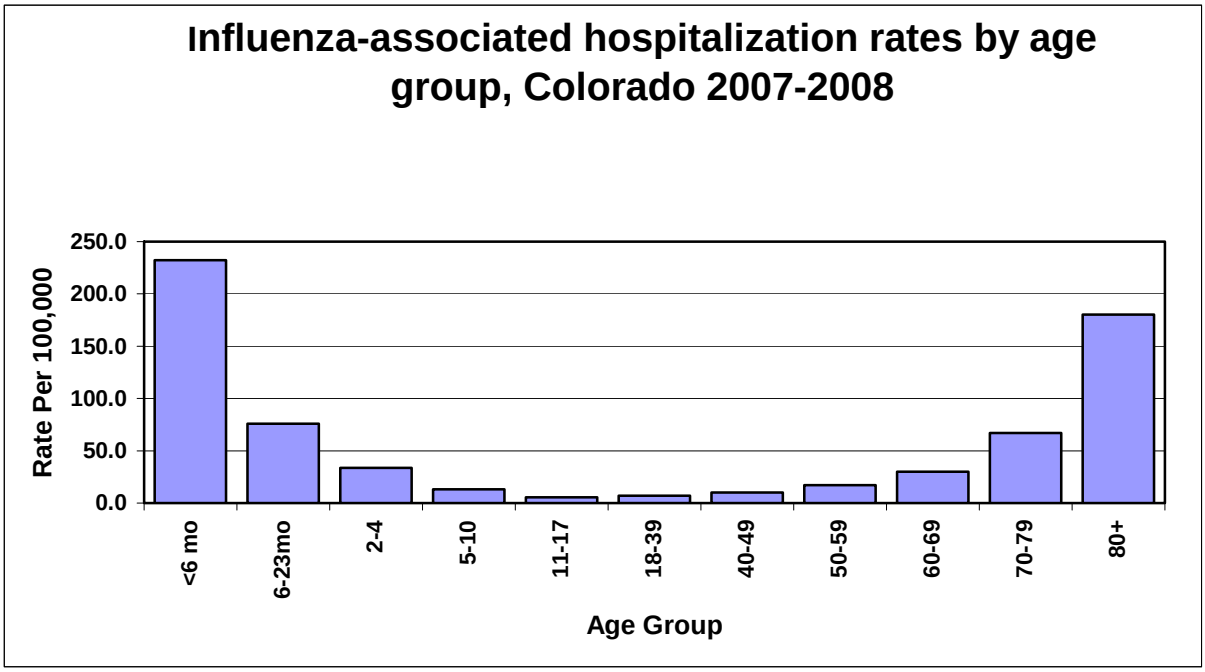


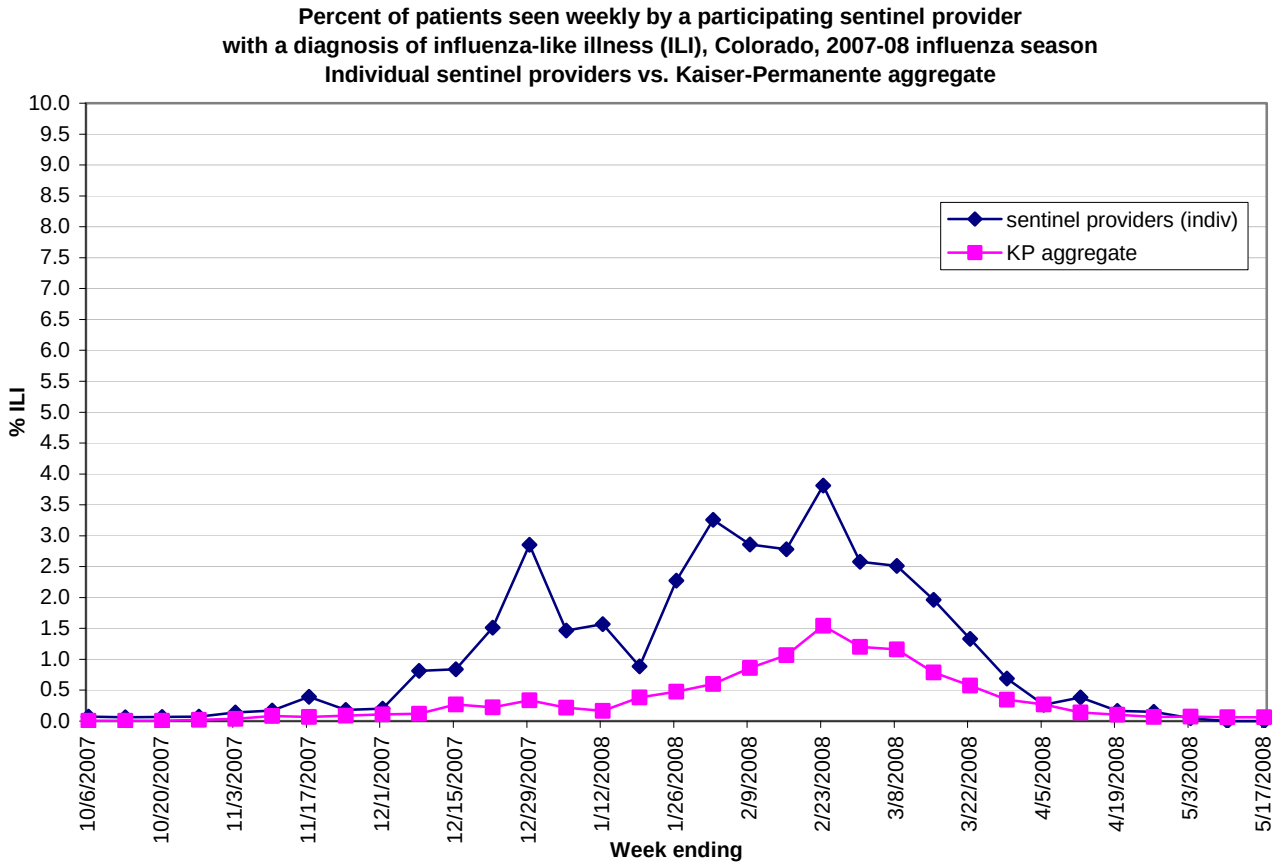
Table 2. Influenza-Associated Hospitalizations
By age group, Colorado 2007-2008

Age	No.	%	Rate per 100,000
<6 mo	79	8.0	232.3
6-23mo	78	7.8	76.0
2-4	65	6.5	33.6
5-10	49	4.9	13.0
11-17	25	2.5	5.5
18-39	104	10.3	7.0
40-49	76	7.6	10.2
50-59	96	9.6	17.1
60-69	90	9.0	29.8
70-79	135	13.4	67.1
80+	207	20.6	180.3
Total	**1004**	**100**	**21.9**



Reports of influenza-like illness (ILI) by sentinel providers

Sentinel providers report the total number of patient visits each week and number of patient visits for ILI by age group. Kaiser Permanente Colorado reports influenza-like illness based on ICD-9 codes (i.e., diagnostic codes) from their electronic medical records database. These reports indicate that influenza activity in the community during the 2007-2008 season was more active than during the previous season with a distinct peak during the week ending February 23rd, decreasing thereafter.



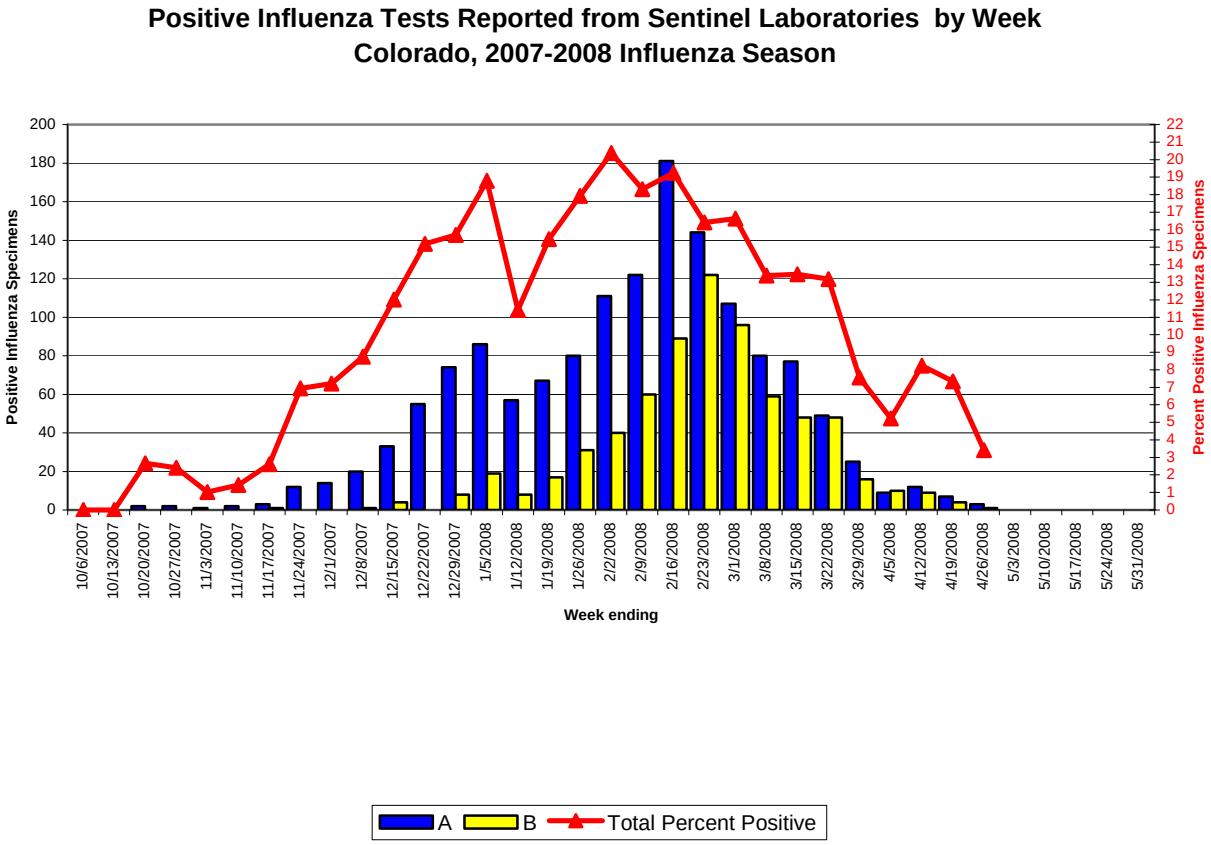
Circulating strain surveillance

An important component of influenza surveillance consists of the typing and subtyping of influenza virus isolates throughout the season to determine the circulating strain(s) of influenza virus. Sentinel providers and hospital laboratories submit clinical specimens to the state laboratory where virus isolation, typing and subtyping are performed. Some of these are then sent to CDC for further antigenic characterization (assessment of match to the vaccine strains).

Based on typing and subtyping at the state laboratory, influenza A (H1N1) viruses predominated through late January. After that, influenza A (H3N2) viruses were more frequently identified. Type B viruses comprised 47% of positive influenza tests reported by sentinel laboratories driving the peak two weeks of type B activity (see graph).

Sentinel laboratory reporting of influenza testing

The percentage of respiratory specimens that tested positive for influenza at 16 sentinel labs peaked in early February (red line in graph below).



Reports of pediatric deaths due to influenza

During the 2007-08 influenza season, there were two pediatric deaths reported, which is comparable to the previous three flu seasons.

Reports of influenza outbreaks in long-term care facilities (LTCF)

Long-term care facilities (LTCF) are requested to report outbreaks of influenza or ILI. The number of outbreaks reported during the 2007-2008 flu season (n = 48) was considerably higher than the number reported during the previous season (n = 15). The number of outbreaks reported peaked during the week ending March 1st.