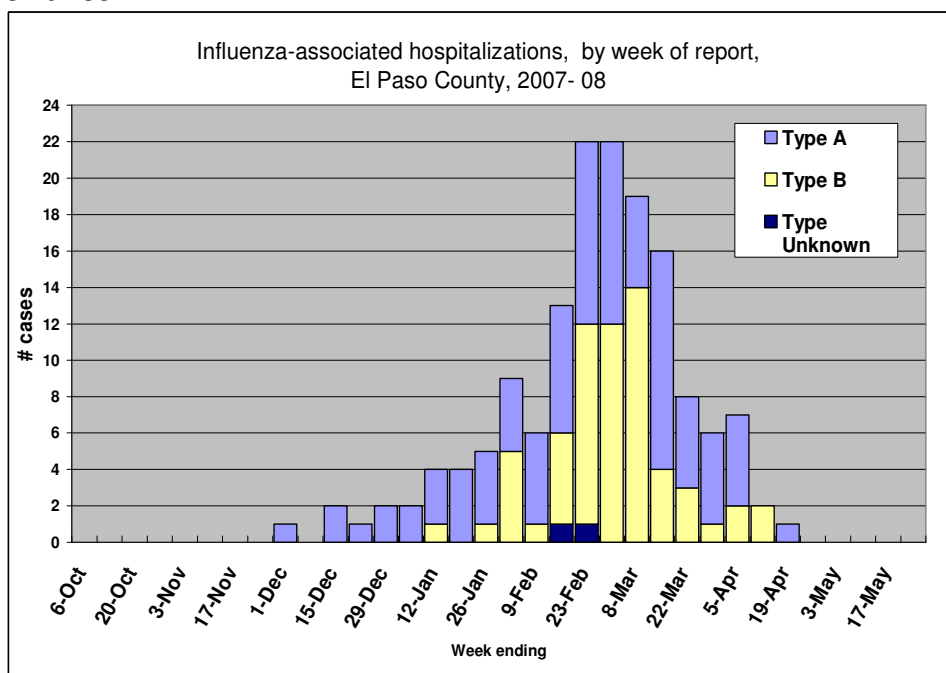


**El Paso County Department of Health and Environment  
Communicable Disease Program  
Summary of the 2007-08 Influenza Season**

**State and County Influenza Surveillance**

Seasonal influenza surveillance in Colorado is conducted on several levels. Since the 2004-05 influenza season, healthcare providers and hospitals are required to report influenza-associated hospitalizations and pediatric (<18 years) influenza-related deaths. In addition, the Colorado Department of Public Health and Environment (CDPHE) conducts weekly surveillance of influenza-like illness (ILI) among sentinel providers in 12 counties plus Kaiser Permanente Colorado in the Denver metro area. ILI surveillance consists of weekly reporting of the proportion of patient visits attributed to ILI. Laboratory influenza testing data is gathered weekly from statewide sentinel laboratories



that report the number and proportion of positive respiratory specimens for influenza A and B. The CDPHE Laboratory subtypes influenza specimens that test positive for influenza A by PCR. Lastly, influenza outbreaks in long term care facilities (LTCF) are also reportable and are monitored locally and by CDPHE.

Surveillance in Colorado for the 2007-08 influenza season ended on May 24, 2008. Influenza activity in El Paso County and in Colorado showed a fairly typical pattern that was also observed nationally, with low levels of activity from October through early December, increased activity beginning in mid-December, and a spike in reported cases in January and February of 2008. Influenza activity peaked in mid-February and then gradually decreased through the end of the season in mid-May (see figure above). The number of influenza-associated hospitalizations statewide was 1004 — including 152 from El Paso County. The adjacent table outlines the distribution of El Paso County hospitalizations by age group and gender. There were 8 influenza outbreaks reported from LCTFs in El Paso County this season, and 2 pediatric influenza-related deaths in Colorado — neither were from El Paso County.

<b>Characteristic of influenza-associated hospitalizations (El Paso County)</b>	<b># of cases (% of total cases)</b>
<b>Age group</b>	
<6 months	13 (8.6%)
6 months to 4 years	28 (18.4%)
5 to 17 years	17 (11.2%)
18 to 59 years	42 (27.6%)
60 to 79 years	28 (18.4%)
80 years and older	24 (15.8%)
<b>Gender</b>	
Male	76 (50%)
Female	76 (50%)

**Influenza Season Severity**

The severity of an influenza season in Colorado is assessed using several elements of surveillance, particularly the rates of influenza-associated hospitalization, influenza-related deaths and LTCF outbreaks. The Centers for Disease Control and Prevention (CDC) rated the 2007-08 influenza season in the United States as being more severe than the previous three seasons. However in Colorado, our data showed that 2007-08 was more severe than the last **two** seasons and similar in severity to 2004-05. This past season was much more active than 2006-07, when there were only 26 influenza-associated hospitalizations in El Paso County and 365 in Colorado, with one pediatric death.

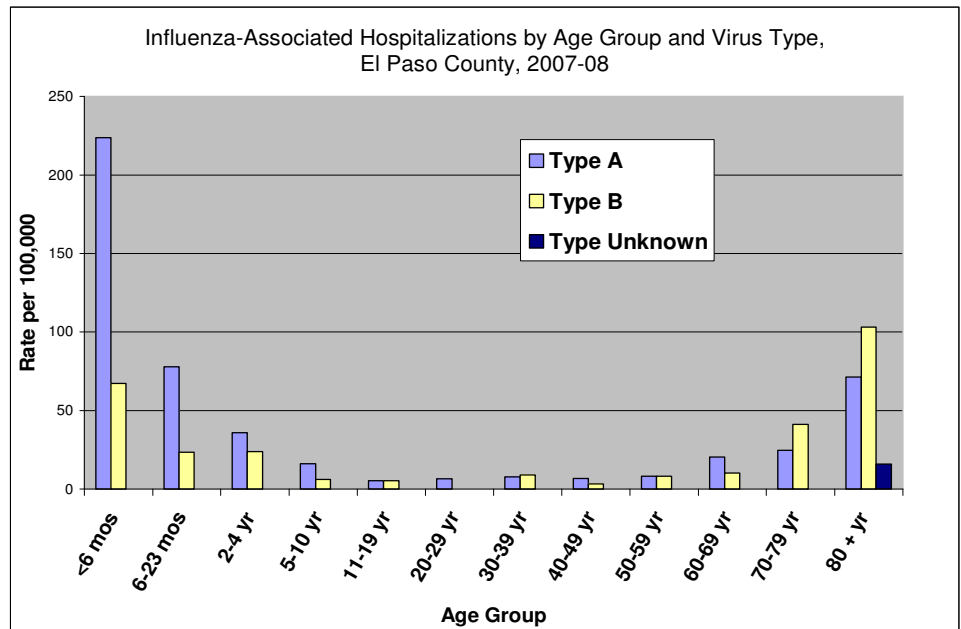
**Vaccine Effectiveness**

In the United States, influenza A (H1N1), A (H3N2) and influenza B viruses co-circulated throughout the season. Influenza A viruses accounted for 71% of the positive specimens tested by public health laboratories, while influenza B accounted for 29%. From September 2007 to early 2008, influenza A (H1N1)

viruses predominated. Influenza type A (H3N2) was most commonly reported from January to March 2008, while the proportion of type B viruses increased substantially from March 2008 to the end of the season. Based on testing by the CDC, the majority of circulating influenza A (H1N1) viruses were found to be the same as the H1N1 strain included in the 2007-08 vaccine formulation. However, only 20% of circulating influenza A (H3N2) viruses matched the vaccine strain and only 3% of influenza B viruses had antigenic similarity to the vaccine strain.

When there is good match between circulating influenza virus and vaccine viral strains, clinical trials have shown influenza vaccine effectiveness (VE) between 70% and 90% in preventing laboratory-confirmed influenza infection among healthy adults. In contrast, interim results from a study carried out during the 2007-08 season in Marshfield, Wisconsin showed an overall vaccine effectiveness (VE) of 44%. The VE was 58% against type A (H3N2) viruses and there was no effectiveness measured against influenza B viruses [no influenza A (H1N1) viruses were detected in their study population, so VE against this viral strain could not be assessed]. While these results are preliminary, they suggest that despite a less than ideal match between circulating and vaccine influenza strains, the 2007-08 vaccine still provided a substantial amount of protection against influenza. The CDC gathers data from several geographic locations across the country to provide measurements of VE across areas where different influenza strains have predominated. The remainder of VE data is still being collected and should be available later in 2008. For further information regarding vaccine effectiveness and selection of viruses for inclusion in 2008-09 influenza vaccine, visit the CDC web site at: <http://www.cdc.gov/flu/about/ga/season.htm>.

The adjacent figure shows the El Paso County rate of influenza-associated hospitalizations by age group and viral type for 2007-08. The highest rates were seen among infants less than 6 months of age and elderly persons 80 years of age and older. Interestingly, the rate of influenza A hospitalization was significantly higher among young infants, while the rates of influenza A and B were similar among the elderly population. The data suggests that influenza vaccine may have reduced rates of influenza disease in the commonly vaccinated elderly population—particularly for influenza A which had reasonably good vaccine strain match.



Comparatively, the rates of influenza A in the unimmunized infant population was dramatically higher, as that age group (<6 months) is too young to receive vaccine. Influenza vaccination remains the most important preventive measure to reduce the risk of getting influenza infection and to lessen illness severity and prevent influenza-related complications.

### Updates for the 2008-09 Influenza Season

The Advisory Committee on Immunization Practices (ACIP) recently published recommendations for the 2008-09 influenza season [MMWR July 17, 2008]. Principal updates and changes include: 1) a new recommendation that annual vaccination be administered to all children aged 5-18 years, beginning in the 2008-09 influenza season, if feasible, but no later than the 2009-10 influenza season; 2) a recommendation that annual vaccination of all children aged 6 months through 4 years (59 months) continue to be a primary focus of vaccination efforts because these children are at higher risk for influenza complications compared with older children; 3) a new recommendation that either trivalent inactivated influenza vaccine or live, attenuated influenza vaccine (LAIV) be used when vaccinating healthy persons aged 2 through 49 years (the previous recommendation was to administer LAIV to person aged 5-49 years); 4) a recommendation that 2008-09 vaccines contain the trivalent vaccine virus strains A/Brisbane/59/2007 (H1N1)-like, A/Brisbane/10/2007 (H3N2)-like, and B/Florida/4/2006-like antigens; and 5) new information on antiviral resistance among influenza viruses in the United States. This report and other information are available at CDC's influenza website (<http://www.cdc.gov/flu>), including any updates to these recommendations that may occur during the 2008-09 influenza season.