Summary of the 2016-17 influenza season

Pierce County

Tacoma-Pierce County Health Department has received a total of six reports of influenza-related hospitalizations since March. The last reported influenza-associated death was March 28. The Health Department received 637 reports of influenza-related hospitalizations from CHI Franciscan and MultiCare health systems (75.4 per 100,000 population). The numbers of influenza-related hospitalizations and deaths peaked the first week of January. Influenza A resulted in 94% of hospital admissions, influenza B resulted in 6%. Influenza B caused two influenza-associated deaths. Most influenza virus infections were diagnosed with rapid tests and were not subtyped. Of those that were subtyped, 47 were influenza A H3 and 7 were influenza A H1.

Ages of patients hospitalized with influenza ranged from one week to 103 years. The median age of hospitalized patients was 65 years and the median age of patients who died was 74 years. There was a significant difference between the mean ages of those who survived to discharge and those who died: 65 years vs. 74 years (p = 0.004). The proportion of patients hospitalized with influenza who were obese (BMI > 30 kg/m²) was significantly greater than the proportion of Pierce County residents who are obese (40% vs. 31%, p < 0.05). The proportion of normal weight individuals (BMI 18.5 to 25 kg/m²) hospitalized with influenza was significantly lower than the proportion of normal weight Pierce County residents (28% vs 37%, p < 0.05). Among adults for whom data were available (460), chronic heart/cardiovascular disease (43%), chronic lung disease (35%), and diabetes (31%) were the most frequently identified comorbid conditions.

[Graph: Influenza hospitalizations 2016-17]
Pierce County influenza tests
2016-17

Influenza-associated deaths
Pierce County, 2016-17

Influenza mortality, 2016-17

Deaths per 100,000 population

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Pierce County</th>
<th>Washington State</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 to 24</td>
<td>0</td>
<td>0</td>
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<tr>
<td>25 to 49</td>
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<tr>
<td>50 to 64</td>
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<td>0</td>
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<tr>
<td>≥ 65 years</td>
<td>39</td>
<td>41</td>
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**Washington State**

For the week ending May 6, the state had a total of 275 laboratory-confirmed influenza deaths this season including five pediatric deaths. Of those, 257 died from influenza A, 16 from influenza B. A subset of specimens from Washington State was antigenically characterized by Centers for Disease Control and Prevention (CDC), all of which were matched to the components of the 2016-17 seasonal influenza vaccines.

**U.S.**

For the week ending May 6, influenza activity in the U.S. is decreasing. Influenza B is the most frequently identified virus public health laboratories have reported. Influenza A H3N2 has been the predominant virus circulating in the U.S. this season. Nationally, health officials recorded a total of 91 influenza-associated pediatric deaths. The estimated cumulative hospitalization rate is 64.3 per 100,000 population. Of the specimens antigenically characterized, 95.6% of influenza A H3N2, 99.3% of influenza A H1N1, 87.7% of influenza B Victoria lineage, and 100% of influenza B Yamagata lineage were matched to the components of the 2016-17 seasonal influenza vaccines.

**Summary**

Pierce County saw a high number of influenza-related hospitalizations and deaths during the 2016-17 influenza season. Influenza activity has remained low in the county for the last two months. Available laboratory data show that influenza A H3N2 was the predominant virus circulating this season. Mortality is usually higher in years during in which H3N2 predominates than years when influenza A H1N1 is the predominant virus. We identified older age, obesity, and concurrent cardiovascular disease, lung disease, and diabetes as risk factors for hospitalization and death due to influenza in Pierce County. Normal weight had a protective effect against influenza-related hospitalization.

Because of the differences in reporting requirements, comparing county, state, and national-level influenza data can be challenging. Influenza is not a notifiable condition, however, pediatric influenza deaths and novel influenza virus infections are nationally notifiable conditions. In Washington State, all laboratory-confirmed influenza deaths are notifiable. In Pierce County, MultiCare and CHI Franciscan health systems report influenza associated hospitalizations to the Health Department. Department epidemiology staff review the electronic medical records (EMR) of all persons who died from influenza and/or complications of influenza who were hospitalized at the time. We also review the records of patients hospitalized with influenza, however, a complete review of all records is not possible because of time constraints. Therefore, staff do not collect risk factor data on all patients hospitalized with influenza. Influenza immunization data are not reliably captured in EMRs or the Washington State Immunization Information System, so an analysis of the effect of immunization on hospitalization and death because of influenza is not possible. As previously noted, we received more reports of influenza deaths during that 2016-17 influenza season than those reported in the three last influenza seasons combined. This may be due in part to improved reporting from the health care systems.

According to a preliminary estimate, the 2016-17 influenza vaccine is as effective as seasonal vaccines from other years when there has been a good match between circulating viruses and vaccine viruses. Vaccination remains the most effective way to reduce the risk of influenza and its complications. The CDC’s advisory Committee on Immunization Practices recommends annual seasonal influenza immunization for everyone over 6 months of age. In spite of the recommendation, uptake of influenza vaccine remains low. We encourage health care providers to make a strong recommendation for seasonal influenza vaccine to their clients, especially those who are at increased risk for complications and death due to influenza.
References

