

# Report on H1N1 cases in California shows hospitalization can occur at all ages, with many severe

November 3 2009

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In contrast with some common perceptions regarding 2009 influenza A(H1N1) infections, an examination of cases in California indicates that hospitalization and death can occur at all ages, and about 30 percent of hospitalized cases have been severe enough to require treatment in an intensive care unit, according to a study in the November 4 issue of *JAMA*.

"Since April 17, 2009, when the first 2 cases of pandemic [influenza A\(H1N1\) virus infection](#) were reported in California, the virus has rapidly spread throughout the world," the authors write. They add that preliminary comparisons with seasonal influenza suggest that this influenza infection disproportionately affects younger ages and causes generally mild disease.

Janice K. Louie, M.D., M.P.H., of the California Department of Public Health, Richmond, Calif., and colleagues examined the clinical and epidemiologic features of the first 1,088 hospitalized and fatal cases due to pandemic 2009 influenza A(H1N1) infection reported in California, between April 23 and August 11, 2009. On April 20 of this year the California Department of Public Health and 61 local health departments initiated enhanced surveillance for hospitalized and fatal cases of this infection.

The researchers found that of the 1,088 A(H1N1) cases, 344 (32

percent) were children younger than 18 years, with infants having the highest rate of hospitalization and persons age 50 years or older having the highest rate of death once hospitalized. The median (midpoint) age of all cases was 27 years. Fever, cough, and shortness of breath were the most common symptoms. Underlying conditions previously associated with severe influenza were reported in 68 percent of cases. Other underlying medical illnesses recorded included obesity, hypertension, hyperlipidemia and gastrointestinal disease. The median length of hospitalization among all cases was 4 days.

Three hundred forty cases (31 percent) were admitted to intensive care units, and of the 297 intensive care cases with available information, 65 percent required mechanical ventilation. Of the 884 cases with available information, 79 percent received antiviral treatment, including 496 patients (71 percent) with established risk factors for severe influenza. Of the 833 patients who had chest radiographs, 66 percent had infiltrates (evidence of infection involving the lungs), suggestive of pneumonia or acute respiratory distress syndrome. Rapid antigen tests were falsely negative in 34 percent of cases evaluated.

"Overall fatality was 11 percent (118/1,088) and was highest (18 percent - 20 percent) in persons aged 50 years or older," the researchers write. "Of the deaths, 8 (7 percent) were children younger than 18 years. Among fatal cases, the median time from onset of symptoms to death was 12 days." The most common causes of death were viral pneumonia and acute respiratory distress syndrome.

"In the first 16 weeks of the current pandemic, 2009 influenza A(H1N1) appears to be notably different from seasonal influenza, with fewer hospitalizations and fatalities occurring in elderly persons. In contrast with the common perception that pandemic 2009 influenza A(H1N1) infection causes only mild disease, hospitalization and death occurred at all ages, and up to 30 percent of hospitalized cases were severely ill.

Most hospitalized cases had identifiable established risk factors; obesity may be a newly identified risk factor for fatal pandemic 2009 influenza A(H1N1) infection and merits further study."

"Clinicians should maintain a high level of suspicion for pandemic 2009 influenza A(H1N1) infection in patients presenting currently with influenza-like illness who are older than 50 years or have known risk factors for influenza complications, regardless of rapid test results. Hospitalized infected cases should be carefully monitored and treated promptly with antiviral agents," the authors conclude.

Source: JAMA and Archives Journals ([news](#) : [web](#))

Citation: Report on H1N1 cases in California shows hospitalization can occur at all ages, with many severe (2009, November 3) retrieved 27 April 2024 from <https://medicalxpress.com/news/2009-11-h1n1-cases-california-hospitalization-ages.html>

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