Analysis indicates a third H1N1 pandemic wave unlikely in 2010

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Analysis of H1N1 antibody levels (seroprotection rates) after the 2009 pandemic suggest that a third wave is unlikely in 2010, although adults over age 50, particularly those with chronic conditions, should be immunized for the fall flu season, states a research paper in *CMAJ* (*Canadian Medical Association Journal*).

The study, by researchers from the BC Centre for Disease Control, University of British Columbia and BC Biomedical Laboratories, compared blood levels of antibodies against the H1N1 influenza before and after the 2009 pandemic. They looked at 1127 people in British Columbia's Lower Mainland aged 9 months to 101 years.

Samples collected before the pandemic indicated that less than 10% of children and adults under age 70 had protective levels of H1N1 antibodies whereas 77% of people over age 80 had protective levels. In follow up after the waves of infection and the fall 2009 immunization campaign, the researchers found a 70% protection rate in people under age 20 but lower seroprotection rates in adults aged 20-49 (44%) and 50-79 years of age (30%). People aged 70-79 years had the lowest rate of antibodies (21%) whereas those over 80 years had higher rates.

"The higher percentage with seroprotection we observed in the young may have resulted from higher pandemic H1N1 infection rates and earlier prioritization of pandemic H1N1 vaccine to young children," writes Dr. Danuta Skowronski, BC Centre for Disease Control and University of British Columbia with coauthors.

They estimate that a community-level protection above 40% would be enough to prevent a large epidemic in a population, especially if school-age children who generally contribute most to the spread of influenza are protected. Given that the overall seroprotection rate is estimated at 46% and 70% in school-age children, "these findings reassure against the likelihood of a substantial third pandemic H1N1 wave during the 2010-11 season, unless there is a significant waning of antibody or change in the virus" the authors state.

"Adults 50-79 years exhibited the lowest seroprotection and also remain at higher risk of severe outcomes if infected," they caution. "Our findings support a shift from the prioritized immunization of the young that occurred in fall 2009 to prioritized immunization of older adults for the coming 2010-11 influenza season to protect against severe outcomes due to both pandemic and seasonal influenza."

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