# Young, unvaccinated adults account for severest flu cases

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A snapshot of patients who required care at Duke University Hospital during this year's flu season shows that those who had not been vaccinated had severe cases and needed the most intensive treatment.

In an analysis of the first 55 patients treated for flu at the academic medical center from November 2013 through Jan. 8, 2014, Duke Medicine researchers found that only two of the 22 patients who required intensive care had been vaccinated prior to getting sick.

The findings were published online in Monday, Feb. 10, 2014, in the *American Journal of Respiratory and Critical Care Medicine*.

"Our observations are important because they reinforce a growing body of evidence that the influenza vaccine provides protection from severe illness requiring hospitalizations," said lead author Cameron Wolfe, M.D., assistant professor of medicine at Duke. "The public health implications are important, because not only could a potentially deadly infection be avoided with a $30 shot, but costly hospitalizations could also be reduced."

Wolfe said this year's flu season was marked by hospitalizations of previously healthy young people, with a median age of 28.5 years. Among those who were hospitalized at Duke, 48 of the 55 were infected with the H1N1 virus that caused the 2009 pandemic. That outbreak also hit young adults particularly hard.

"We observed a high percentage of hospitalized patients for influenza requiring ICU level care, which appears higher than observed in our hospital during the 2009 pandemic flu season," said co-author John W. Hollingsworth, M.D., associate professor of medicine at Duke. "It remains unclear whether the high rate of ICU admissions represents a diagnosis bias or whether the severity of illness being caused by the current H1N1 virus is higher."

Of the 33 patients admitted to regular wards rather than the ICU at Duke University Hospital, only eleven had been vaccinated; most of those were immune compromised, chronically ill, or were on a medication that weakened the vaccine's protection.

The study also echoes other studies that have highlighted problems with a rapid test for influenza. Wolfe said 22 of the patients treated at Duke University Hospital had been given a rapid influenza test that came up negative for flu, but they were actually positive when tested by other methods. As a result, they had not received anti-viral medications that might have eased flu symptoms had they been taken early.

"Together, our observations during this influenza season support a high prevalence of the H1N1 virus affecting young adults and requiring ICU care, high false negative rates of rapid flu tests, and delay in starting antiviral treatment," Wolfe said. "Added to the finding of very low vaccination rates among both hospitalized and ICU admissions, our observations support previous findings that vaccination reduces the severity of disease and vaccinations should be encouraged as recommended by the U.S. Centers for Disease Control and Prevention."

**More information:** www.atsjournals.org/doi/abs/10 … -0066LE#.UvkDyUJdVF8