CID Key Points: "Impact of prompt influenza antiviral treatment on extended care needs after influenza hospitalization among community-dwelling older adults," Chaves et al. (2015).

- The article is available online from *Clinical Infectious Diseases* at http://cid.oxfordjournals.org/content/early/2015/09/01/cid.civ733.
- A press release related to this paper is available on the CDC website: http://www.cdc.gov/media/releases/2015/p0902-early-flu-treatment.html.

Topline Messages

- This CDC study looked at hospitalization data over three flu seasons (2010-2013) among people 65 and older living in community settings (as opposed to long-term care) who were hospitalized with flu illness.
- This is the first study to look at the benefits of early antiviral treatment on reducing the need for dependent care following flu hospitalization in this age group.
- The study confirms the benefits of early antiviral treatment among people in this age group hospitalized with flu and the importance of seeking care early in the course of illness.
- In the study group, early antiviral treatment reduced the risk of needing extended care after leaving the hospital by up to 60 percent.

Patients who sought medical care or were hospitalized within 2 days of developing symptoms and who were treated with flu antiviral medications within the first 4 days of illness had hospital stays that were substantially shorter than those who received treatment later (after 4 days of illness onset). This benefit was observed even among those who sought care later (more than 2 days after they got sick), but the length of their hospital stay was reduced to a lesser degree.

Purpose of study

- Researchers explored the mitigating effect of antiviral treatment among community-dwelling adults aged ≥65 years hospitalized with influenza, and documented that treatment initiated ≤4 days from illness onset decreases the impact of influenza through shortened hospitalization and reduced extended care needs.

Methods

- Researchers used data from the Influenza Hospitalization Surveillance Network (FluSurv-NET), collected during the 2010-11, 2011-12, and 2012-13 influenza seasons from October 1st through April 30th.

- Researchers focused on those treated with antiviral agents to explore the effect of early treatment on extended care and hospital length of stay (LOS) using logistic regression and competing risk survival analysis, accounting for time from illness onset to hospitalization.

Definitions

- Timing of antiviral treatment was categorized as early (if given ≤4 days from illness onset) and late (if given >4 days from illness onset), based on the findings that antiviral treatment may not affect course of illness if given >4-5 days after illness onset.
- Extended care was defined as new placement in a skilled nursing home/long term care facility or rehabilitation facility upon hospital discharge.

Results

- During the 2010-11, 2011-12, and 2012-13 influenza seasons, 9,059 influenza-associated hospitalizations were reported among adults aged ≥65 years.
- Among 6,593 community-dwelling adults aged ≥65 years hospitalized with influenza, 18% required new placement at a skilled nursing/long term care, or rehabilitation facility upon hospital discharge.
- There were 5,302 patients treated with antiviral medications, of which 76% received antivirals early in the course of illness.
- Early treatment reduced the odds of extended care after hospital discharge for those hospitalized ≤2 or >2 days from illness onset.
- Early treatment was also independently associated with reduction in LOS, though this was more pronounced among those hospitalized ≤2 days from illness onset.
- Researchers used competing risk survival analysis models to assess whether patients treated early with antivirals had an increased probability of being discharged from the hospital sooner than those treated late (>4 days from illness onset), using death as a competing event and adjusting for potential confounders.
- Most hospitalizations were associated with influenza A virus infections, reflecting the dominant influenza virus type in circulation during the surveillance period.
- Patients who required extended care at discharge were more likely to have experienced influenza-related complications than those discharged to home.
- Patients 65 and older who sought medical care or who were hospitalized within two days of illness onset and who were treated with antiviral medications early (in the first four days of illness) had hospital stays that were substantially shorter than those who received treatment later (after 4 days of illness onset). Extended care needs increased with age, with almost one in every three adults ≥85 years requiring new placement in skilled nursing homes or rehabilitation facilities after influenza hospitalization.

- Older age, the presence of neurologic disorders, ICU admission, and pneumonia at admission were all independent risk factors for extended care needs.
- This study is the first to look at the benefit of antiviral treatment on preventing the need for extended care after influenza hospitalization in older adults living in the community. This benefit could be explained by the reduction in LOS among patients treated early in the course of illness, as lengthy bed restriction can precipitate disability.
- This study suggests that antiviral treatment initiated ≤4 days of illness onset could lessen the overall impact of influenza and should be emphasized during influenza seasons as an important adjunct to influenza vaccination efforts.

Background

- In most seasons, about 60% of influenza-related hospitalizations occur in adults aged ≥65 years.
- A substantial proportion of older adults hospitalized with influenza require extended care after discharge.
- Influenza vaccine in older adults has low to moderate effectiveness and antiviral treatment may be an important adjunct in preventing severe influenza-related complications.
- Functional decline as a result of influenza-associated hospitalization among older adults living independently in the community has not been well documented.
- Currently, antiviral treatment is recommended for those hospitalized with confirmed or suspected influenza, or at high risk for complications.
- Some studies have shown that prompt treatment with influenza antiviral agents can reduce the duration of illness and prevent influenza-related complications, including death, among hospitalized patients.