

Hip fracture patients fare best during recovery in high-occupancy nursing homes with higher level physician staffing

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Hip fractures are a common and disabling condition that occurs more than 300,000 times each year in the United States in those 65 and older—1.6 million times worldwide. A new study from Penn Medicine, which compared outcome variations in acute and post-acute care facilities, suggests that for older adults hospitalized with hip fracture, the quality of the post-acute care they receive has a greater impact on long-term recovery than the care they received at the hospital. This study was published today online ahead of print in *Medical Care*, a journal of the American Public Health Association.

In an analysis of over 42,000 Medicare patients, researchers found that the impact of post-acute care - care received in a nursing homes, rehabilitation facilities, at-home care, etc. - on outcomes, including mortality and mobility, was three to eight times greater than the impact of hospital factors. Overall, nursing home factors explained three times more variation in a patient's probability of dying at 30 days than hospital factors, seven times more variation in the probability of dying at 180 days, and eight times more variation in the probability of dying or being newly unable to walk at 180 days.

"These results highlight the major impact that post-acute care has on basic outcomes such as survival and walking ability among this patient population," said the study's lead author Mark D. Neuman, MD, MSc, an assistant professor of Anesthesiology and Critical Care in the Perelman

School of Medicine at the University of Pennsylvania, and director of the Penn Center for Perioperative Outcomes Research and Transformation (PCORI).

Researchers performed a retrospective cohort study using Medicare data of older adult, [hip fracture](#) patients who were previously nursing home residents between 2005 and 2009. Of the 42,000 patients, 75 percent were women, 92 percent white and all patients were over 80 years old. While patient characteristics represented the principal determinants of outcomes after hip fractures, selected hospital and nursing home characteristics were associated with short-and long-term outcomes. Hospital characteristics - nurse-to-bed ratio, mean hospital nurse skill mix, and hospital for-profit status, for example - were not consistently associated with outcomes, while multiple nursing home characteristics - bed count, chain membership, and performance on selected quality measures - did predict outcomes.

For instance, patients treated at a nursing home with low occupancy, more than 150 beds versus a facility with less than 100 beds, and with historically high mortality rates, were more likely to die or have a new inability to walk after 30 days. Nursing home market concentration - a higher number of [nursing homes](#) in a specific region - and ownership by a multi-facility organization were also modestly associated with 30-day mortality. More, facilities that used more full-time physician extenders - physician assistants and nurse practitioners - and those with a full-time Director of Nursing were modestly associated with 180-day mortality. Nursing homes located within a hospital was also associated with 180-day mortality.

From a policy standpoint, this paper is important because it informs policymakers on which care setting contributes most to outcomes. Post-acute care represents a large and growing source of [health care spending](#) in the United States, the authors said.

Medicare costs exceeded \$62 billion in 2012, with evidence that spending on post-acute care now outpaces spending on patients hospitalized for common conditions. The authors added, as payment models move more and more towards bundled payments for acute and post-acute care, studies such as this can help guide decisions about how best to allocate resources by health systems and payers.

"For patients, it sends the simple message that post-acute care, for instance, at a nursing home, may have a major impact on recovery in the long term," Neuman said.

The next phase of this research should explore the impact on these factors on outcomes for older adults hospitalized for conditions other than hip fractures, as well as the processes within facilities that may help explain the variations in the outcomes observed in this study, the authors wrote.

Provided by Perelman School of Medicine at the University of Pennsylvania

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