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# Hospitalization and effects on cognition

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## WHAT QUESTION IS THIS STUDY ADDRESSING?

This study looked at whether older people who were admitted to the hospital had more decline in their cognition (memory, thinking, language, judgment) than people who were not admitted to the hospital.<sup>1</sup>

## WHY ASK THIS QUESTION?

Some people live very long lives and are never seriously ill. More often, however, older people sometimes are sick enough to have to go into the hospital. After being in the hospital, many people's cognition is never quite the same. Their families and their physicians notice this, and often the patients do themselves. It is most common if they were very confused when they were in the hospital.<sup>2</sup> Dr. Wilson and other researchers from Rush University Medical Center in Chicago looked at how often this occurs.<sup>1</sup>

## HOW WAS THE STUDY DONE?

The researchers studied 1,870 people. Over 9 years, they compared tests of memory, thinking, language, and judgment in people who went into hospital with those who did not. The people they studied were mostly in their 70s when the study started. Over half were women. On average, they had at least a high school education. Just over half were African American. The research-

ers also looked at how well these people could care for themselves, and whether their mood was low.

## WHAT ARE THE MAIN FINDINGS OF THE STUDY?

First, during the 9 years, on average, people's scores got a little worse whether they went into hospital or not. Their cognition was not as good, they were a little less able to care for themselves, and more felt a little sadder than at the start.

Second, having to go into the hospital was very common. More than two-thirds of the people went into the hospital at least once in the 9 years. Interestingly, right at the outset, the people who would eventually wind up being in the hospital at least once did very slightly worse on most tests compared to the people who never went into the hospital.

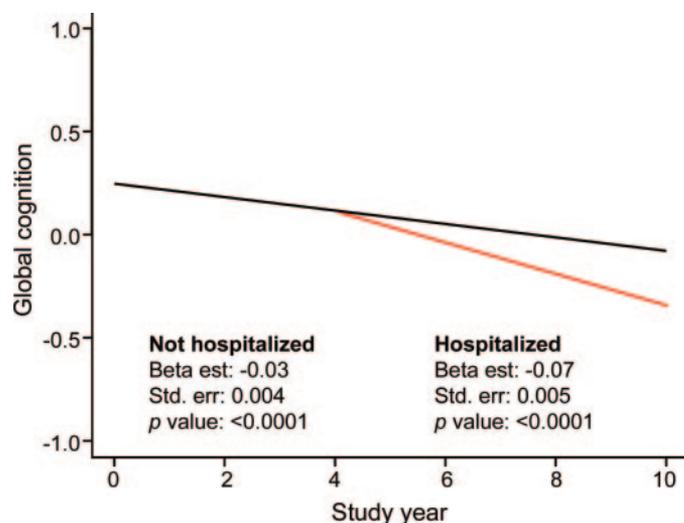
Third, on average, after people went into the hospital they got worse faster. The figure shows this. It graphs the average amount of decline in cognition over the study and what typically happens after being in the hospital. The example in this figure is for people who were hospitalized only once, during the fourth year of the study. At first, there is only one line, but after year 4, the lines split. The people who have gone into the hospital (the lower line) are getting worse overall faster than the people who never went into the hospital (upper line).

Finally, these lines represent only the average case. Most people get a little worse; some get a lot worse after being in the hospital, but some people also improve. A lot depends on the individual patient, why they went into the hospital, and what happened to them during the time that their illness was being treated.

## WHAT DOES IT MEAN FOR PATIENTS WHO ARE HOSPITALIZED?

This study shows that, on average, older people who go into the hospital will do noticeably worse than people who do not go into the hospital. What this study cannot show is whether it is the fact of being in the hospital, or the fact of being ill enough to need to be admitted to the hospital, which is important. Both are likely to play a role. Dr. Wilson and his colleagues showed earlier that people whose health was not as good (who were frailer) were more likely to develop cognitive problems than people who were not frail.<sup>3</sup> Another group showed that this was true even when the ways in which people

**Figure** Typical path of posthospital change in global cognitive function



Predicted 10-year paths of change in composite measure of global cognition for typical participants hospitalized in year 4 (red line) or not hospitalized (black line), from a mixed-effects model adjusted for age, sex, race, and education. From Wilson et al.<sup>1</sup>

were ill were not even that serious, or were not known to be risks for dementia.<sup>4</sup> Even so, hospitals are not always entirely safe places for older people. This is especially true if they might have some mild memory problems to start.

#### FOR MORE INFORMATION

AAN Patients and Caregivers site  
<http://patients.aan.com/DementiaGuide>  
[www.dementiaguide.com](http://www.dementiaguide.com)

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