PROJECT INFORMATION

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Using Statistical Models to Predict Worsening Health among Older People with Disabilities

Principal investigator

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Organization

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What was the research about?

Many older adults in the United States are living with long-term, or chronic, health problems and disabilities. These health problems and other personal traits, like people's age or gender, can put people at risk for worse health and disabilities as they age. Some people must move into nursing homes to get the care they need. Being able to predict worsening health could help patients and doctors make healthcare decisions.

In this study, the research team developed statistical models that used Medicare data to identify traits that made an older person with disabilities more likely to have the following worsening health events:

- Becoming more disabled within two years
- Moving into a nursing home within two years
- Dying within two years

What were the results?

According to the statistical models, people with the following traits were more likely to become more disabled, move into a nursing home, or die within two years:

- Being 85 or older
- Being male
- Not living with a spouse

- Having only Medicare insurance
- Having Alzheimer's disease or dementia
- Having diabetes
- Being unable to do daily activities

The research team found that risk scores calculated using models that included these traits could predict if a person would have one of the worsening health events within two years.

Who was in the study?

The research team looked at Medicare data for 21,264 people ages 65 and older. Among these people, 56 percent were ages 65 to 74, 34 percent were 75 to 84, and 10 percent were 85 and older. Also, 56 percent were women, 82 percent were white, 8 percent were black, and 7 percent were Hispanic.

What did the research team do?

First, the research team conducted group interviews with doctors and people with and without disabilities. The interviews were about experiences with the healthcare system, problems getting care, and how having disabilities affects care. The interviews helped the team learn what traits to include in the statistical models.

Next the research team looked at the traits of people who became more disabled, moved into a nursing home, or died within two years. The team used these

details to create the models. The models allowed the team to create a risk score that can be used to predict a person's risk of having one of the worsening health events within two years.

What were the limits of the study?

The results only apply to people who are 65 and older and have Medicare. The models only showed that having certain traits increases the chance of becoming more disabled, moving into a nursing home, or dying. The models didn't show that the traits caused these events.

Future research could explore how well the statistical models work to identify older patients most in need of care to prevent worsening health.

How can people use the results?

Doctors could use statistical models to see which patients are at risk for worsening health. Older people with disabilities and their doctors could consider using risk scores to help manage care.

To learn more about this project, visit www.pcori.org/Bogner211.