Perhaps you remember the apocryphal story of how Target targets expectant mothers by merely identifying their purchases. For instance, expectant mothers start to load up on unscented lotions during their second trimester. Put enough clues together, and an individual’s behavior can reveal, in this case, a pregnancy. For many of us, and I include myself, this is a very scary thought. Big Data can be used to target you, especially in making purchases. I already consume enough without Big Data’s nudge. But what if, our behavior can identify a medical problem before it comes to medical attention. A new paper looks at a way to identify dementia from of all things, our financial behavior.

Dementia has many forms, although we often, incorrectly, lump them together into Alzheimer’s disease. There is no simple blood test or imaging that says dementia; it requires an examination to identify impaired cognition. One man’s forgetfulness can be another’s impairment. I can walk into a room and have forgotten why I am there; I chalk that up to forgetfulness. But should I walk into a room and not recognize where I am, that is cognitive impairment. And for many of us, the changes are so subtle and develop so slowly that we find ways to compensate, masking over the cognitive loss. When does keeping a to-do list go from a life hack to a requirement to function? As a result, there is often a two-year or greater period when early dementia goes unrecognized and not diagnosed.

Prior studies have shown that individuals with mild cognitive impairment had difficulty with daily financial activity, balancing a checkbook, making an investment decision. Of course, those same impairments make you more susceptible to financial elder abuse, if not outright fraud.

“…individuals who are mildly impaired prior to AD are, conceptually, the “perfect victim,” as they have control of their assets but have impairments that may not be recognized and have broad exposure to the community.”
The Study

The goal was to look at the economic effects of early unrecognized dementia by looking back at an individual’s financial activity from the time of medical diagnosis. The researchers made use of the Health and Retirement Study (HRS) – a longitudinal study involving interviews every two years about “their health work and retirement, finances, and family characteristics.” The outcomes of interest were liquid assets and total non-housing wealth. [1]

Boomers have been surveyed since 2004, and each 2-year wave recruits about 20,000 interviews. The economic data were linked to Medicare claims data to identify when a diagnosis of dementia was made. The study compared households in which one member had Alzheimer’s or related dementia (ADRD), to families “not afflicted” by the disease.

Caveats

Financial data is self-reported, but HRS statisticians have attempted to improve the accuracy of those reports – you may apply as many grains of salt as you feel necessary. The diagnosis of Alzheimer’s disease included other related dementia, not all follow the same timeline or cognitive losses.

The Results

Roughly 8,900 households, 2,777 with a household member with ADRD, approximately 73% acting as the “financial head of the household

“We find robust evidence that early-stage AD places households at significant risk for large adverse changes in liquid assets. Regardless of who in the household is afflicted, early-stage AD increases the probability of a large (90th percentile value-defined) adverse change in liquid assets by 3.3 percentage points. We find some, but more limited, evidence that early-stage AD reduces net wealth.”

By and large, the researchers mean a change greater than that experienced by 75 to 90% of the households. And in both instances, for liquid and non-housing net wealth, the effect is greater when the financial head of the household is the affected individual.

The researchers make several salient points. These adverse financial consequences have downstream impacts as later stages of dementia require far more costly care. Given the rising tide of an elderly population impacted by dementia, this will mean greater societal costs for care. Much of today’s “nursing home care” is funded by Medicaid once a patient's assets have been completely depleted.
The financial data was not detailed enough to say whether the declining liquid assets were siphoned off into increased medical expenditures, “frivolous” purchases, or bad investments. But further study might give us greater insight. At this moment, we have the Consumer Financial Protection Bureau, but its role and that of our established financial institutions have yet to be fashioned. Certainly, we should consider ways we might protect these financially vulnerable patients. Fraud alerts already can be triggered by out of the ordinary credit card purchases, and I think most of us view that as helpful rather than an invasion of our privacy.

It is intriguing to consider that we might use financial behavior to identify and signal the presence of a cognitive problem. It is not ready to serve as a screening tool just yet. I recognize that this use of Big Data is fraught with concerns; no one wants the bank to decide you are not at the top of your game. But it does seem paradoxical that we have few, if any concerns, when Big Data pushes us into purchases, but raise a red flag when the same data may help identify a growing vulnerability that we increasingly need to address.

[1] Liquid assets include money in checking, savings, and money market accounts; non-housing assets include those liquid assets along with stocks and bonds and removes non-housing debt, like credit card balances, medical debt, loans.

Source: Effect Of Early Stage Alzheimer’s Disease On Household Financial Outcomes Health Economics DOI:10.1002/hec.3962

COPYRIGHT © 1978-2016 BY THE AMERICAN COUNCIL ON SCIENCE AND HEALTH


Links