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Consumer Credit Events Before and After Dementia Diagnosis

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Rapid growth in the elderly population combined with a lack of effective medical treatments to reverse or delay Alzheimer's disease and related dementias are estimated to lead to more than 12 million older adults living with dementia by 2050. Nearly half of Americans 65 and older live alone or with a cognitively impaired spouse. Without a spouse or caregiver present to observe declines in thinking and memory that may indicate early signs of cognitive impairment, this group faces an elevated risk of delayed diagnoses and greater exposure to the health and financial consequences associated with disease progression. One of the earliest signs of cognitive decline and dementia is impaired financial capacity, which can manifest as difficulties managing money and paying bills or making erratic and uncharacteristically risky financial decisions. Cognitively impaired patients frequently overestimate their financial abilities, placing them at risk of financial fraud, inappropriate asset allocation, credit delinquency from unpaid bills, and other losses.

Because the financial symptoms of dementia are poorly understood, we linked national data characterizing consumer credit events to Medicare claims to study adverse consumer credit events before and after dementia diagnosis. Using probabilistic matching based on census block, household size, and birth year, we matched 55,721 fee-for-service Medicare beneficiaries to payment delinquencies, tax liens, increased credit balance, and new loan activity. We used the administrative health care data to identify dementia patients based on utilization; a minimum of two outpatient visits or one inpatient visit with a diagnosis code indicating Alzheimer's Disease and related dementias.

We estimate linear event study regressions of consumer credit events on a vector of dummy variables measuring time from dementia diagnosis, demographic and health characteristics, and vectors of age, state, and year fixed effects, as well as quarter fixed effects to control for seasonality in credit events.

Difficulties paying bills manifest several years before an ADRD diagnosis. Increases in payment delinquencies are statistically significant between two to four years before the diagnostic threshold is achieved, with tax liens

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and increased credit card balances first occurring in the two years prior to diagnosis. These effects are also large in magnitude; the 1.1 to 2.7 percentage point increases in delinquencies represent between 8% to 21% of the sample mean rate of 13%.

There is growing concern that dementia patients could be fraud victims. We do not see evidence of growing nonhousing debt or new account openings, areas where we might expect to see evidence of fraudulent activity. Indeed, both of these outcomes decline following the dementia diagnosis.

To verify that the patterns we observe are unique to dementia and not simply indicative of disease or change in health status, we replicate our analysis for two gradual-onset placebo health conditions, arthritis and glaucoma, and two acute health events, heart attack and hip fracture. We do not observe similar patterns to the dementia results with these placebo conditions.

Using probabilistically matched Medicare claims and credit report data, we show that single adults exhibit increased difficulty managing money in the years prior to a dementia diagnosis. These difficulties manifest as payment delinquencies, tax liens, and growing credit card balances. Despite widespread concerns of fraud, we do not find evidence of increased loan activity or new accounts in the years surrounding a dementia diagnosis.

Our findings represent the first large-scale evidence of the financial challenges associated with dementia, especially in the years prior to diagnosis. As additional research clarifies the financial phenotype characterizing early signs of dementia, it may be possible to use data on payments and other financial behavior in conjunction with other clinical symptoms to diagnose patients earlier and engage family and other surrogates in financial decision-making.

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