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Are coresidence and nursing homes substitutes? Evidence from Medicaid spend-down provisions

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ABSTRACT

This paper measures the extent to which the price of nursing home care affects a potential substitute living arrangement: coresidence with adult children. Exploiting variation in state Medicaid income "spend-down" provisions over time, I find that living in a state with a spend-down provision decreases the prevalence of coresidence with adult children by 1–4 percentage points for single elderly individuals, with a corresponding increase in the use of nursing home care. These findings suggest that changes in Medicaid eligibility for long-term care benefits could have large impacts on living arrangements, care utilization patterns, and Medicaid expenditures.

1. Introduction

Long-term care expenditures in the United States are significant and growing. In 2013, formal care expenditures totaled over $300 billion, or over 10% of *all* health expenditures for *all* ages. As the population ages and disabling health conditions such as Alzheimer's and obesity become increasingly common, these costs may rise dramatically.

Very few individuals have coverage for these costs: Medicare does not cover most long-term care expenses, and the private insurance market for long-term care is small and declining. Almost two-thirds of total costs are paid by the Medicaid program, and individuals who are not eligible for Medicaid predominantly pay these costs – which reach upwards of $100,000 a year for a nursing home – out-of-pocket. As a result, long-term care is one of the largest financial risks facing elderly individuals and their families.

Many individuals who need care, however, receive it outside of a nursing home. Individuals generally desire to remain in the community or even their own home, and view nursing homes as a last resort: of a sample of over 9000 seriously ill hospitalized adults in the early 1990s, Mattimore et al. (1997) report that 30% would "rather die" than live permanently in a nursing home. Moreover, in-home care, which can either be provided by a paid professional or provided informally by a family member (often through coresidence), may offer a more flexible level of care than an institutional setting. Nursing homes, on the other hand, offer a package of services that may be excessive for many individuals, yet suitable (or even necessary) for those who require more intensive care. In addition, the oftentimes prohibitive cost of nursing homes may push individuals to seek out care through alternative means. This price sensitivity is the focus of this paper.

The extent to which individuals are sensitive to the price of nursing home care has important implications for both individual welfare and policy. If individuals hold strong preferences for where they live and the setting in which they receive long-term care, policies that influence the relative prices of long-term care could significantly affect individual well-being. Furthermore, the large role of Medicaid in financing long-term care implies that changes to long-term care policies and utilization trends may have a large effect on federal and state Medicaid budgets. As the population ages, policymakers have raised concerns about the affordability of current Medicaid policy and indicated interest in potential solutions. For example, proposals to encourage home- and community-based services – including informal care – have gained traction in the recent decade (e.g. Medicaid's Cash and Counseling and Money Follows the Person programs).

This paper uses price variation generated by state Medicaid eligibility differences to examine the degree to which individu-

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als substitute between nursing home residency and a potential substitute living arrangement: coresidence with adult children. Specifically, I follow the identification strategy used in Grabowski and Gruber (2007) that leverages changes over time in optional "spend-down" policies which allow individuals to deduct health expenses from income to qualify for Medicaid. Using data on single elderly from the decennial Census and the American Community Survey (ACS) from 1980 through 2009, I test whether the presence of Medicaid spend-down policies affects living arrangements among the elderly. I find that the presence of a Medicaid spend-down provision decreases coresidence with an adult child and increases nursing home use both by 1–4 percentage points for individuals aged 80 and over. Most of this effect is driven by individuals who report difficulty caring independently for oneself and those with lower income. I find no effect on individuals aged 65–79. These findings are consistent with the fact that most elderly individuals need long-term care towards the end of their life, and the relevant margin for this Medicaid policy are those with low assets but higher income than traditional Medicaid income cut-offs would permit.

I supplement this analysis with data from the Health and Retirement Study to examine other important outcomes that are not available in the Census/ACS over the time period. First, I check the first stage of the econometric design: I verify that individuals in states with Medicaid spend-down policies are more likely to be enrolled in Medicaid, particularly if they are in poor health. Second, I show that spend-down policies reduce the likelihood of owning a private long-term care insurance policy, particularly among individuals with children. This is consistent with Brown and Finkelstein (2008), who find that Medicaid should substantially crowd out private long-term care insurance demand.

Other studies have found similar evidence that living arrangements – including nursing home residency and shared living arrangements – respond to the cost of long-term care. The Channeling Demonstration, an experiment that expanded the generosity of publicly-funded in-home care for low-income elderly in the 1980s, led to reductions in nursing home use and reductions in shared living arrangements (Pezzin et al., 1996), while Orsini (2010) found that a 1997 reduction in Medicare reimbursement rates for home health care led to a significant increase in shared living arrangements. Coe et al. (2015) used state variation in subsidies to long-term care insurance policies as an instrument for insurance coverage and found that an increase in long-term care insurance coverage, which significantly lowers the marginal cost of formal care, induced less informal caregiving and less coresidence with adult children. Several papers (Van Houtven and Norton, 2004, 2008; Charles and Sevak, 2005) use variation in the characteristics of children as instruments for informal care, and find that an increase in the probability of receiving informal care decreases and delays entry into a nursing home and decreases home health care.

Closely related to this paper, Grabowski and Gruber (2007) use variation in Medicaid spend-down policies and data from the National Long-Term Care Survey to examine nursing home use and find no effect of spend-down policies on nursing home use for a broadly defined sample of individuals.[2] This paper confirms this overall result, and follows up by examining a second and complementary outcome – coresidence. It also investigates heterogeneity at important margins – care needs, age, and income – to show that overall estimates of spend-down programs hide important effects for relevant sub-populations that are the main target of the policy.

In the next section I provide background on living arrangements and long-term care in the United States and the Medicaid policy variation at the core of this study. Section 3 proposes a simple conceptual framework to understand the link between living arrangements and nursing home costs. Section 4 describes the data and sample, and Section 5 presents the empirical strategy and the main results. Section 6 explores insurance mechanisms, and Section 7 concludes.

2. Background

2.1. Living arrangements

Living arrangements of the elderly vary widely, from fully independent living to 24-hour care in a nursing home. Historically, coresidence with family members was commonplace, but this phenomenon has dramatically declined within the past century: in 1900, around 70% of elderly individuals lived with their adult children, while fewer than 15% do so today (Ruggles, 2007). This trend has been accompanied by a large increase in independent living. In 1900 only 15% of widows lived independently, while in 1990 over 60% did (McGarry and Schoeni, 2000). Finally, the past century has seen an increase in institutional residency, such as nursing homes, from around 3% of elderly widows to 10% from 1900 to 1990.

One reason for these trends is the rise in elderly income over the past century, which allowed more elderly to afford to live independently (Costa, 1997, 1999; Engelhardt et al., 2005; Goda et al., 2011). However, another potentially important historical determinant of elderly living arrangements has been the ability to receive care in different settings as one becomes frail in old age. Thus, decreases in fertility, increases in female labor force participation, changes in health needs, and the availability of other sources of care for the elderly may also play a role in these trends. Today, the fertility relate hovers around 2.0, and the female labor force participation rate is upwards of 67% for prime-age females, suggesting that there is much less availability of adult children to help care for the elderly than a century ago (OECD, 2017a,b). In addition, more opportunities to receive in-home assistance (e.g. the expansion of home health agencies as well as programs such as Meals on Wheels) have made it more feasible to remain in one's home without living completely independently.

2.2. Long-term care

Long-term care in the United States, defined as assistance performing Activities of Daily Living (ADLs) or Instrumental Activities of Daily Living (IADLs),[3] is common and expensive. 75% of elderly individuals will depend on long-term care at some point (Brown and Finkelstein, 2008), and in 2013, formal long-term care costs in the United States added up to $310 billion, or over 10 percent of *all* health expenditures for *all* ages (Kaiser Commission on Medicaid and the Uninsured, 2015). In 2015, the average cost of nursing home care was $91,000 and the average hourly price of a home care aide was $20 per hour (Kaiser Commission on Medicaid and the Uninsured, 2015). These costs are financed through three main sources: out-of-pocket spending accounts for 35% of total costs, private insurance accounts for less than 5%, and public insurance covers the other 60% (see Mommaerts (2016) for more details). The largest public payer is Medicaid, a means-tested program described in greater detail in Section 2.3. Medicare, the public health insur-

[2] Cutler and Sheiner (1994) also estimate the effect of Medicaid spend-down policies on nursing home use (as well as coresidence), but are limited to cross-sectional variation. Similar to the results in this paper, they find that spend-down policies increase the probability of entering a nursing home and decrease the probability of living with children.

[3] The commonly used set of ADLs include walking across a room, dressing, bathing, eating, getting in and out of bed, and using the toilet. The set of IADLs include using a map, using a telephone, managing money, taking medications, shopping for groceries, and preparing hot meals.