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Home health care and the housing and living arrangements of the elderly

Gary V. Engelhardt [a,*], Nadia Greenhalgh-Stanley [b]

[a] Department of Economics and Center for Policy Research, Maxwell School of Citizenship and Public Affairs, 426 Eggers Hall, Syracuse University, Syracuse, NY 13244, United States
[b] Department of Economics, Kent State University, Kent, OH 44242, United States

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ABSTRACT

Home health care is long-term care, primarily skilled nursing, delivered in a home setting. Its provision may increase the likelihood that the elderly, the vast majority of which are homeowners, can live independently and maintain their desired residential status even if in relatively poor health. We provide empirical evidence on the extent to which home health care benefits affect the housing and living arrangements of the elderly by examining plausibly exogenous changes in the supply of long-term care insurance through the Medicare program that occurred in the late 1990s. Prior to 1997, Medicare reimbursed home health care agencies on a retrospective-cost basis. Then, starting in October, 1997, as a result of the Balanced Budget Act of 1997 (BBA97), Medicare switched to a system of prospective payments for home health care, which induced state-by-calendar-year variation in the supply of this type of insurance. We exploit this variation to econometrically identify the short-run impact on the housing and living arrangements of the elderly, using CPS data from 1995 to 2000 (before and after the law change). Our estimates indicate that living arrangements are quite responsive to home health care benefits for the widowed, but not for the married elderly. The estimated elasticity of shared living to benefits is −0.9 for the widowed. However, these benefits have little impact on homeownership, at least in the short run, which suggests that the moderately adverse health events toward which public home health care benefits are targeted are not those that drive housing mobility and tenure transitions at advanced ages.

1. Introduction

There is a close link between health status and housing decisions among older individuals. In particular, existing empirical as well as direct survey evidence suggests that the elderly have a great desire to live independently and age in place (Costa, 1999; McGarry and Schoeni, 2000; Commission on Affordable Housing and Health Facility Needs for Seniors in the 21st Century, 2002), and an important empirical regularity is that most housing mobility and tenure transitions among the elderly are precipitated by adverse health shocks (Feinstein and Ho, 2001; Feinstein and McFadden, 1989; Venti and Wise, 2001, 2004). While there has been substantial policy interest in elderly housing issues, as well as rapid growth in economic activity in home health and community services, structural modifications, and transitional housing (retirement communities, life care, assisted living, etc.) that better match elderly health and housing demand, there has been relatively little analysis of health and housing in the urban economics literature (Dietz and Haurin, 2003).

In this paper, we contribute to the literature by focusing on one aspect of behavior: the impact of home health care on elderly housing and living arrangements. Home health care is long-term care, primarily skilled nursing, delivered in a home setting. Its provision may increase the likelihood that the elderly, the vast majority of which are homeowners, can live independently and maintain their desired residential status even if in relatively poor health.

These services are provided by home health care agencies and can be purchased privately or provided publicly through reimbursement from the Medicaid and Medicare programs. Medicaid is the means-tested government program that provides insurance for acute and long-term health care for low-income Americans (regardless of age), including home health care. Medicare is the primary insurer for acute care for those 65 and older. In general, it does not reimburse expenditures for long-term care, although home health care is an important exception. Unlike Medicaid, Medicare eligibility is not means-tested.

As the decisions to purchase private care and housing are almost surely jointly determined, we do not focus on the private market for home health care services. Instead, we attempt to identify the impact of home health care on elderly housing and living arrangements by examining plausibly exogenous changes in the supply of such care through the Medicare program that occurred

* Corresponding author. Fax: +1 315 443 1081.
E-mail addresses: gvengelh@maxwell.syr.edu (G.V. Engelhardt), ngreenha@kent.edu (N. Greenhalgh-Stanley).

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in the late 1990s. In particular, prior to 1997, Medicare reimbursed home health care agencies on a retrospective-cost basis. In 1996, for example, 15% of 75–84 year olds and 26% of those 85 and older received home health care benefits, and expenditure represented 10% of total Medicare program payments. Then, starting in October, 1997, as a result of the Balanced Budget Act of 1997 (BBA97), Medicare began a transition to a system of prospective payments for home health care. This resulted in a 30% decline in Medicare expenditures on home health care and a substantial decline in use. Importantly, up through 2000, the transitional payment system was implemented in a way that effectively differed across states, so that the 1997 law induced state-by-calendar-year variation in the supply of this type of public long-term care insurance. We exploit this variation to econometrically identify the short-run impact on the housing and living arrangements of the elderly, using data on over 48,000 elderly families from 1995 to 2000 (before and after the law change) from the March Current Population Surveys (CPS).

We follow long-standing practice in urban economics and examine the impact initially on household formation, then on homeownership (Haurin and Rosenthal, 2007). There are two primary findings. First, increases in home health care benefits have substantial short-run impacts on household formation, measured both by the incidence of shared living arrangements and household headship, among the widowed, but not among married couples. For example, the estimated elasticity of shared living to benefits is −0.9 for widowed elderly. The effect is concentrated among the relatively higher-income, who are less likely to qualify for Medicaid long-term care benefits as a substitute, and those who are relatively less healthy. Second, there is little short-run impact of home health care benefits on the incidence of homeownership among the elderly. This suggests that the moderately adverse health events toward which public home health care benefits are targeted are not those that drive housing mobility and tenure transitions at advanced ages. Whether there are larger impacts in the longer run is an open question.

The paper is organized as follows: Section 2 gives background on long-term care, Medicare home health benefits, and the Balanced Budget Act of 1997. Section 3 discusses findings from the previous literature. Section 4 describes the CPS and the construction of the analysis dataset. It draws on some of the methods and exposition developed in a companion set of papers on the impact of Social Security on the elderly by Engelhardt (2008), Engelhardt et al. (2005), and Engelhardt and Gruber (2005, 2006). Section 5 charts the time-series evolution of elderly living arrangements, headship, and homeownership during the period of study. Sections 6–9 discuss the regression framework and estimation results. There is a brief conclusion.

2. Background

Home health care is a subset of long-term care, the latter of which can be defined as the receipt of assistance or help with at least one Activity of Daily Living (ADL)—bathing, eating, dressing, walking across a room, and getting in and out of bed—or one Instrumental Activity of Daily Living (IADL)—using a telephone, taking medication, handling money, shopping, and preparing meals. Under this definition of long-term care, of 34.5 million individuals 65 and older, there were 5.5 million receiving long-term care in 1999, of which only 30% were institutionalized (United States Congress, Committee on Ways and Means, 2004). In addition to informal care provided by family and friends, there are three main classes of formal providers of long-term care for the elderly: nursing homes, assisted living facilities, and home health care agencies. In 2001, just after our sample period, long-term care spending represented 12.2% of all U.S. health care spending, and was financed 48.3% by Medicaid, which is public health insurance for the poor, 14.2% by Medicare, which is public health insurance for the aged, 22% by out-of-pocket payments, 9.6% by private insurance, and 5.9% through other means (United States Congress, Committee on Ways and Means, 2004).

While Medicaid traditionally has been the primary source of funding for such expenditures, Medicare experienced rapid growth in the 1990s in expenditures on long-term care administered in the form of home health care benefits, which cover care by a certified home health care agency in the residence of a home-bound individual if intermittent or part-time skilled nursing or other therapy is necessary. Importantly, although a physician-approved treatment plan is required, there are no limitations on the duration of these benefits, and no deductibles or co-payments.

Table 1 shows the distribution of medical diagnoses and average payment per diagnosis for home health care beneficiaries in 1996. The bulk of the diagnoses are in three groups: diseases of the circulatory system (heart disease and stroke), diseases of the musculoskeletal system (degenerative diseases, such as arthritis), and injuries (primarily from falls).

Fig. 1 plots real annual Medicare home health care expenditures (in $2001) for 1982–2000 taken from various issues of the Health Care Financing Administration's *Medicare and Medicaid Statistical Supplement*. After remaining relatively small in the early 1980s, home health expenditures began to rise rapidly after coverage was expanded in 1988, from about $2 billion to $18 billion in 1997. During this period, Medicare reimbursed home health care services on a retrospective-cost basis, essentially at actual cost up to a national-average cost cap.

During the same period, overall Medicare expenditures were rising. After a failed effort to pass legislation to rein in Medicare

Table 1
Distribution of diagnoses and average payment per home health care beneficiary for 1996.

Major diagnosis, with selected principal diagnosis within major category	(1) Percent with diagnosis	(2) Program payment per person served
Infectious and parasitic diseases	0.8	3960
Neoplasms	6.4	2861
Endocrine, nutritional, and metabolic diseases and immunity disorders	8.8	7656
Diabetes mellitus	7.1	8321
Diseases of the blood and blood-forming organs	2.8	5404
Mental disorders	2.4	4384
Diseases of the nervous system	2.9	5959
Parkinson's disease	0.7	6073
Diseases of the circulatory system	29.4	4494
Hypertension	4.8	5252
Heart failure	6.4	4999
Acute cerebrovascular disease	4.2	4812
Diseases of the respiratory system	8.0	3932
Diseases of the genitourinary system	2.7	5214
Diseases of the digestive system	3.8	3539
Diseases of the skin and subcutaneous tissue	4.0	7898
Diseases of the musculoskeletal system	10.3	3502
Rheumatoid arthritis	0.5	5819
Osteoarthritis	4.7	2619
Other disorders of the bone and cartilage	1.2	6284
Congenital anomalies	0.3	3243
Ill-Defined conditions	5.5	4907
Injury and poisoning	10.6	4128
Fracture of the neck of femur	2.3	2977

Note: Diagnoses from the International Classification of Diseases, 9th Revision, clinical modification (ICD-9-CM). The source for the table is Table 52 in Health Care Financing Administration (1998). Payment amounts are in 1996 dollars.