

Medicare's Home Health Benefits and Elderly Living Arrangements

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September 25, 2025

Abstract

This paper examines how access to Medicare's home health care benefits affects home health care utilization and the likelihood of co-residence among the elderly population. Using a regression discontinuity design (RDD) that exploits the sharp eligibility threshold at age 65, I find that Medicare eligibility leads to an 11-percentage-point increase in home health care utilization among less healthy, single elderly individuals, with no statistically significant effects for healthier or married individuals. I also show that there is racial heterogeneity in the impact of home health care utilization on co-residence: the increase in home health care utilization reduces co-residence by 3 percentage points among less healthy, single Black elderly individuals, while no statistically significant changes are observed among other racial groups. Additionally, these effects are concentrated in the second quartile of the income distribution, where prior insurance coverage is less likely. These findings suggest that public transfers expanding access to affordable home health care can play a significant role in shaping care utilization patterns and living arrangements among elderly populations who are more vulnerable due to health, income, or social factors.

JEL Classification: I13, I14, I18

Keywords: health policy, aging, Medicare, home health care, living arrangements

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I. Introduction

The global population is aging at an unprecedented rate. According to the U.S. Census Bureau, the proportion of people aged 65 and over worldwide is projected to double from 8.5% in 2015 to 17% by 2050 (He et al., 2015). This rapid growth raises important issues regarding the living arrangements of older adults. A 2010 survey conducted by the American Association of Retired Persons found that 90% of U.S. adults aged 65 and older prefer to remain in their homes as they age, rather than move to a nursing home or assisted living facility (Farber et al., 2011). However, living at home may pose significant challenges for older adults with chronic health conditions that limit their ability to live independently and for their families, particularly when affordable home health care is unavailable. For example, when such care is inaccessible, those families often form co-resident households to ease the burden of caregiving and reduce costs, despite most U.S. older adults preferring living alone to maintain their privacy ((Brody et al., 1995; Klinenberg, 2012). In these cases, aging in place may lead to a mismatch between older adults' actual and preferred living arrangements, which can create significant stress and potentially harm the physical and emotional well-being of older adults (Caplan, 1987; Kahana and Kahana, 1996; Hermalin and Yang, 2004; Abalos, 2019). Family caregiving may also impose substantial costs on caregivers by reducing their likelihood of remaining in the labor market and lowering the wages of those who continue to work (Skira, 2015; Van Houtven et al., 2013). Moreover, caregiving responsibilities may lead to severe and long-term physical and psychological consequences for caregivers (Pinquart et al., 2003; Hirst, 2005; Schulz and Sherwood, 2008).

Recognizing older adults' desire to age in place and the potential negative consequences of informal caregiving, government programs such as Medicaid and Medicare home health care have been developed to offer greater flexibility in living arrangements while also reducing the burden on families. Medicaid and Medicare are the two largest payers of long-term services and supports (LTSS), including home health care. In 2020, they accounted for 60.4% of all LTSS spending (Colello and Sorenson, 2011). Therefore, understanding how public

care arrangements affect home health care utilization and living arrangements can provide valuable insights for improving the well-being of both older adults and their caregivers. Despite their significant role, there is limited empirical evidence on how these public care arrangements influence both care utilization and living arrangements. To address this gap, this paper examines how access to Medicare's home health benefits influences home health care utilization and the likelihood of co-residence among older adults using a regression discontinuity design (RDD). The approach consists of three steps. First, I use 2001-2019 survey data from the Medical Expenditure Panel Survey (MEPS) to examine whether the change in Medicare eligibility at age 65 leads to any change in home health care utilization. Second, I supplement this analysis with 2008-2019 data from the American Community Survey (ACS) to examine whether the age threshold affects the likelihood of co-residence. Third, I examine the continuity of confounding factors that may affect co-residence at the threshold.

My findings show that the increase in Medicare coverage at age 65 leads to an 11-percentage-point increase in the likelihood of using home health care among less healthy single individuals but has no effect on relatively healthy single individuals. This increase is driven by less healthy single individuals in the second quartile of the income distribution and by Black individuals. We do not observe any statistically significant change in home health care utilization among individuals in the bottom income quartile. One possible explanation is that those individuals are more likely to qualify for Medicaid, a means-tested program that covers home health care and targets low-income individuals regardless of age. My findings also show that the increase in Medicare coverage at age 65 leads to a statistically insignificant change in the likelihood of co-residence for both relatively healthy and less healthy single individuals. However, heterogeneity analysis by race shows that for less healthy single Black individuals, the likelihood of co-residence decreases by 3 percentage points at age 65. This effect is concentrated among single Black individuals in the second income quartile. The most plausible channel for this decline is the increase in home health care utilization,

which may reduce the need for co-residential support. For other racial groups, the likelihood of co-residence does not change at age 65. Additionally, neither home health care utilization nor co-residence changes at age 65 for both relatively healthy and less healthy married individuals. A large body of literature highlights that spouses and children are the most common informal caregivers for married and single individuals in need of caregiving, respectively (Johnson and Catalano, 1981; Longino and Lipman, 1981; Thornton et al., 1993; Barrett and Lynch, 1999; Pinquart et al., 2003). The difference in responsiveness between married and single elderly individuals to reduced home health care costs suggests that home health care may be a less effective substitute for informal care provided by spouses than for care provided by children. This may be because individuals place a high value on privacy, or because spouses, as caregivers, face lower opportunity costs than children or more distant relatives.

My work relates to the literature that examines the impact of public transfers on older adults' living arrangements. Engelhardt and Greenhalgh-Stanley (2010) leveraged the 1997 introduction of the Interim Payment System (IPS) for Medicare's home health care, which significantly reduced Medicare's home health care expenditures and usage, to examine its short-term impact on older adults' living arrangements. The authors estimated that the elasticity of co-residence with respect to Medicare's home health care benefits is -0.9 for widowed individuals. Additionally, for less healthy, higher-income widowed individuals who are unlikely to qualify for Medicaid, the elasticity is -2.22 . These findings suggest that older adults' living arrangements are highly responsive to changes in home health care availability. Other U.S. studies in the living arrangement literature relied on older datasets and showed that public transfers aimed at improving older adults' economic well-being, such as Union Army pensions for Civil War veterans and Social Security, decreased the likelihood of co-residence (Costa, 1997; McGarry and Schoeni, 2000; Engelhardt et al., 2005). Studies from other countries have reached similar conclusions. Hsieh et al. (2015) showed that the introduction of National Health Insurance (NHI) in Taiwan reduced the likelihood of

intergenerational co-residence by 6.6%. However, there is significant heterogeneity in treatment effects across subsamples. For households with less healthy mothers and three or fewer children, the NHI increased the likelihood of co-residence, whereas for households with less healthy mothers and more than three children, it decreased the likelihood. Similarly, Takagi et al. (2007) showed that greater accessibility to public services, such as home care, day care, and short-stay services, reduces the likelihood of intergenerational co-residence in Japan.

My finding that the living arrangements of single older adults are largely unaffected by Medicare's home health care benefits, except for one particular subpopulation, contrasts with previous studies that found public transfers had large effects on older adults' living arrangements in the mid- and late-1990s. These results suggest that the expansion of the social safety net and increase in income levels in the U.S. over the past decades may have generally allowed for greater flexibility in choosing living arrangements, making Medicare less critical in determining living arrangements for older adults today. Nevertheless, my finding that there is an increase in home health care utilization at age 65 for less healthy single individuals implies that Medicare still plays a vital role in providing access to home health care, which may, in turn, help ease the burden on family caregivers (Schacke and Zank, 2006; Unger et al., 2021).

The remainder of this paper proceeds as follows. Section II provides background on Medicare's home health benefits and briefly discusses Medicaid's home health care and nursing home benefits due to its close relationship with Medicare. Section III describes the data. Section IV outlines the empirical framework. Section V presents the results. Section VI concludes.

II. Background

II.A. Medicare's Home Health Benefits

Medicare has been providing home health care benefits since its inception in 1965. However, these benefits were more limited compared to today. Medicare Part A, which generally covers inpatient stays, covered home health services for up to 100 days annually for individuals who were hospitalized for at least 3 days immediately prior to receiving home health care. Medicare Part B, which covers outpatient expenses, had the same annual visit cap as Part A and required a \$60 deductible and a 20% coinsurance, but it did not have the hospitalization requirement. Individuals had to be homebound and in need of intermittent skilled care in order for Medicare to cover home health care. In addition, they had to have a physician review their care plans, and the care must be delivered by a Medicare-certified home health care agency.

Between 1972 and 2000, Medicare's home health care underwent several reforms, each followed by either a program expansion or contraction, in the continuous attempts made by the Centers for Medicare and Medicaid Services (CMS) to establish consistent standards for providing need-based home health care while creating appropriate limits on the use of the benefits to control costs. In 1972, amendments to Social Security eliminated the coinsurance requirement under Part B and expanded eligibility to those who were eligible for Social Security Disability. In 1980, the Omnibus Budget Reconciliation Act (OBRA) eliminated the Part A annual visit cap and prior hospitalization requirements and Part B deductible. The Act also allowed more for-profit agencies to enter the market by removing the state licensure requirement for these agencies. Between 1984 and 1986, two Centers for Medicare and Medicaid Services (CMS) transmittals aimed at improving overall system monitoring and administration caused a decrease in home health care utilization. In 1987, as a result of the Duggan v. Bowen class lawsuit, CMS was forced to relax the eligibility criteria for home health care, allowing beneficiaries with previously uncovered chronic health

conditions to qualify for benefits. In 1997, as a measure to control costs, the Balanced Budget Act mandated CMS to temporarily switch from the retrospective payment system (RPS) to an interim payment system (IPS) and ultimately to a prospective payment system (PPS) for home health care. Initially, many agencies experienced financial instability due to the adoption of the new reimbursement system and exited the market. In 2000, the CMS implemented the PPS, and as agencies quickly regained financial stability, the program continued to grow (Davitt and Choi, 2008). Since 2001, policies regarding Medicare's home health care have remained relatively stable.

II.B. Medicaid's Home Health and Nursing Home Benefits

Medicaid pays for in-home care for individuals who meet certain eligibility criteria in terms of functional and financial needs. Federal law requires each state to offer home health care as part of the state Medicaid plan. States may also offer home health care through Home and Community Based Services (HCBS) waivers. These waivers generally provide more in-home benefits and allow higher income limits than the regular state plans. However, since states are able to cap enrollment because these waivers are not entitlement programs, most states have a waiting list. In addition, these waivers generally require individuals to demonstrate a need for a higher level of care that is equivalent to a nursing home level of care than the regular state plans. Medicaid also pays for nursing home care for individuals who demonstrate a need for this level of care as long as they meet certain financial eligibility requirements that depend on their state of residence and marital status. For those who are eligible, Medicaid covers nursing home care at 100% for as long as needed.

III. Data

One of the primary data sources for my analysis is the Medical Expenditure Panel Survey (MEPS). MEPS is an ongoing survey that began to collect health and health care informa-

tion from representative samples of the U.S. civilian, non-institutionalized population in 1996. The survey consists of three major components: The Household Component (HC), the Insurance Component (IC), and the Medical Provider Component (MPC). HC collects information from individuals in the sampled households on their demographic characteristics, health status, healthcare utilization and expenditure, insurance coverage, and income. IC collects information from sampled employers on the health insurance plans they provide to their employees. MPC collects supplemental health care information from the providers of the sampled households in HC. Following Card et al. (2008), my sample consists of individuals aged between 55 and 75 surveyed between 2001 and 2019. Individuals surveyed before 2001 are excluded from my analysis because there were frequent policy changes regarding Medicare's home health care benefits prior to 2001, which means that including these individuals may bias the estimates of the current effects of the benefits. Second, individuals surveyed after 2019 are excluded to eliminate any potential impact of COVID-19.

I constructed from the data an indicator that shows whether an individual uses any home health care. MEPS also contains information on informal care utilization. However, since individuals are only asked to report informal care they receive from caregivers who do not co-reside with them, which leaves out a complete picture of informal care utilization, my analysis focuses solely on home health care. I also constructed an indicator that shows whether an individual is relatively healthy or less healthy based on reported health status and health conditions. In my analysis, I define an individual to be less healthy if she has any chronic health conditions or limitations such as cognitive, physical, or functional limitations that put her at high risk for failing to perform Activities of Daily Living (ADLs) or Instrumental activities of daily living (IADLs) and becoming homebound. This classification enables testing of the assumption that if Medicare increases home health care utilization, the effect would be concentrated among less healthy individuals who are more likely than their healthier counterparts to need and qualify for the benefits.

The second data source for my analysis is the American Community Survey (ACS).

ACS is an annual survey that collects information from representative samples of the U.S. population on demographic characteristics, health status, income, employment, and housing. ACS does not collect information on home health care utilization. However, it has a much larger sample size than MEPS. Therefore, I supplement MEPS with ACS to conduct my second-stage analysis of living arrangements. I constructed from the data an indicator that shows whether a household is a co-resident household. In my main analysis, I define a co-resident household as a household where in addition to the individual aged 55-75 and their spouse or partner, at least one other individual over the age of 30 resides. This age threshold accounts for the possibility that some recent college graduates may choose to return home after graduation for various reasons, such as easing financial burdens. These households are unlikely to be affected by Medicare's home health benefits because caregiving is not the reason for shared living. This measure classifies such households as non-co-resident households. In the robustness check, I lower the age threshold to 18. My sample consists of individuals aged 55 to 75 surveyed between 2008 and 2019 because ACS did not collect information on Medicare before 2008. Similar to MEPS, I constructed an indicator to classify individuals as relatively healthy or less healthy based on self-reported health status and health conditions. An individual is classified as less healthy if they report cognitive or functional difficulties due to a chronic physical, mental, or emotional condition that places them at high risk of becoming homebound.

The last data source for my analysis is the 1980 Census. This data set contains information similar to that of ACS. I use the 1980 Census to conduct a falsification test of the assumption that the change in the likelihood of co-residence at age 65 in 1980 is smaller than the change observed today. This assumption stems from the fact that before the implementation of OBRA in 1981, Medicare's home health benefits were less generous, and beneficiaries of Medicare's home health benefits represented a smaller proportion of the elderly population than today. There are two caveats. First, the elasticity of co-residence to Medicare's home health care benefits may be higher in 1980 than today because of the generally weaker

social safety net in 1980, which may, to a certain extent, weaken the comparability of the estimates. Therefore, we should interpret the 1980 estimate as an upper bound for the counterfactual effect of more limited Medicare home health benefits on living arrangements in today's society. Second, the 1980 Census has very limited health-related information. The only health-related information available is whether an individual has any physical or mental health conditions that prevent her from using public transportation. Therefore, I use this alternative definition to classify individuals as relatively healthy or less healthy.

Table 1 presents summary statistics for the MEPS, ACS, and 1980 Census samples of single and married individuals aged 55 to 75. Column (1) presents the MEPS sample of single individuals, comprising over 21,000 observations. The sample consists predominantly of White individuals. The average annual personal income is approximately \$35,000.⁰ 91% of the sample has health insurance, and 18% is enrolled in Medicaid. 6% of the sample uses home health care. Column (2) presents the MEPS sample of married individuals. The sample is predominantly composed of White individuals. The average family income is approximately \$80,000. 95% of the sample has health insurance, and 5% is enrolled in Medicaid. 3% of the sample uses home health care. Columns (3)-(6) report the summary statistics for the ACS and 1980 Census samples. Column (5) shows that 25% of single older adults lived in a co-resident household in 1980, whereas Column (3) shows that 30% lived in a co-resident household between 2008 and 2019. This increase in co-residence is primarily driven by shifting demographics, particularly the rapid growth of the Hispanic population, which has a higher-than-average co-residence rate. In addition, 16% of single individuals in the MEPS and ACS samples are classified as less healthy. For married individuals, the proportions are also comparable across the two samples, at 10% and 8%, respectively.

⁰ Monetary amounts are converted to 2009 dollars using the Consumer Price Index (CPI).

IV. Empirical Framework

To explore the impact of Medicare's home health care on co-residence, I use a regression discontinuity design (RDD) to examine whether there is any change in home health care utilization and co-residence at age 65 at which all individuals become eligible for Medicare. I estimate the following model:

$$y_i = \beta_0 + \beta_1 Post65_i + \beta_2 (Age_i - 65) + \beta_3 Post65_i \times (Age_i - 65) + \beta_4 (Age_i - 65)^2 + \beta_5 Post65_i \times (Age_i - 65)^2 + \beta_6 \mathbf{X}_i + \lambda_r + \lambda_t + \epsilon_i \quad (1)$$

where i indexes the individual, r the region or state, and t the survey year. In the main analysis, y_i is either an indicator for home health care utilization or co-residence. $Post65_i$ is an indicator for whether individual i is 65 or older. β_1 is the coefficient of interest. Since Medicare coverage does not increase from 0 to 100 percent at age 65, β_1 should be interpreted as a scaled estimate of the effect of Medicare coverage, where the scale factor is the difference in the probability of treatment on either side of the threshold. Age_i is individual i 's age in years for the MEPS and ACS samples and age in quarters for the 1980 Census sample. \mathbf{X}_i is a set of individual-level controls. λ_r is a set of region fixed effects for the MEPS sample and state fixed effects for the ACS and 1980 Census samples. λ_t is a set of survey year fixed effects. All specifications include a quadratic term in age that is fully interacted with the post-65 dummy. In addition, all observations are weighted by survey weights.

In my analysis, I examine single and married individuals separately, following the convention in the living arrangement literature. The following example illustrates the approach I take: suppose a co-resident household consists of an individual, her spouse, and her single sibling who are all aged 55 to 75, then the sibling would be included in the regression for single individuals, while the older person between the individual and her spouse would be included in the regression for married individuals. In addition, I construct an income measure based on CPI-adjusted total pre-tax personal income for single individuals and an

income measure based on CPI-adjusted total pre-tax family income for married individuals. Following Engelhardt and Greenhalgh-Stanley (2010) and Mommaerts (2018), I examine individuals at different positions of the income distribution separately to test the assumption that individuals at the bottom or top of the income distribution are less affected by Medicare's home health benefits than individuals in the middle of the income distribution. This assumption is based on the fact that individuals with extremely low income are able to get free home health care through Medicaid, and individuals with high income would face few financial constraints that would prevent them from purchasing home health care.¹

To examine whether the health group classification reflects home health care utilization, I use a Probit and an Ordinary Least Squares (OLS) model to examine whether there are any differences in home health care utilization between relatively healthy and less healthy individuals at both the extensive and intensive margins. Table 2 presents the Probit and OLS estimates. Column (1) shows that single individuals classified as less healthy are 14 percentage points more likely to use home health care than those classified as relatively healthy. In addition, conditional on having at least one home health care event, single individuals classified as less healthy on average have 1.16 more home health care events. Column (2) shows that married individuals classified as less healthy are 6 percentage points more likely to use home health care than those classified as relatively healthy. In addition, conditional on having at least one home health care event, married individuals classified as less healthy on average have 0.59 more home health care events. These results suggest that the classification based on self-reported health status effectively captures individuals' need for home health care.

¹ A wealth distribution would be better suited for my analysis. However, the data sets in my analysis do not collect information on individuals' wealth. Therefore, I use individuals' income as a proxy for their wealth.

V. Results

V.A. Impact on Health Insurance and Medicare Coverage

First, I examine the impact of turning 65 on health insurance and Medicare coverage. In addition to analyzing the full sample, I also examine the effects across income levels and racial groups because it is well established in the literature that disparities in health insurance coverage exist across income levels and racial groups (Agency for Healthcare Research and Quality, 2021). These disparities may lead to heterogeneous changes in health insurance and Medicare coverage at age 65, as demonstrated by Card et al. (2008). For the heterogeneity analysis by racial groups, individuals are categorized into non-Hispanic White, non-Hispanic Black, or “other” racial group. For the heterogeneity analysis by income levels, individuals are classified into one of the four income quartiles based on the sample’s income distribution.

Table 3 presents the impact of turning 65 on health insurance coverage. Panel A shows an overall increase of 7.3 percentage points for the full sample. Figure 1(a) provides the corresponding graphical illustration. Heterogeneity analysis shows that the effect varies across racial groups, with a smaller impact for White individuals compared to Black individuals and those in the “other” racial category. Panels B-E show significant heterogeneity across income quartiles. Individuals in the bottom income quartile experience the largest increase in health insurance coverage, while individuals in the top income quartile experience the least increase. Panel B shows an 11.1-percentage-point increase for individuals in the bottom income quartile. Similarly, Panel C shows a 10.9-percentage-point increase for those in the second income quartile. Panels D and E display progressively smaller effects, which may be because higher-income individuals already have higher insurance coverage rates before age 65, leaving less room for Medicare eligibility to further expand their coverage. For the third income quartile, turning 65 increases health insurance coverage by 4.4 percentage points. In the top income quartile, the effect is smallest, with a 1.7 percentage point increase. Overall, the results in Table 3 demonstrate that turning 65 significantly increases health insurance

coverage, with larger effects observed for lower-income individuals and those in minority racial groups.

Table 4 presents the impact of turning 65 on Medicare coverage. Panel A shows an overall increase of 66.8 percentage points for the full sample. Figure 1(b) provides the corresponding graphical illustration. Heterogeneity analysis by racial groups shows that the effect is largest for White individuals who experience a 69.9-percentage-point increase, compared to 56.0 percentage points for Black individuals and 57.8 percentage points for those in the “other” racial category. Heterogeneity analysis by income quartiles shows that the impact varies across these quartiles. Panel B shows that individuals in the bottom income quartile experience an overall increase of 62.4 percentage points, with the largest increase observed for White individuals and the smallest increase observed for Black individuals. Similarly, Panel C shows that individuals in the second income quartile experience a 67.5-percentage-point increase, with the increase again highest for White individuals and lowest for Black individuals. Panels D and E show slightly smaller increases in Medicare coverage for higher-income groups. For the third income quartile, turning 65 leads to a 70.7-percentage-point increase, while for the top income quartile, there is a 66.9-percentage-point increase. Overall, the results in Table 4 demonstrate that turning 65 substantially increases Medicare coverage, with variations across racial and income groups.

V.B. Impact on Home Health Care Utilization

Table 5 presents estimates of the effect of Medicare eligibility at age 65 on home health care utilization among single individuals. Column (1) of Panel A shows that the change in Medicare eligibility has a small, positive, and imprecisely estimated overall effect on home health care utilization for single individuals. Columns (2) and (3) show that there is heterogeneity of treatment effects across health groups. Specifically, for relatively healthy single individuals, the effect of Medicare eligibility on home health care utilization is very small and imprecisely estimated. Figure 2(a) provides the corresponding graphical illustration.

In contrast, for less healthy single individuals, the change in Medicare eligibility leads to a statistically significant 11-percentage-point increase in home health care utilization, which represents a 72.5% increase from the baseline rate of 14.9%. Figure 2(b) provides the corresponding graphical illustration.

Column (3) of Panel C shows that the increase in home health utilization is driven by less healthy single individuals in the second income quartile. The estimate shows a 22.6-percentage-point increase in home health care utilization for this group. Figure 3 provides the corresponding graphical illustration. Column (3) of Panel B shows that for less healthy single individuals in the bottom income quartile, there is an increase in home health care utilization at age 65 that is statistically insignificant and only half the size of the increase in home health care utilization for less healthy single individuals in the second income quartile. This may be because individuals with very low incomes are more likely to get access to free home health care through Medicaid. Engelhardt and Greenhalgh-Stanley (2010) provided the same explanation for their finding that Medicare's home health benefits do not affect the likelihood of co-residence for the widowed older adults in the bottom income quartile. Two observations support this explanation. First, figure 4 shows that 47.6% of individuals in the bottom income quartile are enrolled in Medicaid, whereas only 21.4%, 7.1%, and 3.6% of those in the top three income quartiles are enrolled in Medicaid, respectively. Second, after adding an indicator for Medicaid coverage and an interaction term between it and the indicator for individuals older than age 65 to Equation 1, the coefficient on the Medicaid dummy indicates that enrollment in Medicaid increases the probability of using home health care by 2.7 percentage points for single individuals under age 65. Additionally, the coefficient on the interaction term is negative and statistically significant, indicating that the increase in home health care utilization at age 65 is smaller for individuals already enrolled in Medicaid compared to those without Medicaid.

Panels F-H of Table 5 show the changes in home health care utilization across racial

groups.² Column (2) shows that for relatively healthy individuals, Medicare coverage does not lead to any statistically significant changes in home health care utilization across racial groups. Column (3) shows that for less healthy individuals, the effect varies across racial groups. Specifically, Medicare eligibility leads to a 14.6-percentage-point increase in home health care utilization for less healthy Black individuals, as illustrated in Figure 5. In contrast, there is a marginally significant 11.5-percentage-point increase in home health care utilization for less healthy White individuals and a statistically insignificant 2.1-percentage-point increase for less healthy individuals in other racial groups.

Overall, these results suggest that less healthy single individuals with relatively low incomes are highly responsive to the reduction in home health care costs brought about by Medicare, while those who are relatively healthy and have higher incomes are not. This can be explained by two key observations. First, less healthy individuals are more likely than their healthier counterparts to both need and qualify for Medicare's home health benefits. Second, individuals with lower incomes are more likely than their higher-income counterparts to face financial constraints that may prevent them from accessing home health care when out-of-pocket costs are high.

Table 6 presents estimates of the effect of Medicare eligibility at age 65 on home health care utilization among married individuals. Column (1) of Panel A shows that the change in Medicare eligibility has a small, positive, and imprecisely estimated overall effect on home health care utilization for married individuals. Columns (2) and (3) show that the effects are also small and imprecisely estimated for less healthy and relatively healthy married individuals, respectively. Figure 6 provides the corresponding graphical illustration. These results suggest that married individuals are less responsive to the reduction in home health care costs compared to single individuals. Since married and single individuals typically receive informal care from their spouses and children, respectively, their responses to the

² Due to sample size limitations, I examine changes in home health care utilization among relatively healthy and less healthy individuals by income and race separately, rather than jointly, to ensure sufficient statistical power to identify statistically significant effects.

price reduction in home health care may reflect differing preferences. Specifically, married individuals may prefer informal care from their spouses over formal home health care, while single individuals may favor home health care over informal care from their children. Possible explanations for this difference in preferences include that older adults may place a high value on privacy, and that spouses may face lower opportunity costs associated with caregiving than children.

V.C. Impact on Co-residence

Tables 7 and 8 present the second-stage results on co-residence for single individuals using the ACS sample.³ Table 7 presents estimates of the effect of Medicare eligibility at age 65 on the likelihood of co-residence among less healthy single individuals. Column (1) of Panel A shows that there is a small, negative, and imprecisely estimated overall effect for less healthy single individuals. Column (3) of Panel A shows that there is a marginally significant 3.0-percentage-point decrease in the likelihood of co-residence for less healthy single Black individuals. This effect is concentrated among less healthy single Black individuals in the second income quartile, where the likelihood of co-residence decreases by 8.1 percentage points. Figure 7 provides the corresponding graphical illustration. Columns (1) and (4) show that the effects of Medicare's home health care on co-residence are relatively small and imprecisely estimated for White individuals and individuals from the "other" racial group. These results are in line with the first-stage result that the increase in home health care utilization among less healthy single individuals is driven by those in the second income quartile and by Black individuals.

Table 8 presents estimates of the effect of Medicare eligibility at age 65 on the likelihood of co-residence among relatively healthy single individuals. Column (1) of Panel A shows that there is a small, positive, and imprecisely estimated overall effect for relatively healthy

³ This paper omits discussion of co-residence outcomes for married individuals. No statistically significant changes are observed among either relatively healthy or less healthy married individuals. This aligns with both existing literature and my finding that home health care utilization does not change for these groups at age 65.

single individuals. For relatively healthy single individuals in the second income quartile, there is a small and significant increase in the likelihood of co-residence at age 65. However, since it is unlikely that relatively healthy individuals need or qualify for Medicare's home health benefits, the increase in the likelihood of co-residence is unlikely due to Medicare's home health care. Columns (2)-(4) show that the effects of Medicare's home health care on co-residence are small and imprecisely estimated across racial groups. These results are largely in line with the first-stage results on home health care utilization.

V.D. Change in Medicaid Coverage at Age 65

There may be concern that Medicaid coverage could change as a result of the shift in Medicare eligibility, potentially affecting individuals' home health care utilization and living arrangements. To explore this further, I examine whether there is any change in Medicaid coverage at age 65. Table 9 presents estimates for Medicaid coverage at age 65 for single individuals. Column (1) of Panel A shows that there is a very small and imprecisely estimated overall change. Columns (2) and (3) of Panel A show that for relatively healthy single individuals, there is an increase in Medicaid coverage, whereas for less healthy single individuals, there is a decrease. Figure 8 provides the corresponding graphical illustration. Column (2) of Panels B-E shows that there is a small and imprecisely estimated reduction in Medicaid coverage for relatively healthy individuals in the bottom income quartile. For relatively healthy single individuals in the top three income quartiles, Medicaid coverage either decreases or increases. However, these changes are unlikely to affect my identification strategy because it is rare for individuals in this group to require home health care and, as a result, be affected by Medicare's or Medicaid's home health care benefits. Column (3) of Panels B-E shows that there is a small and imprecisely estimated reduction in Medicaid coverage for less healthy individuals in the bottom and third income quartiles. For less healthy single individuals in the second and top income quartiles, Medicaid coverage *decreases* rather than increases, suggesting that my estimates may, if anything, underestimate the true effect of

Medicare eligibility on home health care utilization and co-residence outcomes.

V.E. Changes in Other Factors at Age 65

Next, I examine whether there are changes in other factors at the threshold that could potentially influence individuals' living arrangements. In addition to Medicaid coverage, one concern is that retirement may change at age 65 since it is the full retirement age, which could affect individuals' living arrangements. However, using NHIS data, Card et al. (2009) found no statistically significant discontinuity in the share of people employed at age 65. One reason retirement remains relatively smooth across the threshold may be that individuals can start receiving Social Security benefits as early as age 62 and that the mandatory retirement age has been abolished. Another factor I examine is the share of individuals classified as less healthy, as this could directly influence both home health care utilization and living arrangements. The result is shown in Figure 9. As the figure illustrates, there is no statistically significant discontinuity in the share of individuals classified as less healthy at age 65. However, there is a change in the slope of the trend at age 65. Specifically, the trend remains relatively flat between ages 55 and 65, while between ages 65 and 75, the share of individuals reporting difficulty living independently increases at an accelerating rate. Nevertheless, since the analysis focuses solely on local changes at the threshold, the potential confounding effect of this trend is minimal.

Medicare eligibility at age 65 may lead to increased healthcare utilization more broadly, not just in home health care, as individuals either gain insurance coverage after previously being uninsured or gain more generous coverage. This broader change in access could represent a potential confounding factor. However, I argue that the change in home health care utilization remains the most plausible mechanism driving shifts in co-residence. This is supported by the finding that Medicare eligibility leads to a decline in co-residence among less healthy single Black individuals, but not among their married counterparts. This heterogeneity suggests that the effect is unlikely to be driven by general healthcare utilization,

since both groups experience similar changes in coverage. Instead, the results point to the importance of specific services such as home health care. For married individuals, the presence of a spouse often provides in-home support regardless of Medicare eligibility, reducing the role of formal care in shaping living arrangements. In contrast, less healthy single Black individuals, who lack a spouse and are more likely to rely on adult children or extended kin for caregiving, may be more likely to live independently once Medicare-funded home health care becomes available.

V.F. Robustness Check

In the robustness check, I define a co-resident household as a household where in addition to the individual aged 55-75 and their spouse or partner, at least one other individual over the age of 18 resides. Table 10 presents estimates of the effect of access to Medicare's home health care on the likelihood of co-residence among less healthy single individuals using this alternative definition. Column (3) shows that the marginally significant effect for less healthy single Black individuals in the main analysis becomes statistically insignificant. However, the effect for less healthy single Black individuals in the second income quartile remains highly statistically significant and largely unchanged in magnitude. Table 11 presents estimates of the effect of access to Medicare's home health care on the likelihood of co-residence for relatively healthy single individuals. Column (1) shows that the statistically significant effect for relatively healthy single individuals in the bottom income quartile in the main analysis becomes only marginally significant.

Tables 12 and 13 present estimates of the effect for Medicare eligibility at age 65 on home health care utilization for single and married individuals, respectively, from models where the bandwidths are selected based on the optimal bandwidth choice methodology proposed by Calonico et al. (2014). These bandwidths are hereinafter referred to as CCT bandwidths. Tables 14 and 15 present estimates of the effect of access to Medicare's home health care on the likelihood of co-residence among less healthy and relatively healthy single

individuals, respectively, using models with CCT bandwidths. In general, the results are robust to a linear specification with CCT bandwidths but not to a quadratic specification using the same bandwidths. This sensitivity may be due to the discrete nature of the running variable, which results in a small number of support points.

V.G. Change in Co-residence in 1980

Before the 1980 OBRA, which went into effect in 1981 and eliminated the Part A annual visit cap, prior hospitalization requirements, and Part B deductible, Medicare's home health benefits were less generous than they are today. In 1980, only 2.7% of the elderly population received home health services through Medicare, with each beneficiary receiving an average of 22 annual visits. By 2008, these numbers had increased to 8.6% and 35 visits, respectively (Montauk, 1998; National Association for Home Care and Hospice, 2010). I exploit the difference in home health care utilization between 1980 and today to conduct a falsification test using data from the 1980 Census. If the decrease in the likelihood of co-residence at age 65 today is driven by Medicare's home health benefits, then we would expect to observe a smaller change in co-residence in 1980 given the less generous benefits at that time. However, the generally weaker social safety net in 1980 may have resulted in a higher elasticity of co-residence with respect to Medicare's home health care benefits compared to today, which could limit the comparability of the estimates. Therefore, the 1980 estimate should be interpreted as an upper bound for the counterfactual effect of more limited Medicare home health benefits on living arrangements in today's society. Figure 10 illustrates that in 1980, there was an imprecisely estimated 3.3-percentage-point decrease in co-residence at age 65 among less healthy single Black individuals in the second income quartile. This change is less than half the size of the decrease in co-residence observed today, which is consistent with the assumption.

VI. Conclusion

Older adults' living arrangements are closely tied to caregiving and are among the most important factors influencing their quality of life. In addition, different types of living arrangements can impose varying costs on different parties. Therefore, understanding how public programs supporting elderly care affect these living arrangements can help policy-makers design health policies that enhance the well-being of both older adults and their caregivers while ensuring the financial sustainability of the healthcare system. This paper exploits the increase in Medicare coverage at age 65 to examine the effect of access to Medicare's home health benefits on home health care utilization and the likelihood of co-residence. The findings suggest that the increase in Medicare coverage at age 65 leads to an 11-percentage-point increase in home health care utilization among less healthy single individuals, primarily driven by those in the second income quartile and by Black individuals. No notable changes are observed among relatively healthy single individuals. Additionally, there is an overall statistically insignificant change in the likelihood of co-residence among both less healthy and relatively healthy single individuals. However, heterogeneity analysis by racial groups shows that the likelihood of co-residence increases by 3 percentage points at the age threshold among less healthy Black single individuals, which is most plausibly driven by the increased utilization of home health care. This effect is concentrated among less healthy single Black individuals in the second income quartile. No notable changes are observed among other racial groups. For married individuals, neither home health care utilization nor the likelihood of co-residence changes at the age threshold. Overall, the findings suggest that access to Medicare's home health care may notably impact care utilization patterns and living arrangements for certain vulnerable elderly subpopulations, indicating that targeted policy interventions could have meaningful implications for these groups.

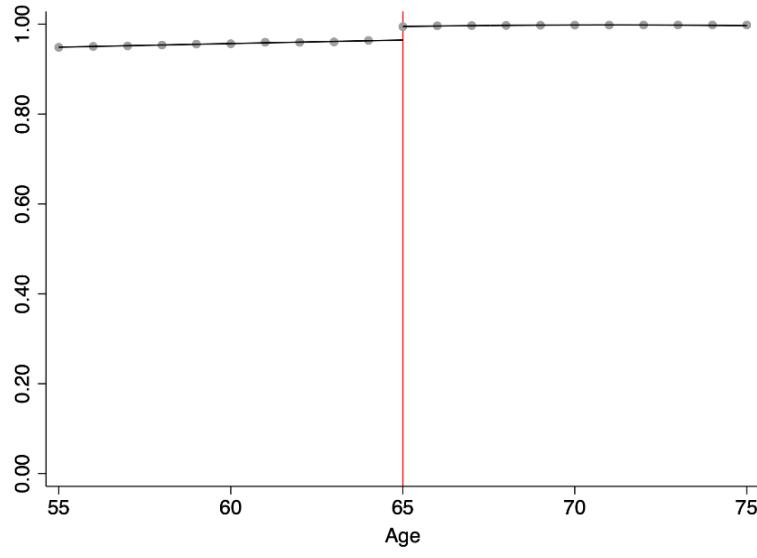
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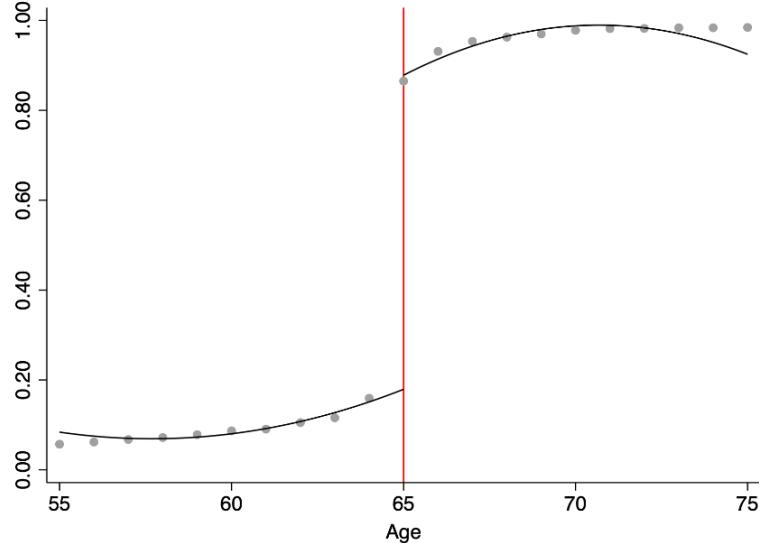
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VII. Figures and Tables

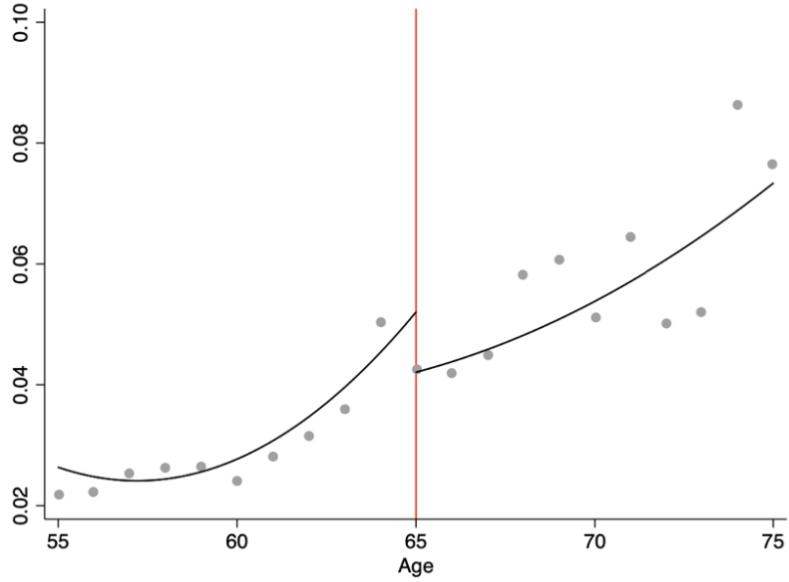


(a) Health Insurance Coverage

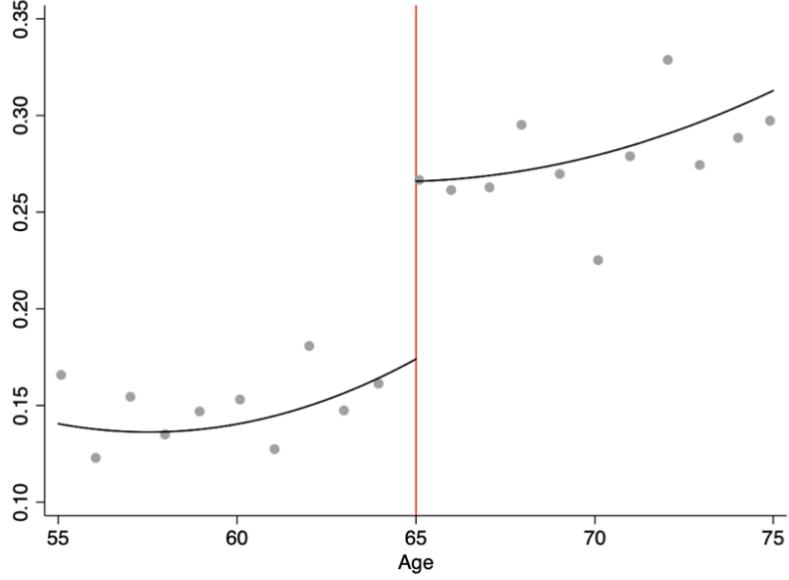


(b) Medicare Coverage

Figure 1: Changes in Health Insurance and Medicare Coverage at Age 65 (ACS). The subfigures illustrate the changes in health insurance and Medicare coverage at age 65, respectively, based on pooled 2008–2019 ACS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.



(a) Relatively Healthy



(b) Less Healthy

Figure 2: Changes in Home Health Care Utilization at Age 65 Among Single Individuals by Health Status (MEPS). The subfigures illustrate the changes in home health care utilization at age 65 among relatively healthy and less healthy single individuals, respectively, based on 2001–2019 MEPS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.

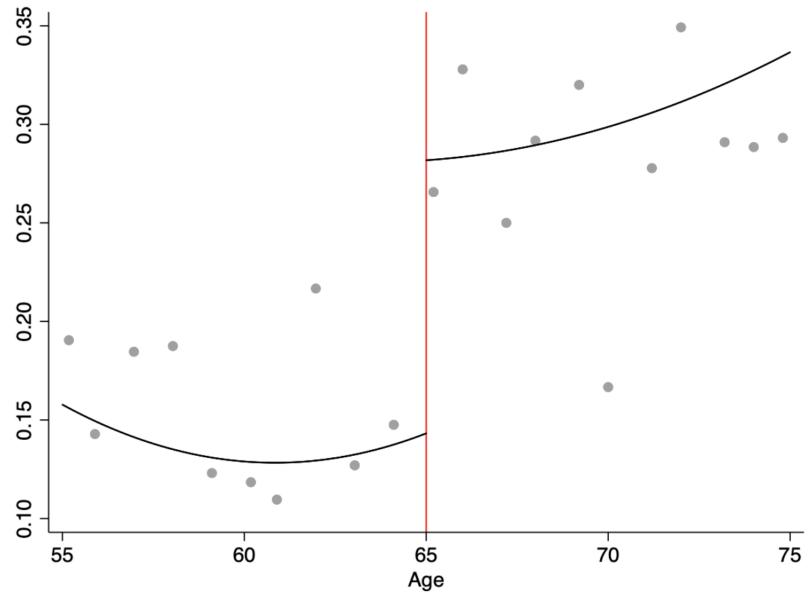


Figure 3: Change in Home Health Care Utilization at Age 65 Among Less Healthy Single Individuals in the Second Income Quartile (MEPS). The figure illustrates the change in home health care utilization at age 65 among less healthy single individuals in the second income quartile based on 2001–2019 MEPS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.

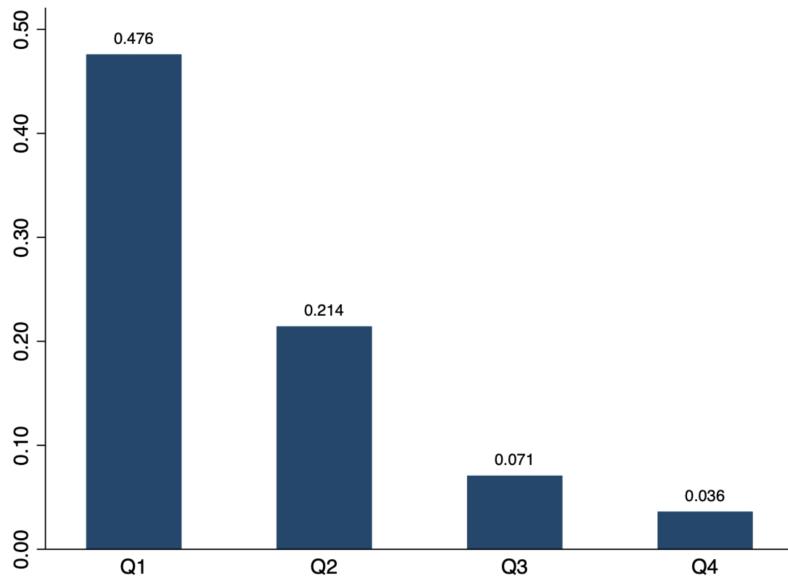


Figure 4: Medicaid Coverage Among Single Individuals Across Income Quartiles (MEPS). The figure shows the proportion of individuals enrolled in Medicaid across income quartiles. As illustrated, 47.6% of individuals in the bottom income quartile are enrolled in Medicaid. In comparison, 21.4% of individuals in the second income quartile are enrolled, which is less than half the proportion in the bottom quartile. Only 7.1% and 3.6% of individuals in the third and top income quartiles, respectively, are enrolled in Medicaid.

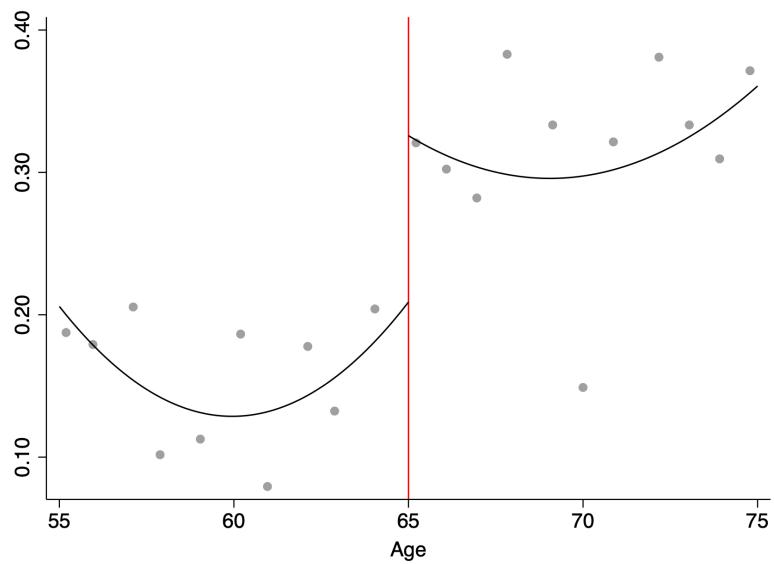
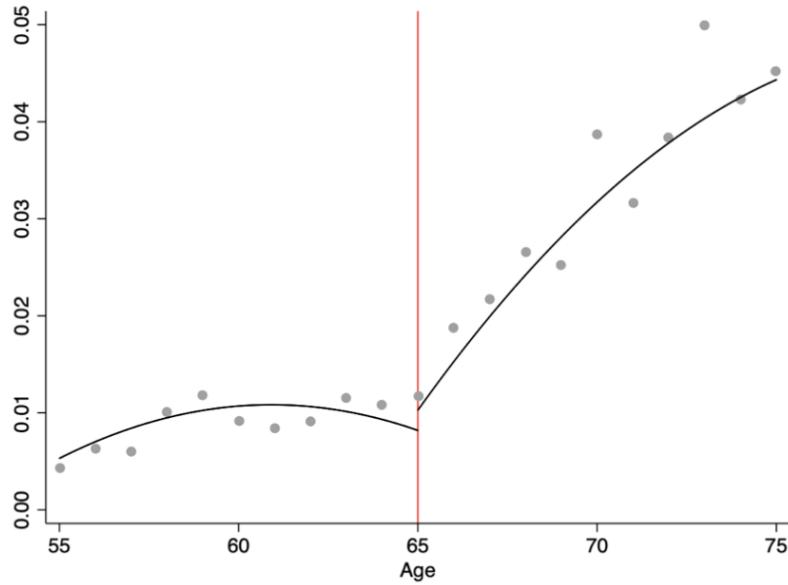
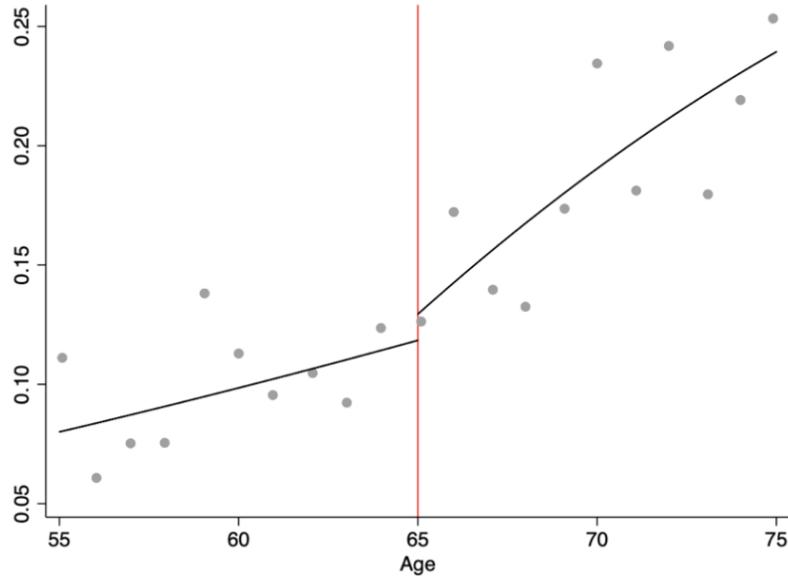


Figure 5: Change in Home Health Care Utilization at Age 65 Among Less Healthy Single Black Individuals (MEPS). The figure illustrates the change in home health care utilization at age 65 among less healthy single Black individuals based on 2001–2019 MEPS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.



(a) Relatively Healthy



(b) Less Healthy

Figure 6: Changes in Home Health Care Utilization at Age 65 Among Married Individuals by Health Status (MEPS). The subfigures illustrate the changes in home health care utilization at age 65 among relatively healthy and less healthy married individuals, respectively, based on 2001–2019 MEPS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.

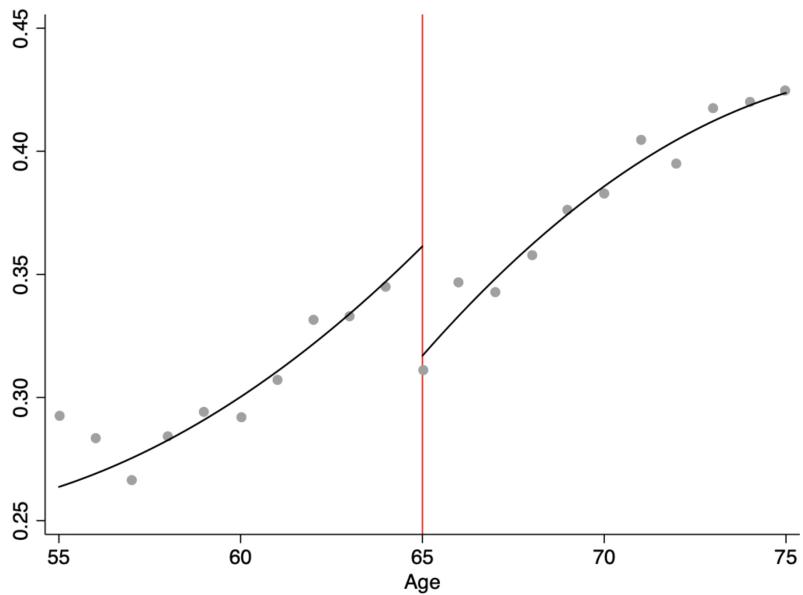
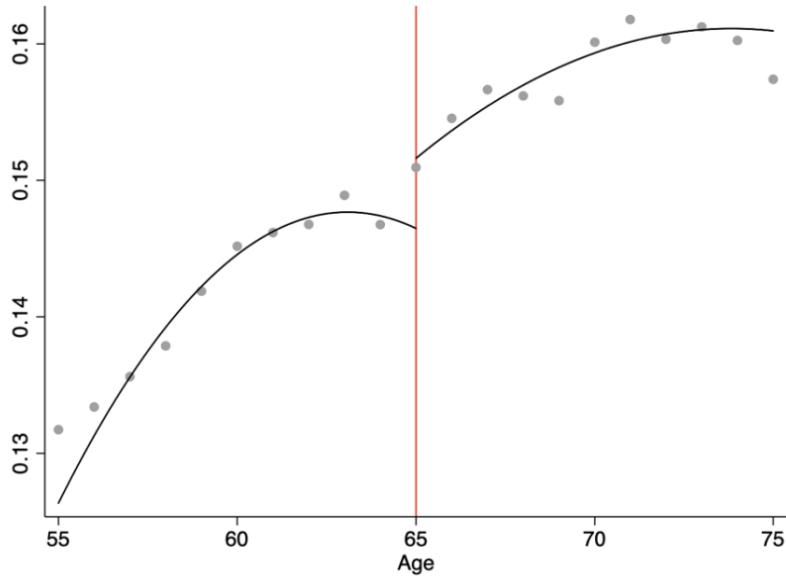
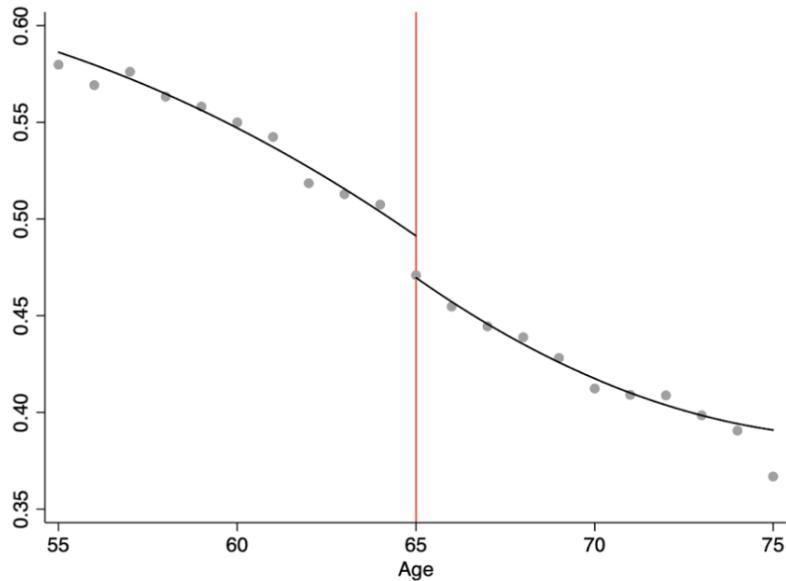


Figure 7: Change in Co-residence at Age 65 Among Less Healthy Single Black Individuals in the Second Income Quartile (ACS). The figure illustrates the change in the likelihood of co-residence at age 65 among less healthy single Black individuals in the second income quartile based on pooled 2008–2019 ACS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.



(a) Relatively Healthy



(b) Less Healthy

Figure 8: Changes in Medicaid Coverage at Age 65 Among Single Individuals by Health Status (ACS). The subfigures illustrate the changes in Medicaid coverage at age 65 for relatively healthy and less healthy individuals, respectively, based on pooled 2008–2019 ACS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.

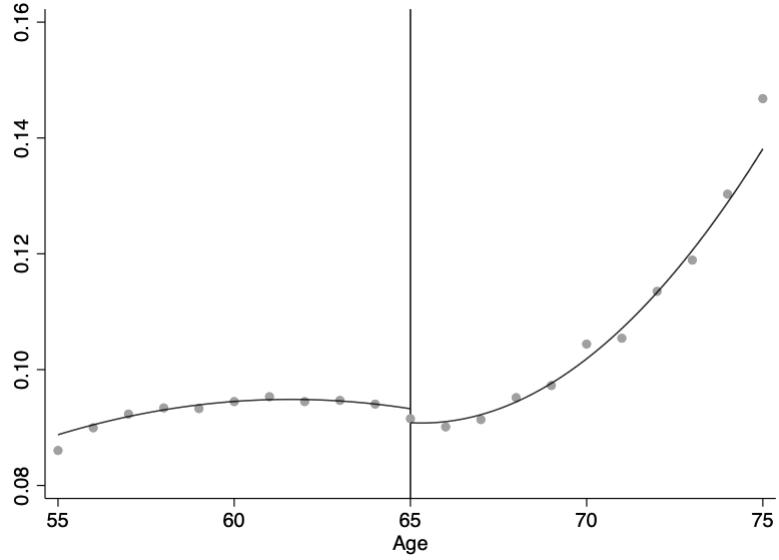


Figure 9: Change in the Share of Individuals Classified as Less Healthy at Age 65 (ACS). The figure illustrates the change in the share of individuals with difficulty living independently at age 65 using pooled 2008–2019 ACS data. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.

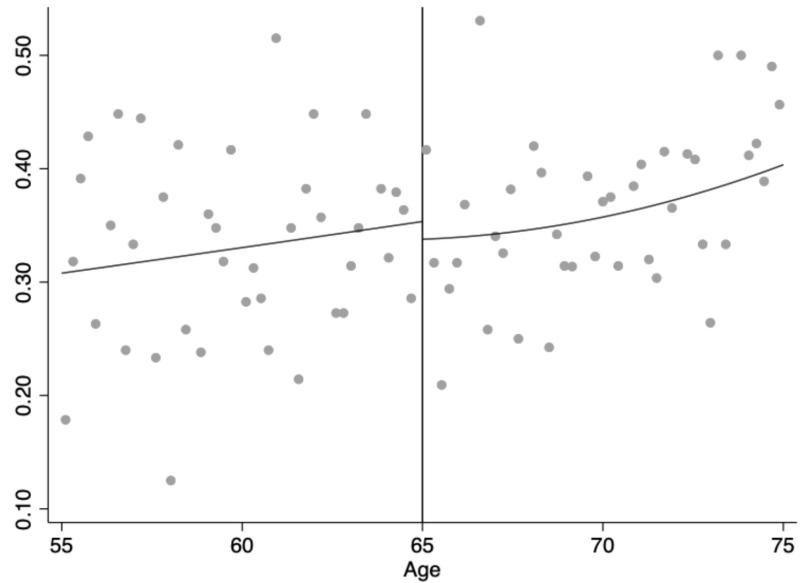


Figure 10: Change in Co-residence at Age 65 Among Less Healthy Single Black Individuals in the Second Income Quartile (1980 Census). The figure illustrates the change in co-residence at age 65 among less healthy single Black individuals in the second income quartile. The running variable, age, is measured in years. The polynomial fits shown are of order two. A triangular kernel is applied.

Table 1: Summary Statistics for MEPS, ACS, and 1980 Census Samples

	MEPS		ACS		1980 Census	
	Single	Married	Single	Married	Single	Married
	(1)	(2)	(3)	(4)	(5)	(6)
Male	0.38	0.50	0.36	0.50	0.24	0.50
White	0.69	0.78	0.68	0.77	0.81	0.09
Black	0.16	0.07	0.17	0.07	0.14	0.07
Less Than High School	0.17	0.12	0.17	0.12	0.56	0.47
High School Graduate	0.32	0.31	0.30	0.28	0.26	0.29
Less Healthy	0.16	0.10	0.16	0.08	0.10	0.06
Insured	0.91	0.95	0.91	0.95	-	-
Medicaid	0.18	0.05	0.21	0.08	-	-
Home Health Care	0.06	0.03	-	-	-	-
Co-residence	-	-	0.30	0.32	0.25	0.32
Annual Income	35,151	79,823	33,642	88,829	24,079	61,446
Observations	21,674	33,879	2,535,202	3,441,302	502,293	711,111

The table presents summary statistics for the MEPS, ACS, and 1980 Census samples of single and married individuals aged 55 to 75. Columns (1) and (2) use pooled 2001–2019 MEPS data. Columns (3) and (4) use pooled 2008–2019 ACS data. Columns (5) and (6) use 1980 Census data. Annual income refers to personal income for single individuals and family income for married individuals. All Monetary amounts are converted to 2009 dollars using the CPI.

Table 2: Probit and OLS Estimates: Differences in Home Health Care Utilization Between Relatively Healthy and Less Healthy Individuals (MEPS)

	Marital Status	
	Single	Married
	(1)	(2)
<i>A. Probability of Using Home Health Care</i>		
Less Healthy	0.14*** (0.01)	0.06*** (0.00)
<i>B. Number of Home Health Care Events</i>		
<i>Conditional on Having at Least One Event</i>		
Less Healthy	1.16*** (0.08)	0.59*** (0.04)

Column (1) shows the estimated differences in home health care utilization between relatively healthy and less healthy single individuals at the extensive and intensive margins. Column (2) shows the estimated differences in home health care utilization between relatively healthy and less healthy married individuals at the extensive and intensive margins. Each regression is weighted by survey weights. Standard errors are shown in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 3: Change in Health Insurance Coverage at Age 65 (ACS)

	Racial Groups			
	All	White	Black	Other
	(1)	(2)	(3)	(4)
<i>A. All</i>				
Post65	0.071*** (0.001)	0.062*** (0.001)	0.083*** (0.003)	0.127*** (0.004)
<i>B. Bottom Income Quartile</i>				
Post65	0.110*** (0.002)	0.099*** (0.002)	0.108*** (0.007)	0.158*** (0.010)
<i>C. Second Income Quartile</i>				
Post65	0.103*** (0.002)	0.097*** (0.002)	0.110*** (0.005)	0.151*** (0.008)
<i>D. Third Income Quartile</i>				
Post65	0.044*** (0.001)	0.040*** (0.001)	0.053*** (0.004)	0.073*** (0.007)
<i>E. Top Income Quartile</i>				
Post65	0.019*** (0.001)	0.016*** (0.001)	0.022*** (0.004)	0.036*** (0.007)

Column (1) shows estimates of changes in health insurance coverage at age 65 across income quartiles. Columns (2)–(4) show estimates of changes in health insurance coverage at age 65 for non-Hispanic White individuals, non-Hispanic Black individuals, and individuals from other racial groups, respectively, across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 4: Change in Medicare Coverage at Age 65 (ACS)

	Racial Groups			
	All	White	Black	Other
	(1)	(2)	(3)	(4)
<i>A. All</i>				
Post65	0.680*** (0.001)	0.710*** (0.001)	0.575*** (0.004)	0.583*** (0.004)
<i>B. Bottom Income Quartile</i>				
Post65	0.638*** (0.002)	0.681*** (0.003)	0.522*** (0.007)	0.566*** (0.007)
<i>C. Second Income Quartile</i>				
Post65	0.678*** (0.002)	0.708*** (0.003)	0.561*** (0.008)	0.593*** (0.008)
<i>D. Third Income Quartile</i>				
Post65	0.718*** (0.002)	0.742*** (0.002)	0.636*** (0.007)	0.595*** (0.009)
<i>E. Top Income Quartile</i>				
Post65	0.686*** (0.002)	0.700*** (0.002)	0.623*** (0.008)	0.597*** (0.010)

Column (1) presents estimates of changes in Medicare coverage at age 65 across income quartiles. Columns (2)–(4) present estimates of changes in Medicare coverage at age 65 for non-Hispanic White individuals, non-Hispanic Black individuals, and single individuals from other racial groups, respectively, across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 5: Change in home health care utilization at age 65 Among Single Individuals (MEPS)

	Health Status	Relatively Healthy	Less Healthy
	All (1)	(2)	(3)
<u>By Income</u>			
<i>A. All</i>			
Post65	0.014 (0.012)	-0.002 (0.011)	0.110** (0.049)
<i>B. Bottom Income Quartile</i>			
Post65	0.027 (0.034)	-0.002 (0.026)	0.110 (0.085)
<i>C. Second Income Quartile</i>			
Post65	0.037 (0.031)	-0.021 (0.031)	0.226*** (0.079)
<i>D. Third Income Quartile</i>			
Post65	-0.003 (0.023)	-0.006 (0.020)	0.022 (0.101)
<i>E. Top Income Quartile</i>			
Post65	-0.002 (0.017)	0.003 (0.015)	0.023 (0.117)
<u>By Ethnicity</u>			
<i>F. White</i>			
Post65	0.008 (0.017)	-0.009 (0.015)	0.115* (0.067)
<i>G. Black</i>			
Post65	0.035 (0.028)	0.018 (0.022)	0.146** (0.065)
<i>H. Other</i>			
Post65	-0.007 (0.020)	-0.011 (0.017)	0.021 (0.112)

Column (1) presents estimates of changes in home health care utilization at age 65 among single individuals across income quartiles. Column (2) presents estimates of changes in home health care utilization at age 65 among relatively healthy single individuals across income quartiles. Column (3) presents changes in home health care utilization at age 65 among less healthy single individuals across different income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are shown in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 6: Change in home health care utilization at age 65 Among Married Individuals (MEPS)

	Health Status		
	All (1)	Relatively Healthy (2)	Less Healthy (3)
<i>A. All</i>			
Post65	0.001 (0.006)	0.002 (0.004)	-0.013 (0.040)
<i>B. Bottom Income Quartile</i>			
Post65	-0.006 (0.015)	0.001 (0.010)	-0.057 (0.071)
<i>C. Second Income Quartile</i>			
Post65	0.006 (0.009)	0.002 (0.007)	0.036 (0.058)
<i>D. Third Income Quartile</i>			
Post65	0.002 (0.011)	0.004 (0.009)	-0.009 (0.088)
<i>E. Top Income Quartile</i>			
Post65	0.000 (0.011)	0.000 (0.008)	-0.022 (0.120)
<i>By Ethnicity</i>			
<i>F. White</i>			
Post65	0.003 (0.007)	0.003 (0.006)	0.013 (0.054)
<i>G. Black</i>			
Post65	0.029 (0.020)	0.006 (0.014)	0.175 (0.131)
<i>H. Other</i>			
Post65	-0.023 (0.017)	-0.011 (0.014)	-0.147 (0.098)

Column (1) presents estimates of changes in home health care utilization at age 65 for married individuals across income quartiles. Column (2) presents estimates of changes in home health care utilization at age 65 for relatively healthy married individuals across income quartiles. Column (3) presents estimates of changes in home health care utilization at age 65 for less healthy married individuals across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 7: Change in Co-residence at Age 65 Among Less Healthy Single individuals (ACS)

	Racial Groups			
	All	White	Black	Other
	(1)	(2)	(3)	(4)
<i>A. All</i>				
Post65	-0.003 (0.007)	0.007 (0.009)	-0.030* (0.016)	-0.007 (0.018)
<i>B. Bottom Income Quartile</i>				
Post65	0.004 (0.010)	0.012 (0.014)	0.011 (0.021)	-0.033 (0.022)
<i>C. Second Income Quartile</i>				
Post65	-0.015 (0.013)	-0.006 (0.015)	-0.081*** (0.031)	0.043 (0.038)
<i>D. Third Income Quartile</i>				
Post65	-0.007 (0.018)	0.007 (0.021)	-0.080* (0.046)	0.033 (0.054)
<i>E. Top Income Quartile</i>				
Post65	0.013 (0.024)	0.015 (0.027)	-0.028 (0.063)	0.041 (0.070)

Column (1) presents estimates of changes in the likelihood of co-residence at age 65 for less healthy single individuals across income quartiles. Columns (2)–(4) present estimates of changes in the likelihood of co-residence at age 65 for less healthy non-Hispanic White single individuals, non-Hispanic Black single individuals, and single individuals from other racial groups, respectively, across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 8: Change in Co-residence at Age 65 Among Relatively Healthy Single Individuals (ACS)

	Racial Groups			
	All	White	Black	Other
	(1)	(2)	(3)	(4)
<i>A. All</i>				
Post65	0.001 (0.003)	-0.002 (0.003)	0.005 (0.007)	0.011 (0.008)
<i>B. Bottom Income Quartile</i>				
Post65	0.015** (0.006)	0.008 (0.009)	0.021 (0.013)	0.020 (0.013)
<i>C. Second Income Quartile</i>				
Post65	-0.003 (0.006)	-0.005 (0.007)	-0.005 (0.015)	0.010 (0.017)
<i>D. Third Income Quartile</i>				
Post65	-0.007 (0.005)	-0.005 (0.006)	-0.014 (0.014)	-0.007 (0.017)
<i>E. Top Income Quartile</i>				
Post65	-0.001 (0.004)	-0.004 (0.005)	0.013 (0.015)	0.000 (0.017)

Column (1) presents estimates of changes in the likelihood of co-residence at age 65 for relatively healthy single individuals across different income quartiles. Columns (2)–(4) present estimates of changes in the likelihood of co-residence at age 65 for relatively healthy non-Hispanic White single individuals, non-Hispanic Black single individuals, and single individuals from other race groups, respectively, across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 9: Change in Medicaid Coverage at Age 65 Among Single Individuals (ACS)

	Health Status		
	All	Relatively Healthy	Less Healthy
	(1)	(2)	(3)
<i>A. All</i>			
Post65	-0.001 (0.002)	0.004** (0.002)	-0.020*** (0.007)
<i>B. Bottom Income Quartile</i>			
Post65	-0.006 (0.005)	0.001 (0.006)	-0.007 (0.010)
<i>C. Second Income Quartile</i>			
Post65	-0.018*** (0.005)	-0.015*** (0.005)	-0.029** (0.013)
<i>D. Third Income Quartile</i>			
Post65	0.008*** (0.003)	0.012*** (0.003)	-0.025 (0.016)
<i>E. Top Income Quartile</i>			
Post65	0.016 (0.002)	0.020*** (0.002)	-0.056*** (0.020)

Column (1) presents estimates of changes in Medicaid coverage at age 65 for single individuals across income quartiles. Column (2) presents estimates of changes in Medicaid coverage at age 65 for relatively healthy single individuals across income quartiles. Column (3) presents estimates of changes in Medicaid coverage at age 65 for less healthy single individuals across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 10: Robustness Check: Change in Co-residence at Age 65 Among Less Healthy Single Individuals, by Income and Racial Groups (ACS)

	Racial Groups			
	All	White	Black	Other
	(1)	(2)	(3)	(4)
<i>A. All</i>				
Post65	-0.002 (0.007)	0.006 (0.009)	-0.026 (0.016)	-0.002 (0.018)
<i>B. Bottom Income Quartile</i>				
Post65	0.005 (0.010)	0.007 (0.014)	0.007 (0.021)	-0.008 (0.022)
<i>C. Second Income Quartile</i>				
Post65	-0.017 (0.013)	-0.004 (0.016)	-0.083*** (0.031)	0.023 (0.038)
<i>D. Third Income Quartile</i>				
Post65	-0.005 (0.019)	0.005 (0.022)	-0.033 (0.046)	-0.012 (0.055)
<i>E. Top Income Quartile</i>				
Post65	0.023 (0.025)	0.029 (0.028)	0.000 (0.064)	0.007 (0.073)

Column (1) presents estimates of changes in the likelihood of co-residence at age 65 for less healthy single individuals across income quartiles. Columns (2)–(4) present changes in the likelihood of co-residence at age 65 for less healthy non-Hispanic White single individuals, non-Hispanic Black single individuals, and single individuals from other racial groups, respectively, across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 11: Robustness Check: Change in Co-residence at Age 65 for Relatively Healthy Single Individuals (ACS)

	Racial Groups			
	All	White	Black	Other
	(1)	(2)	(3)	(4)
<i>A. All</i>				
Post65	0.003 (0.003)	0.000 (0.003)	0.004 (0.008)	0.010 (0.008)
<i>B. Bottom Income Quartile</i>				
Post65	0.011* (0.006)	-0.002 (0.006)	0.021 (0.014)	0.013 (0.011)
<i>C. Second Income Quartile</i>				
Post65	-0.003 (0.006)	-0.007 (0.007)	-0.009 (0.015)	0.019 (0.016)
<i>D. Third Income Quartile</i>				
Post65	-0.004 (0.005)	0.005 (0.009)	-0.013 (0.015)	0.000 (0.017)
<i>E. Top Income Quartile</i>				
Post65	0.003 (0.005)	0.000 (0.003)	0.013 (0.016)	-0.009 (0.018)

Column (1) presents estimates of changes in the likelihood of co-residence at age 65 for relatively healthy single individuals across income quartiles. Columns (2)–(4) present estimates of changes in the likelihood of co-residence at age 65 for relatively healthy non-Hispanic White single individuals, non-Hispanic Black single individuals, and single individuals from other racial groups, respectively, across income quartiles. The estimates are obtained from the model specified in Equation 1 that includes quadratic age terms fully interacted with an indicator for being age 65 or older. Additional controls include various individual characteristics. Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 12: Robustness Check: Change in home health care utilization at Age 65 Among Single Individuals (MEPS)

	Health Status		
	All	Relatively Healthy	Less Healthy
	(1)	(2)	(3)
<i>A. All</i>			
Post65 (Linear + CCT Bandwidth)	-0.001 (0.019)	-0.013 (0.018)	0.088 (0.069)
Post65 (Quadratic + CCT Bandwidth)	-0.003 (0.028)	-0.016 (0.025)	0.074 (0.108)
<i>B. Bottom Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	0.027 (0.048)	0.011 (0.033)	0.093 (0.133)
Post65 (Quadratic + CCT Bandwidth)	0.022 (0.080)	0.009 (0.082)	0.033 (0.208)
<i>C. Second Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	0.030 (0.042)	0.002 (0.043)	0.116 (0.110)
Post65 (Quadratic + CCT Bandwidth)	0.041 (0.101)	0.079 (0.087)	0.141 (0.147)
<i>D. Third Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	-0.032 (0.036)	-0.050 (0.039)	-0.008 (0.147)
Post65 (Quadratic + CCT Bandwidth)	-0.042 (0.052)	-0.062 (0.048)	0.051 (0.228)
<i>E. Top Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	-0.015 (0.024)	-0.022 (0.026)	0.105 (0.192)
Post65 (Quadratic + CCT Bandwidth)	-0.014 (0.044)	-0.022 (0.047)	0.187 (0.460)

The entries in the first row of each panel represent estimated regression discontinuities at age 65 from a model that includes a linear control for age. The entries in the second row of each panel represent estimated regression discontinuities at age 65 from a model that includes quadratic controls for age. Optimal bandwidths are selected using the methodology proposed by Calonico et al. (2014). Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 13: Robustness Check: Change in home health care utilization at Age 65 Among Married Individuals (MEPS)

	Health Status		
	All	Relatively Healthy	Less Healthy
	(1)	(2)	(3)
<i>A. All</i>			
Post65 (Linear + CCT Bandwidth)	-0.004 (0.008)	-0.002 (0.006)	-0.037 (0.061)
Post65 (Quadratic + CCT Bandwidth)	-0.008 (0.013)	-0.004 (0.010)	-0.104 (0.096)
<i>B. Bottom Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	0.024 (0.022)	0.019 (0.012)	-0.005 (0.104)
Post65 (Quadratic + CCT Bandwidth)	0.059 (0.051)	0.047 (0.032)	0.016 (0.182)
<i>C. Second Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	-0.003 (0.011)	-0.005 (0.009)	-0.007 (0.067)
Post65 (Quadratic + CCT Bandwidth)	-0.008 (0.019)	0.000 (0.017)	-0.079 (0.103)
<i>D. Third Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	-0.008 (0.016)	-0.004 (0.014)	-0.055 (0.121)
Post65 (Quadratic + CCT Bandwidth)	-0.024 (0.024)	-0.017 (0.021)	-0.126 (0.178)
<i>E. Top Income Quartile</i>			
Post65 (Linear + CCT Bandwidth)	-0.013 (0.017)	-0.009 (0.011)	-0.082 (0.220)
Post65 (Quadratic + CCT Bandwidth)	-0.018 (0.025)	-0.010 (0.019)	-0.169 (0.345)

The entries in the first row of each panel represent estimated regression discontinuities at age 65 from a model that includes a linear control for age. The entries in the second row of each panel represent estimated regression discontinuities at age 65 from a model that includes quadratic controls for age. Optimal bandwidths are selected using the methodology proposed by Calonico et al. (2014). Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 14: Robustness Check: Change in Co-residence at Age 65 Among Less Healthy Single Individuals (ACS)

	Racial Groups			
	All (1)	White (2)	Black (3)	Other (4)
<i>A. All Income</i>				
Post65 (Linear + CCT Bandwidth)	0.002 (0.009)	0.021 (0.014)	-0.039* (0.021)	-0.012 (0.029)
Post65 (Quadratic + CCT Bandwidth)	-0.005 (0.021)	0.028 (0.026)	-0.064 (0.046)	-0.038 (0.053)
<i>B. Bottom Income Quartile</i>				
Post65 (Linear + CCT Bandwidth)	-0.008 (0.017)	0.010 (0.018)	0.000 (0.027)	-0.051 (0.036)
Post65 (Quadratic + CCT Bandwidth)	-0.027 (0.031)	0.002 (0.041)	-0.026 (0.062)	-0.096 (0.067)
<i>C. Second Income Quartile</i>				
Post65 (Linear + CCT Bandwidth)	0.010 (0.021)	0.029 (0.024)	-0.079** (0.037)	0.055 (0.047)
Post65 (Quadratic + CCT Bandwidth)	0.018 (0.037)	0.043 (0.044)	-0.099 (0.089)	0.070 (0.111)
<i>D. Third Income Quartile</i>				
Post65 (Linear + CCT Bandwidth)	0.008 (0.022)	0.026 (0.028)	-0.114* (0.061)	0.092 (0.070)
Post65 (Quadratic + CCT Bandwidth)	0.051 (0.052)	0.073 (0.061)	-0.128 (0.132)	0.175 (0.160)
<i>E. Top Income Quartile</i>				
Post65 (Linear + CCT Bandwidth)	0.023 (0.029)	0.039 (0.034)	-0.039 (0.081)	0.018 (0.087)
Post65 (Quadratic + CCT Bandwidth)	-0.012 (0.067)	0.037 (0.076)	-0.133 (0.191)	-0.109 (0.199)

The entries in the first row of each panel represent estimated regression discontinuities at age 65 from a model that includes a linear control for age. The entries in the second row of each panel represent estimated regression discontinuities at age 65 from a model that includes quadratic controls for age. Optimal bandwidths are selected using the methodology proposed by Calonico et al. (2014). Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

Table 15: Robustness Check: Change in Co-residence at Age 65 Among Relatively Healthy Single Individuals (ACS)

	Racial Groups			
	All (1)	White (2)	Black (3)	Other (4)
<i>A. All Income Groups</i>				
Post65 (Linear + CCT Bandwidth)	0.007 (0.004)	-0.002 (0.004)	0.024** (0.012)	0.020* (0.010)
Post65 (Quadratic + CCT Bandwidth)	0.009 (0.008)	-0.002 (0.009)	0.040* (0.022)	0.016 (0.024)
<i>B. Bottom Quartile of Income</i>				
Post65 (Linear + CCT Bandwidth)	0.021** (0.008)	0.002 (0.011)	0.035* (0.019)	0.036** (0.016)
Post65 (Quadratic + CCT Bandwidth)	0.038* (0.019)	0.014 (0.026)	0.060 (0.041)	0.046 (0.038)
<i>C. Second Quartile of Income</i>				
Post65 (Linear + CCT Bandwidth)	-0.004 (0.007)	-0.005 (0.008)	0.001 (0.019)	0.008 (0.021)
Post65 (Quadratic + CCT Bandwidth)	-0.012 (0.018)	-0.013 (0.021)	-0.003 (0.044)	0.012 (0.050)
<i>D. Third Quartile of Income</i>				
Post65 (Linear + CCT Bandwidth)	0.003 (0.008)	-0.006 (0.007)	0.022 (0.023)	0.007 (0.023)
Post65 (Quadratic + CCT Bandwidth)	0.011 (0.015)	0.001 (0.016)	0.062 (0.042)	-0.021 (0.051)
<i>E. Top Quartile of Income</i>				
Post65 (Linear + CCT Bandwidth)	0.000 (0.005)	-0.004 (0.006)	0.033 (0.023)	-0.005 (0.022)
Post65 (Quadratic + CCT Bandwidth)	0.003 (0.013)	-0.003 (0.013)	0.037 (0.044)	0.004 (0.052)

The entries in the first row of each panel represent estimated regression discontinuities at age 65 from a model that includes a linear control for age. The entries in the second row of each panel represent estimated regression discontinuities at age 65 from a model that includes quadratic controls for age. Optimal bandwidths are selected using the methodology proposed by Calonico et al. (2014). Each regression is weighted by survey weights. Standard errors are reported in parentheses. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.