Long-Term Care for Older Americans with Cognitive Limitations in the United States

James Gluzman, Gopi Shah Goda, Brian McGarry, Kathleen McGarry

June 10, 2026

The needs for long-term care for older individuals is a growing problem in the United States and around the world. The cost of nursing homes and formal home care is beyond the means of most elderly, and the supply of formal caregivers is limited. As a result, many families end up shouldering the responsibility of caring for aging loved ones. Examples of children and spouses struggling to meet their loved ones' care needs appear frequently in the news media and in more informal channels. Estimates from Gruber and McGarry (2025a) place the total cost of long-term care at approximately $382 billion (2019 dollars), or nearly 2 percent of GDP. This amount is divided across types of care with roughly 37 percent attributed to nursing home care, 23 percent to formal home care, and 40 percent informal care.[1]

The cost of this care will undoubtedly rise as the population ages and demand for care increases. The National Academy of Social Insurance currently estimates that the number of elderly who need long-term care will rise from 6.3 million in 2015 to 15 million by 2050.[2] Assuming the same patterns of care and relative costs, a roughly 2.4-fold increase in demand would lead to a total cost of close to $1 trillion.

However, there may well be changes in the mix of forms of care used by the elderly and in the intensity of care required over time that would put upward (or downward) pressure on total costs. The severity of impairment is an important factor affecting the demand for care, the mix of the type of care, and the cost of that care. Among those 65 years old or older with limitations with respect to three or more Activities of Daily Living (ADLs), approximately 50 percent use some formal care, whether in a nursing home or at home.[3] Conversely, for those with just one limitation, the fraction using formal care is less than 20 percent (Gruber and McGarry, 2025b).

[1] See Gruber and McGarry (2025a), for a discussion of how a value of informal care is imputed.
[2] https://www.nasi.org/learn/long-term-services-and-supports/demand-for-long-term-services-and-supports-will-rise/
[3] Activities of daily living include dressing, bathing, eating, toileting, getting in and out of bed, and walking across a room.

Because limitations rise with age, ceteris paribus, the aging of the population will put increasing demands on the formal long-term care sector, a sector that is already facing a large shortfall of workers and sharply rising costs (American Health Care Association, 2024).[4]

Similarly, demographic changes may lead to a greater reliance on formal care. With the lower fertility rates experienced by coming generations of elderly and increases in the number of divorced and never married individuals, there will be fewer family members available to provide care, increasing demand for formal care and leading to upward pressure on the price of paid care. At the same time, lower fertility rates will result in a smaller supply of workers, likely leading to a decline in the number of individuals available to work as formal caregivers and additional upward pressure on prices for formal care.

Regardless of future changes in the price of long-term care, there is consensus that the current costs of these services are high. The median annual cost of a stay in a nursing home in the United States is currently over $116,000 but can be much higher in some states, reaching up to $200,000 or more. Similarly, the median cost of formal home care is $33 an hour with a median annual cost of approximately $75,000 (Genworth, 2023). The cost to families and informal caregivers is more difficult to measure but includes an emotional cost as well as the financial cost associated with lost labor market efforts (McGarry, 2025; Coe, Goda and Van Houtven 2023).

Less discussed is the possible shift in the type of infirmities experienced by the elderly. There have been substantial declines in mortality from heart disease, cancer, and stroke, but a concomitant rise in the number of elderly with cognitive impairments. Dementia is already the leading cause of disability among the elderly (Fang et al., 2025) and its impact will likely continue to grow. Favreault and Johnson (2021) project both an increase in the number of individuals with severe cognitive impairment as well as an increase in the length of time for which for which an individual is expected to live with such impairment. Fang et al. (2025) suggest a lifetime risk of dementia after age 55 of 42 percent, with higher rates for Blacks and for women.

Severe cognitive impairment creates extensive demands on caregivers in terms of both the hours of care and the degree of supervision required, often making informal care at home less feasible

[4] Recent evidence suggests that there has been a compression of morbidity with declines in the number of years for which individuals need assistance (e.g. Freedman et al., 2021).

than for those with physical impairments. With nursing homes and assisted living facilities being a more common source of care for those with dementia, the use of institutional care will likely rise with the growth of the cognitively impaired population. Indeed, among those elderly with low cognitive scores in our sample from the Health and Retirement Study (HRS), 23.7 percent are in a nursing home compared with just 5.6 percent of those with two or more physical limitations, but higher cognitive scores.

The expected increase in demand for institutional long-term care is coming at a time when U.S. nursing home capacity has declined (McGarry et al., 2026). These dynamics raise concerns about the country's ability to care for older adults with cognitive impairment and heightens the need to understand the care patterns and costs associated with dementia and other memory diseases. The purpose of this chapter is to describe the long-term care use of older adults by the presence of cognitive limitations, including the amounts and types of care received, the costs of this care, and how care needs vary by the level of cognitive performance and the presence of functional limitations.

1. Policy Environment

One of the challenges in the provision of long-term care is that many elderly are under the mistaken belief that their long-term care needs will be covered by the Medicare program.[5] While Medicare provides health insurance coverage for nearly all elderly in the United States, it provides only very limited coverage of long-term care needs—primarily covering temporary care associated with a hospital stay or limited skilled nursing care at home for rehabilitative purposes, as opposed to custodial care. In contrast, the Medicaid program does cover long-term care, including nursing home care, but eligibility for coverage is limited to those with very low income and asset levels. This mistaken belief about the coverage of care may leave many unprepared to handle the eventual costs. Indeed, Hamel and Montero (2023) report that just 28 percent of individuals 50-64 have set aside funds to pay for assisted living and fewer than 10 percent of

[5] The Kaiser Family Foundation found that in 2022, 45 percent of those 65 or older believed that Medicare would pay for nursing home care if needed (Hamel and Montero, 2023).

older adults insure privately against these expenses (Finkelstein and McGarry, 2006; Mommaerts, 2025).

For those eligible for Medicaid, there can be substantial variation in the details of what is covered. Medicaid is a joint federal and state-run program, so states have some leeway in what they cover within federal guidelines, leading to variation in the scope of care across states. States are required to cover nursing home care and home health care, but other Long-Term Services and Supports (LTSS) are optional and often provided through "waiver" programs. (See Chidambaram and Burns, 2024 for a discussion). Additional services provided by these programs may include items like housekeeping services, transportation to doctor visits, modifications to the home, and adult daycare. Many of these programs are designed to help the elderly avoid institutionalization and some evidence of success (McGarry and Grabowski, 2023). However, there are also long waiting lists for services at times and the large variation across states means that there may be significant differences in the services to which elderly individuals have access.

While there are private insurance options available, take up of these policies is low with coverage rates below 10 percent. Furthermore, these policies are often limited in the amount of coverage they provide in terms of the dollar amount per day, number of days of coverage, and rules for qualifying for benefits. The market has been further hampered by substantial premium increases and consolidation as many insurance firms have left the market. Governmental policies such as the tax deductibility of long-term care premiums for qualified plans and state-run long-term care partnership programs which can help protect the assets of those with private coverage, have had only a small effect on stimulating purchases (Goda 2011; Costa-Font and Raut 2025).[6]

Eligibility for both public and private long-term care insurance typically requires that the individual need help with basic personal needs, or ADLs, such as dressing, bathing, and toileting. Individuals with cognitive impairments, but not functional limitations, may not qualify for benefits, even though they may require supervision around the clock. Only a handful of states have specific Medicaid eligibility standards for people with dementia. With the forecasts

[6] As evidence of the lack of success, New York State's partnership plan does not currently have any participating policies https://nyspltc.health.ny.gov/

predicting a rapidly increasing number of those living with cognitive impairment, it is imperative that new programs and eligibility guidelines be created.

For the families who care for the elderly, whether cognitively or physically impaired, there is typically little assistance available in terms of formal support. The Family Medical Leave Act, passed in 1993, allows employees to take up to 12 weeks per year off from work to care for a family member. However, this leave is unpaid. Currently 13 states and the District of Columbia provide some sort of mandatory paid family medical leave and other states have voluntary programs that employers can choose to opt-in to. These paid family leave policies differ in the length of time individuals can take off from work (with a maximum of 12 weeks), in their wage replacement rate, and in the degree to which jobs are protected.[7] Finally, some state Medicaid laws allow individuals eligible for home care assistance to use the funds to pay a family member who is providing care.

2. Data and Definitions

We focus here on differences in how those with cognitive limitations are cared for relative to those with physical limitations alone. Our primary data source is the Health and Retirement Study (HRS), a panel survey of individuals approximately 50 years old or older and their spouses or partners. The survey began in 1992 with a sample of individuals ages 51-61 and has been fielded every two years since that time with new cohorts aged 50-56 added every six years. To date well over 40,000 people have been interviewed.

The HRS is often considered the gold standard for surveys of the elderly population and contains detailed information on the respondents' financial situation, health status and family members. Importantly for our study, it measures both physical and cognitive health.

The HRS has led to a series of related surveys around the world. Most relevant here is the Survey of Health Ageing and Retirement in Europe (SHARE) which is used for several of the chapters in

[7] https://bipartisanpolicy.org/explainer/state-paid-family-leave-laws-across-the-u-s/

this volume and the English Longitudinal Study of Ageing (ELSA) which is used for the English chapter. Wherever possible we choose measures that are equivalent across the surveys.

Our analytic sample pools data from the 2016 and 2018 waves of the HRS. We avoid the 2020 and 2022 waves because the COVID-19 pandemic likely affected behavior related to long-term care in ways that may be temporary. We select only those respondents who are ages 65 or older at the time of the survey. The total number of person years of observations is 18,119, with 11,025 unique observations.

Cognitive Impairment: We are interested in the cognitive abilities of the respondent and assess these using a set of questions in the HRS, testing the respondent in several dimensions. We use questions asking the respondent to repeat a list of 10 words immediately and with a delay, to count backwards from 100 by 7 (up to 5 subtractions), and to name the date (month, day, year, and day of week). The maximum total for all correct answers was 29 points.[8]

While there are additional questions, the questions we select are also available in the Survey of Health Aging and Retirement in Europe (SHARE) which is used by many of the countries in this volume and thus allow for some degree of cross-country comparisons.[9]

In some cases, a respondent is unable or unwilling to respond to the HRS survey and the interviewer accepts a proxy response. This non-response could be because the targeted respondent is unable to participate in the survey due to health or cognitive issues or alternatively because they are too busy or simply don't want to be interviewed.[10] In total, 1,238 of our 18,119 observations (6.8 percent) are done through proxy interviews. The vast majority of proxy interviews are completed by a spouse, while the second most common relationship is a proxy who is a child. Given these close relationships, we believe the reports from proxy interviews are reliable.[11]

[8] Respondents are given one point for each word remembered correctly in each of the immediate and delayed recall exercises, up to 5 points for counting backward from 100, and one point for each component of the date (month, date, year, and day of the week).
[9] We experimented with an expanded set of questions and found an extremely high correlation in the classification of individual cognitive performance using the two measures. ELSA, the study used in the English chapter, similarly has additional questions and also investigated differences in their use. finding little.
[10] Note that the HRS will not accept an interview from a proxy respondent unless the proxy has permission from the respondent to do so.
[11] Approximately 90 percent of proxy respondents are spouses, sons, or daughters.

While proxy respondents do not answer the cognitive questions, they are asked whether the individual for whom they are reporting is unable to participate in the survey due to cognitive limitations.[12] A large majority of our proxy responses (70 percent) are reportedly due to cognitive limitations on the part of the HRS sample member. This high number suggests the importance of these proxy interviews for assessing the prevalence of cognitive impairment in survey populations.[13]

The distribution of cognitive scores is shown in Figure 1a. Building on evidence from Crimmins et al. (2011) and Langa et al. (2017) we select a score of 6 or lower as a measure of cognitive impairment and denote that breakpoint with a bold dotted line in the figure.[14] We emphasize that this is not meant to be a diagnosis of a medical condition of any sort, but simply an indicator of those who score poorly on a cognitive battery and thus appear to have cognitive limitations.

Our definition of cognitively impaired also includes individuals whom a proxy respondent reported as unable to respond to the survey due to cognitive issues. This group is noted in Figure 1 as the bar on the far left.

When we combine the two groups, those identified by the cognition questions and those reported to be impaired by their proxy respondents, 8.1 percent of our sample is considered to be cognitively impaired. We use dashed lines noting the quintiles of the distribution. Proxy responses that are reported to stem from cognitive limitations are assumed to be in the lowest quintile when determining these breakpoints.[15]

---

[12] The responses we use to define cognitive impairment are "The respondent may have some cognitive limitations but could probably do the interview." (7 percent) OR "The respondent has cognitive limitations that prevent him/her from being interviewed." (63 percent). The remaining proxy respondents answered, "No reason to think the respondent has any cognitive limitations."

[13] A similarly high rate of cognitive impairment among the proxy respondents was also found in ELSA while SHARE and other surveys do not provide such detail on the reason for non-response and rely less so on proxy respondents.

[14] Prior work has shown that scores of 6 or less on a similar 27-point cognition scale corresponded to dementia diagnoses obtained from a neuropsychological assessment (Crimmins, et al., 2011). Additionally, when combining the share of individuals with a score of 6 or less with those who used proxies for memory related reasons, we found good concordance between the share of the population we defined as having a cognitive impairment and published estimates of the prevalence of dementia in the US (Langa et al., 2017).

[15] Note that those whose interviews are conducted by proxy but for whom the proxy does not report that the reason was due to cognitive limitations are excluded from the figure as we have no way to ascertain what their cognitive score would be. From an examination of means of other variables, however, it appears that these individuals have education levels similar to the sample average and incomes that are slightly greater than average, suggesting that they are less likely to be cognitively impaired and may have simply but unwilling (or too busy) to participate in the survey.

Cognitive impairment is strongly associated with age. We thus repeat the exercise in Figure 1a, with the distributions reported separately for those ages 65-84 and those 85 years old or older. The strong correlation between cognition and age is readily apparent, not just in the distribution of scores, but in the large difference in the percentage with proxy interviews (Figure 1b). The median cognitive score for the older group is 12 while the median for the younger group is 18, a score 50 percent greater. Also of note is the much larger fraction of responses that are by proxy and due to cognitive impairment among the older group, 2.58 versus 15.75 percent. Again, this result indicates the importance of allowing proxy interviews in attempting to obtain a population representative sample.

Physical Limitations: Key to our analyses are measures of physical limitations. The HRS asks respondents (or their proxies) whether they have difficulty with activities of daily living (ADLs). These activities include dressing, bathing, walking across the room, getting in and out of bed, and toileting. Many long-term care insurance policies, both public and private, predicate eligibility for coverage on the presence of limitations with respect to two or more of these ADLs. We therefore denote a physical limitation if the respondent has difficulty performing two or more ADLs.

Figure 2a shows the distribution of ADL limitations in our sample, and Figure 2b repeats it separately for our two age groups. Unsurprisingly, as with cognitive impairments, physical impairments increase with age, yet for both groups, 65-84, and 85 or older, the vast majority of respondents have no limitations (78.9 percent overall; 82.3 percent for the younger group and 56.5 percent for the older.) The number of limitations also increases sharply with age. The fraction with at least one limitation rises from approximately 17.7 percent for the younger cohort to 43.5 percent for the older group, an increase of nearly two and one-half times.

Although they do not affect our classification, we also examine limitations with respect to instrumental activities of daily living or IADLs. These activities include preparing meals, shopping for groceries, making phone calls, taking medication, and managing money. In results not reported here, we find similar patterns: 82 percent of those 65-84 have no limitations with respect to IADLs compared with 56 percent of those 85 or older.

Care Utilization and Outcomes: Our focus in this chapter is not primarily on the amount of care individuals receive, but rather on how the types and costs of care vary for those with cognitive

versus physical impairments. We begin by examining the type of long-term care the individual uses (if any) and the amount of care used and do so across impairment categories. Specifically, we define three types of care: any formal (i.e. paid) care at home, any informal (i.e. unpaid) care at home, and residency of 100 days or more in a nursing home. We exclude shorter stays in a nursing home because they are likely rehabilitative stays following a hospitalization or other acute medical incident.[16] As a measure of the amount of care received, we use the self-report hours of home care received over the last month for both formal and informal care. For nursing home stays we use the number of nights, noting that this is just the number of nights to date as many stays are ongoing.

Four percent of our sample uses formal home care, 13.7 percent uses informal care (2.6 percent use both formal and informal care and are included in both totals), and 2.3 percent have a stay of 100 days or more in a nursing home. The remainder do not use any care.

3. Descriptive statistics

Table 1a illustrates the interaction between the two types of limitations—cognitive and physical. It is important to note that we are unable to assess whether a specific limitation is a direct result of their low level of cognitive functioning, or whether it stems from concurrent physical limitations. The survey questions ask whether the difficulty is "Because of a health or memory problem…" The individual may be able to complete the task but would need guidance because they had a cognitive limitation (e.g. a person with dementia not being left alone to bathe or forgetting to dress appropriately). Conversely, they may suffer from cognitive impairment, but have difficulty based solely on physical limitations (e.g. walking across a room). We therefore group all cognitively impaired individuals under one heading, regardless of the number of ADL limitations, and those with ADL limitations who do not have cognitive limitations we describe as having physical limitations or impairment.

[16] Forty-three percent of nursing home patients on are given day are short-term "post-acute" stays. Their average length of stay is just 28 days, while the average length of stay for "long-stay" residents is 2.3 years (National Academies of Sciences, Engineering and Medicine, 2022). We do not attempt to assess whether the individual is admitted to the nursing home for a short, post-acute stay but rather choose a 100-day cut-off, a length of time that corresponds to the number of days that Medicare will cover.

The majority of our sample, 76.6 percent, have neither cognitive nor physical limitations. The next largest group, consisting of 8.2 percent of the sample, is those with one ADL limitation but no cognitive limitations. Because the qualifying criterion for care from Medicaid or private insurance is typically limitations with respect to two or more ADLs, we treat this group as unimpaired. The remainder of those with no cognitive limitations, or 8.4 percent, have 2 or more limitations with respect to ADLs. Just over 2 percent of our sample has a cognitive limitation but report no difficulties with ADLs.

Table 1b reports the percentages of those in the sample with various numbers of physical limitations conditional on their cognitive status. Among those with no cognitive limitations, 82 percent also have no ADL limitations, and the remainder of the sample is evenly split between one and two or more ADL limitations. What is worth noting is that among those with cognitive limitations, over 42 percent report zero or one ADL limitations. This group is unlikely to qualify for long-term care coverage through public or private insurance because such coverage typically requires two or more limitations, but they may well need assistance or supervision and be unable to function completely independently.

In Table 2a, we look at how these three groups: those classified with no impairments, those having a physical but not cognitive impairment (i.e. difficulty with two or more ADLs but a cognitive score above 6), and those with a cognitive impairment (regardless of physical impairment status) compare across a range of demographic and economic measures. As is apparent from the table, those with no impairments (column 1) are significantly advantaged by any measure, relative to either impaired group. With respect to age, the non-impaired are younger than either impaired group; those with physical impairments (column 2) are slightly more than three years older on average, but those with cognitive impairments (column 3) are nearly 10 years older than the non-impaired group. These results are not surprising as the risk of dementia rises sharply after age 80 or 85 (Seshadri et al, 1997; Freedman et al., 2021; Alzheimer's Association, 2024). Consistent with their younger age, the non-impaired group is significantly more likely to be married, twice as likely as the cognitively impaired group, and less likely to be female. The difference in marital status points to the difficulty of providing care to the cognitively impaired as they are less likely to have a spouse available to assist them in day-to-day tasks, raising concerns about unmet care needs.

There are also substantial differences in race and ethnicity between those with cognitive or physical limitations and the unimpaired. Eighty-one percent of the no-limitations group is White, compared to 67 and 69 percent for the physical and cognitive limitations group. Similarly, the percent Hispanic differs from 8 percent for the no-limitations to 13 percent for the groups with limitations. The groups with limitations have more children on average, 3.2 for the physically limited and 3.3 for the cognitively limited, compared to 2.9 for the group with no limitations, suggesting that some help might be obtained from adult children.

The non-impaired group has far more schooling, with over one-third of the cognitively impaired limited having less than a high school education and 27 percent of the physical limitations group, compared to just 12 percent in the no-limitations group. This result accords with the literature and the correlation between dementia and schooling level frequently reported (e.g. McDowell, 2023). We caution, however, that some of these differences are driven by the differences in birth cohort as schooling levels have risen for more recent cohorts (Goldin, 1998).

Unsurprisingly, we find large differences across categories in financial resources with the mean income of no-limitations group more than 50 percent greater than that of either group with limitations and mean wealth that is 80 percent greater. Differences in *median* income and wealth are even larger; for example, the no-limitations group has a value for median wealth that is nearly three times that of either group with limitations.

While many of these differences likely simply represent a lifetime of advantage, for example, given their greater education, the group with limitations is likely to have had higher income implying greater Social Security and pension income in retirement, and more likely to have accumulated wealth through savings, home or defined contribution retirement savings plans. However, there are also other more immediate causes: The no-limitations group is younger and healthier and thus has significantly greater current labor force participation rate. Similarly, part of the difference in wealth could be as a result of those with limitations, particularly those who are receiving nursing home care, having depleted their asset in paying for care (or intentionally spending down assets) or simply depleting wealth with age as the life cycle model would predict.

We also note that the impaired groups are four to five times more likely to be covered by Medicaid. Because Medicaid eligibility is based on income and assets, part of this difference is due to the differences in financial resources for the three groups. However, one can also become

eligible for Medicaid by spending down one's income and assets paying for medical or long-term care (Wiener, et al., 2013). Those in nursing homes (most likely for the cognitively impaired group) are thus more likely to have spent down their assets and become eligible for Medicaid due to that nursing home admission.

Table 2b examines the differences in degree of impairment and care use across the two impaired groups. The average cognition score for the cognitively impaired, at 4.17, is far below other groups. While those with physical impairments score substantially higher than those with cognitive impairments, they also score significantly below those with no impairments. The same patterns hold true when we use an expanded cognitive score that includes counting backwards from 20, naming the president and vice president, and naming two objects from a description,[17] allowing us to examine differences with more information on verbal acuity.

The group with only ADL limitations average over 3 ADL limitations, while the cognitively impaired group is only slightly lower, at 2.7, although this difference is significantly different from zero at a one percent level.[18] The non-zero number of ADL limitations in the non-impaired group results from the fact that our definition of physical impairment requires limitations with respect to *two or more* activities of daily living—the standard typically used by insurance companies. Some of those in the non-impaired group have one limitation and could also potentially be receiving assistance with that task.

While we do not use IADL limitations in our determination of physical impairment status, if we look at limitations with respect to these activities, we again find that the cognitively impaired group has by far the largest number of limitations, twice that of the physically impaired group. This result is not surprising because IADLs include functional tasks like managing money, taking medications, and making phone calls, tasks that can potentially be managed with physical, but not cognitive limitations.

Perhaps unsurprisingly, many of those with cognitive or physical impairments – approximately 70 percent – are receiving care. A critical question for future research is how those not receiving

[17] These questions are "What do you call a prickly plant that grows in the desert?" and "What do people usually use to cut paper?"
[18] We note again that the question regarding limitations asks about limitations due to either "cognitive or physical limitations" so we do not know the cause of the limitation.

care – approximately 30 percent – manage. These unmet needs appear to be significant and suggest that the true cost of providing care to all those in need would likely be far greater than what is observed.

Formal (paid) home care is far less likely than informal (unpaid) care in both impaired groups. While there is a slightly higher percentage of the physically impaired receiving any paid care (21 percent) relative to the cognitively impaired (19 percent), the difference is not significantly different from zero. The greater use of formal care among the physically impaired likely stems from the fact that eligibility for coverage of formal care, through Medicaid or a long-term care policy, is based on physical, not cognitive, limitations. For informal care, the likelihood of receiving help is far larger for both groups, but the physically impaired are again significantly more likely to receive care at 56 versus 49 percent.

We note that individuals can (and do) receive both types of care—in fact two-thirds of those receiving formal care also receive informal care. If we look at the exclusive use of one of these types of care, reliance on "formal care only" (not shown) is approximately two and one-half times greater among the physically impaired group than among the cognitively impaired and a similarly larger fraction relative to the cognitively impaired for "informal care only"

In contrast to the probability of care, the intensity of care is greater for the cognitively impaired group averaging 214 hours of formal home care in the past month, and a nearly identical number of hours of informal care, conditional on receiving care, compared to 109 and 127 hours for formal and informal care among the physically impaired. This difference attests to the need for near 24-hour supervision for those with severe cognitive impairment.

For nursing home use, the results are far more dramatic with just 6 percent of the physically impaired using nursing homes and 24 percent, or more than 4 times as many, of those with cognitive impairments receiving such care.

4. Regression analyses

There are many factors that influence the type of care received. Certainly, the severity of need is important, but so too is the ability to pay for formal care, and the availability of family or other

informal caregivers. To analyze the importance of impairments in general and the difference between cognitive and physical impairments in determining care usage holding other differences constant, we use a regression analysis. We first examine the decision to use any care, then address the specific type of care used: any formal home care, any informal care, and residence in a nursing home. We also assess the correlates of the intensity of care by examining the number of hours of care received in the past month, conditional on receiving any formal care, and similarly, the number of hours of informal care received in the past month, conditional on any informal care.

In the regressions, we control for whether the respondent has a physical or cognitive impairment, as well as demographic and economic variables, namely: age and age squared, gender, marital status, the interaction of gender and marital status, race / ethnicity, the presence of any children, the number of children, schooling, income and wealth.[19]

In table 3, we report the results of regressions examining the probability of receiving any care using a linear probability model.[20] The coefficients on physical and cognitive impairments tell the same story as the raw means; in each group of impaired individuals, approximately 60 percent receive some sort of care, and the differences between the two groups of impaired individuals are not significantly different from zero. While the likelihood of care is somewhat larger among the cognitively impaired with no controls, this difference is diminished when we add age and age squared as regressors, and any difference vanishes completely with the full set of controls. This change illustrates the importance of the correlation between cognitive decline and factors such as age, education, and income.

Other than the impairments themselves, age is consistently the most important predictor of care, with a 10-year increase in age associated with an approximately 2.5 percent increase in the probability of receiving care. Looking at the third column with a complete set of controls, we see that married individuals are significantly more likely to receive care, attesting to the relative ease with which a spouse can assist their partner. The likelihood of care decreases with schooling, with significantly greater care usage among those who did not finish high school, but smaller

[19] We use the inverse hyperbolic sine of both income and wealth in place of logs because of the existence of zeros and negative values for these variables.
[20] Probit analyses of these regressions led to similar conclusions.

positive effects for having attended college. We find a similar lower likelihood of care for high-wealth individuals, likely both pointing to less severe limitations among those with higher levels of education or more financial resources as well as greater ability to afford home modifications (e.g. grab bars, ramps, and other assistive devices).

In Tables 4 through 6, we look in more detail at the correlates of the type of care chosen, examining the use of formal home care, informal home care and nursing home care on both the extensive and intensive margins, examining any care in the past year. With respect to formal home care (tables 4a and 4b), the coefficients on the impairment measures again reinforce the conclusions drawn from Table 2b, with greater probabilities of formal care for physical limitations and similar relative patterns with additional controls, although the absolute values of the effect for each type of impairment declines with the added covariates. With the most comprehensive list of covariates, those with physical impairments are 5 percentage points (35 percent) more likely to receive formal home care. Age again is a determining factor, with an additional 10 years of age associated with a 2-percentage point increase in the probability of care. Women are more likely to receive formal care than are men, a result that is consistent with women being the primary caregivers for their husbands due to differences in age and resulting infirmities and differences in life expectancy.

Perhaps surprisingly, Hispanics are significantly more likely to use formal care than either non-Hispanic Blacks or Whites. The probability of paid care also rises with education and income but surprisingly, falls with wealth. The coefficient on Medicaid is large and significantly different from zero but should be treated with caution as the direction of causality is difficult to discern. An individual may enroll in Medicaid because they need formal care, or they may choose formal care because they have Medicaid coverage, making that care-free or inexpensive.

Conditional on receiving formal care, few variables predict the number of hours of care used in the last month, but the extremely large positive effect of being cognitively impaired stands out. Those with cognitive impairment receive over 90 more hours of care than those with physical impairments or approximately 23 hours more per week (three times as much). This dramatic difference attests to the expense associated with caring for the cognitively impaired. Using the data provided by the Genworth Cost of Care Survey (2024) the difference in hours of care corresponds to a difference in cost of approximately $3,200 per month.

Turning to informal care in tables 5a and 5b, those with physical impairments are significantly more likely to receive care than are the cognitively impaired even when we control for a range of factors. The differences are relatively large, with those with physical impairments approximately 11 percentage points (or 30 percent) more likely to receive care. The probability of receiving assistance also increases significantly with age and is higher for women than for men. However, the coefficient on female interacted with married is negative and nearly exactly offsets the greater probability of women receiving care. This indicates that the greater likelihood of women receiving care stems from their greater probability of being unmarried, while married women and married men have approximately the same probability of receiving informal care. The likelihood of informal care also decreases with educational level, the reverse of the probability of formal care—with those with less than a high school education being 5 percentage points more likely to receive informal care. The relationship between schooling and informal care is far larger than the 4.8 percentage point greater probability of informal care for women. Informal care is also weakly negatively related to Medicaid coverage, reducing the probability by 3 percentage points, suggesting that Medicaid payments for formal care may have spillover effects, providing relief for family caregivers.

Cognitively impaired individuals receive more than twice as many hours of informal care than the physically impaired, similar to the patterns seen with hours of formal care. Even with a full set of controls, there is a difference between the two groups of over 70 hours per month in the hours of care received. This indicates a dramatic difference in the intensive of care and the burden on the care providers—typically daughters or spouses. While married individuals–unsurprisingly–receive more hours of informal care, there are smaller differences by other characteristics.

Table 6 repeats the exercise for the probability of nursing home use. For hours of care, whether formal or informal we used the number of hours reported as "in the last month." Because the number of nights in a nursing home is truncated for the majority of individuals given their current residence in a nursing home, we examine only the extensive margin.[21] Those with cognitive impairments are 4 to 5 times more likely to receive care in a nursing home than the

[21] 40 percent of those in our sample who have received nursing home care are currently still residing in a nursing home. (Recall that we only include nursing home stays of 100 days or more to avoid counting recuperative stays following a hospitalization.)

physically impaired, this effect swamping that of any of the other explanatory variables in terms of importance. With the annual cost of a stay in a nursing home averaging over $110,000 in 2024, this greater probability of a nursing home stay corresponds to far greater costs of care for the cognitively impaired (Genworth, 2024).

Married individuals are less likely to be receiving care in a nursing home than unmarried, but for women, this advantage is significantly dissipated. Both Blacks and Hispanics are less likely to use nursing home care than Whites and unsurprisingly, there is a large positive effect for Medicaid eligibility. Here, however, causality is even more likely to operate in the reverse direction as many individuals enter nursing homes paying privately for care, eventually spending down their resources and becoming eligible for Medicaid. Similarly, those who need nursing home care may be enrolled by the hospital or nursing home in the Supplemental Security Income program which confers Medicaid eligibility.

5. Costs

Given the far more intensive use of care by those with cognitive impairments, particularly the greater use of nursing homes, we expect the costs of caring for those with cognitive impairments to be similarly greater. Understanding the costs of care, differences across impairment type, and type of care, can help policy makers plan for the coming care needs and the population ages and the relative importance of physical and cognitive impairments.

For formal home care, the process of estimating the cost is relatively straightforward. For each individual in our sample, we multiply the number of hours of formal home care by the average hourly rate for home health aides from the respondents' census division as reported in Genworth (2024). We sum this product over all the individuals in our sample receiving formal home care and use the HRS individual level weights to inflate the number to a national total. We repeat this exercise separately for those with cognitive and physical impairments to observe the relative costs.

For nursing home care, we use a similar procedure multiplying the number of nights in a nursing home by the average cost of a stay in a nursing home in that individual's census region (again using data from the Genworth Cost of Care Survey). However, rather than using the average

cost of a nursing home night directly as reported, we correct for the fact that some of those nursing home nights are for individuals paying privately for care while some stays are paid for by Medicaid. Because the prices paid by Medicaid and private payers differ, we "correct" the average values based on state-specific payer mix which we obtain from the LTCFocus data.[22] For each state, we scale the private pay rate reported by the Genworth survey by the fraction of nursing home residents who are eligible for Medicaid coverage in our sample and reduce the expected cost of a night in a nursing home to 70 percent of the private pay rate to approximate the average relative Medicaid reimbursement rate.[23] Within each census division, we compute a weighted average of these expected costs, using the number nursing home residents in each state as weights.

The procedure for valuing hours of informal care is more difficult and requires more assumptions and imputations. A straightforward imputation method would follow the procedure for formal care, multiplying hours of care received by the hourly cost of care. This method has been used frequently (e.g. Arno et al., 1999). However, the process of valuing a caregiver's time is more complicated. Here we draw on the method developed in Gruber and McGarry (2025a) to proxy the value of an hour of an informal caregiver's time based on imputations using external data. We first determine the opportunity cost of the caregiver's time, typically proxied by the caregiver's wage rate, and then estimate the probability that the caregiver would be working—since leisure time should be valued differentially.[24]

Because we do not directly observe the caregivers themselves or their wage rates, we estimate the value of their time based on those characteristics we do observe, imputing both an hourly wage rate and a probability of working based on the available information in our sample and external data from the American Community Survey (ACS).[25] For caregivers who are spouses or children of the individual receiving care, we know their age, race, gender, marital status, and region of the country. For caregivers who reside with the elderly individuals for whom they are

[22] LTCFocus Public Use Data sponsored by the National Institute on Aging (P01 AG027296) through a cooperative agreement with the Brown University School of Public Health. Available at www.ltcfocus.org. https://doi.org/10.26300/h9a2-2c26

[23] The share of nursing home residents with Medicaid coverage at the state level is obtained from the LTC Focus Data (ltcfocus.org) maintained by Brown University.

[24] Approximately 5 percent of informal caregivers in our sample receive compensation for their time.

[25] See https://www.census.gov/programs-surveys/acs/about.html for details regarding the ACS.

caring, but who are not spouses or children, we observe the same set of variables, exclusive of education which is not reported in the HRS. For all other caregivers, we know only gender and region of the country and thus use those to construct our predicted values of wage and the probability of working.

Once we have an estimate of the caregiver's potential wage and probability of working, we multiply the hours of care provided by the imputed wage rate of the caregiver and by the imputed probability the individual is working. This accounts for the foregone wage due to caregiving. It does not, however, include a value for lost leisure time. To include this cost, we multiply hours of care by the probability of *not* working and the mean hourly wage of caregivers in that census region calculated using the ACS. This procedure proxies the value of leisure time at the cost of hiring a formal caregiver to provide those hours of care. As before, the cost of these hours of care, calculated on an individual basis, is summed across all impaired individuals and separately for those with cognitive and physical impairments, and then inflated to population totals using HRS individual weights for the care recipient.

The total costs and per capita costs from this exercise are shown in table 7. Focusing first on the total costs in the bottom row, we estimate a total cost of long-term care of $359 billion dollars (totals in 2018 dollars) or $7,700 per elderly person, and 1.7 percent of GDP. Looking separately at the cost by impairment category: no impairment, physically impaired, cognitively impaired, we see that while there are many more individuals with physical than cognitive impairments, 4 million versus 3 million, the total cost of care for the cognitively impaired group is approximately twice that of the physically impaired group, $160.1 billion (0.77 percent of GDP) versus $86.6 billion (0.42 percent of GDP) On a per recipient basis, the difference in the cost of care is staggering: $20,500 for the physically impaired and $52,108 for those with cognitive impairments (bottom row of the table).

In looking at the breakdown by type of care, the largest difference is in the cost accruing from the use of nursing homes, with a total of $25 billion for the physically impaired and a staggering $73 billion for the cognitively impaired, who comprise just a small fraction of the total number of elderly.

For formal care, the per capita cost for the cognitively impaired at $16,200 is nearly 2.5 times greater than the physically impaired at $6,922. Thus, despite their smaller numbers, aggregate spending for the cognitively impaired is 1.7 times greater at $50 billion.

Finally, we highlight the cost borne by informal caregivers, whether caring for someone with a physical or cognitive impairment. These are $32.5 and $47.3 billion dollars respectively, or $7,704 and $15,396 per impaired person, surprisingly similar to the cost of formal home care. For many, if not most caregivers, this is a sizeable burden, and if borne over multiple years could severely impact the caregiver's own well-being and that of their family.

As the country continues to age, and the demands to provide care for impaired elderly (particularly for those with cognitive impairments) increase, we will struggle as a nation, to find ways to provide this care. As discussed previously, our analyses show instances of individuals with severe cognitive impairments and/or physical limitations who do not report receiving any care. These unmet care needs severely threaten older adults' ability to age with dignity and are at high risk of worsening in the context of the findings presented in this chapter.

6. Conclusion

The cost of caring for those elderly with impairments is large, reaching far beyond the resources of most families and resulting in a significant public expense. As shown in our final table, the cost of caring for an individual with cognitive impairments far exceeds that for those with physical impairments. As the number of elderly with cognitive limitations rises, the aggregate costs to the nation will grow substantially. Favreault and Johnson (2021) project an increase in the number of Americans who are severely or moderately cognitively impaired from approximately 7.5 million to 14.7 million from 2015 to 2055. Assuming the costs we estimate increase in proportion and current caregiving patterns persist, our cost of caring for cognitively impaired elderly will increase from $160 billion to over $300 billion, with much of this cost borne by informal caregivers.

The demands of caring for the cognitively impaired are often sufficiently that nursing homes become necessary. The need to provide more residential options for the cognitively impaired is great and growth in this area has already begun to accelerate. The National Investment Center for

Seniors Housing & Care noted that memory care units experienced more rapid year over year growth from December 2022 to December 2023 at 8.9 percent than either independent living (8 percent) or assisted living (8.5 percent) (Zahraoui 2024). Furthermore, the cost of memory care units was substantially higher with the annual rate for independent living in December 2023 being $44,424, $72,204 for assisted living being, and $94,788 for memory care units, with the year-over-year increases in costs far outpacing inflation.

Advances in medical science that can delay the onset of a decline, or revolutions in caregiving technology, can make an enormous difference in the landscape for long-term care and in the well-being of caregivers and the elderly individuals themselves. Absent such innovations, and even with these medical improvements, other avenues need to be explored to reduce the strain on families and the public sector. Technological advances can help with caregiving and innovations in policies, the structure of long-term care insurance, and other social innovations will also need to play a role.

Bibliography

Alzheimer's Association (2024). "Alzheimer's disease facts and figures," *Alzheimer's & dementia: the journal of the Alzheimer's Association*, *20*(5), 3708–3821. https://doi.org/10.1002/alz.13809

American Health Care Association, 2024. "State of the Nursing Home Sector: Survey of 441 nursing home providers highlights persistent staffing and economics crisis." https://www.ahcancal.org/News-and-Communications/Fact-Sheets/FactSheets/AHCA%20State%20of%20the%20Sector%202024.pdf accessed May 25, 2025.

Arno, Peter, Carol Levine and Margaret Memmott, 1999 "The Economic Value of Informal Caregiving," *Health Affairs,* 18 (3) : 182: 188.

Chidambaram, Priya and Alice Burns, "10 Things about long-term Services and supports (LTSS), July 8, 2024, Kaiser Family Foundation, https://www.kff.org/medicaid/issue-brief/10-things-about-long-term-services-and-supports-ltss/ accessed May 24, 2025.

Coe, Norma., Gopi Shah Goda, and Courtney Van Houtven, (2023). "Family spillovers and long-term care insurance." *Journal of Health Economics*, *90*, 102781.

Costa-Font, Joan. and Nilesh Raut, 2025, "Long-Term Care Partnership Effects on Medicaid and Private Insurance. Health Economics", Health Economics 34 (6): 1171-1187. https://doi.org/10.1002/hec.4949

Crimmins, Eileen, Jung Ki Kim, Kenneth Langa, and David Weir, 2011. "Assessment of Cognition Using Surveys and Neuropsychological Assessment: The Health and Retirement Study and the Aging, Demographics, and Memory Study," *Journal of Gerontology B: Psychological Sciences and Social Sciences,* 66b (Supp 1): i162-i171.

Fang, Michael., Jiaqu Hu, Jordan Weiss, *et al.* 2025. "Lifetime risk and projected burden of dementia". *Nature Medicine* **31**, 772–776 https://doi.org/10.1038/s41591-024-03340-9

Favreault, Melissa and Richard Johnson, 2021. "*The Risk and Costs of Severe Cognitive Impairment at Older Ages: Literature Review and Projection Analyses"* Urban Institute, January. https://aspe.hhs.gov/reports/risk-costs-severe-cognitive-impairment-older-ages-literature-review-projection-analyses

Finkelstein, Amy and Kathleen McGarry, 2006. "Multiple Dimensions of Private Information: Evidence from the Long-term Care Insurance Market, *The American Economic Review*, 96 (4): 938-958.

Freedman, Vicki, Judith Kasper, and Jennifer Cornman, 2021. *National Health and Aging Trends Study Trends Chart Book" Key Trends, Measures and Tables.* micda.isr.umich.edu/research/nhats-trends-dashboards

Goda, Gopi. Shah, 2011. "The impact of state tax subsidies for private long-term care insurance on coverage and Medicaid expenditures". *Journal of Public Economics*, 95 (7-8): 744-757.

Goldin, Claudia 1998, "America's Graduation from High School: The Evolution and Spread of Secondary Schooling in the Twentieth Century," *Journal of Economic History*, 58 (2) : 345-374.

Genworth, 2024. "Genworth Releases Cost of Care Survey Results of 2023: Twenty Years of Tracking Long-Term Care Costs https://investor.genworth.com/news-events/press-releases/detail/972/genworth-releases-cost-of-care-survey-results-for-2023 (accessed June 5, 2026).

Gruber, Jonathan and Kathleen McGarry, 2025a. *Long-term Care around the World*, University of Chicago Press. Jonathan Gruber and Kathleen McGarry, eds.

Gruber, Jonathan, Kathleen McGarry, 2025b. "Long-term Care in the United States," in *Long-term Care around the World,* University of Chicago Press, Jonathan Gruber and Kathleen McGarry, eds.

Hamel, Lis and Alex Montero, 2023. "The Affordability of Long-Term Care and Support Services: Findings from a KFF Survey," Kaiser Family Foundation. https://www.kff.org/health-costs/poll-finding/the-affordability-of-long-term-care-and-support-services/ (accessed May 24, 2025).

Langa, K.M., Larson, E.B., Crimmins, E.M., Faul, J.D., Levine, D.A., Kabeto, M.U. and Weir, D.R., 2017. A comparison of the prevalence of dementia in the United States in 2000 and 2012. *JAMA internal medicine*, *177*(1), pp.51-58.

McDowell Ian, 2023. "Mapping the connections between education and the risk of dementia. *Annals of Alzheimer's and Dementia Care* 7(1): 01-07. DOI: 10.17352/aadc.000026

McGarry, Brian. E., and David Grabowski, 2023. "Medicaid home and community-based services spending for older adults: Is there a "woodwork" effect?. *Journal of the American Geriatrics Society*, *71*(10), 3143-3151.

McGarry, Brian. E., Wilcock, A. D., Gandhi, et al., 2026. "Changes in US Skilled Nursing Facility Capacity Following the COVID-19 Pandemic," *JAMA Internal Medicine*. 186 (3) : 285-292.

McGarry, Kathleen, 2025. "The Family and Long-term Care," Review of Economics of the Household," 23 (3) : 877-986.

Mommaerts, Corina. 2025. "Long-term care insurance and the family." *Journal of Political Economy*, *133* (1): 1-52.

Nandi, Arindam, et al. 2024. "Cost of care for Alzheimer's disease and related dementias in the United States: 2016 to 2060", *NJP Aging* 10 (13): 1-13 https://doi.org/10.1038/s41514-024-00136-6

National Academies of Sciences, Engineering, and Medicine 2022. The National Imperative to Improve Nursing Home Quality: Honoring Our Commitment to Residents, Families, and Staff. Washington, DC: The National Academies Press. https://doi.org/10.17226/26526.

Seshadri, Sudha, et al. 1997. "Lifetime risk of dementia and Alzheimer's disease: the impact of mortality on risk estimates in the Framingham Study." *Neurology*, *49*(6): 1498-1504.

Wiener, Joshusa, Wayne Anderson, Galina Khatutsky, et al., 2013. "Medicaid Spend Down: New Estimates and Implications for Long-Term Services and Supports and Aging Policy".

Washington, DC: RTI International. https://www.rti.org/sites/default/files/resources/tsf_ltc-financing_medicaid-spend-down-implications_wiener-tumlinson_3-20-13_0.pdf

Zahraoui, Omar, 2024. “Initial Rate Growth and Discount Strategies in Senior Housing”. February 29, 2024. https://www.nic.org/blog/initial-rate-growth-and-discount-strategies-in-senior-housing/. Accessed May 25, 2025.

Figure 1a

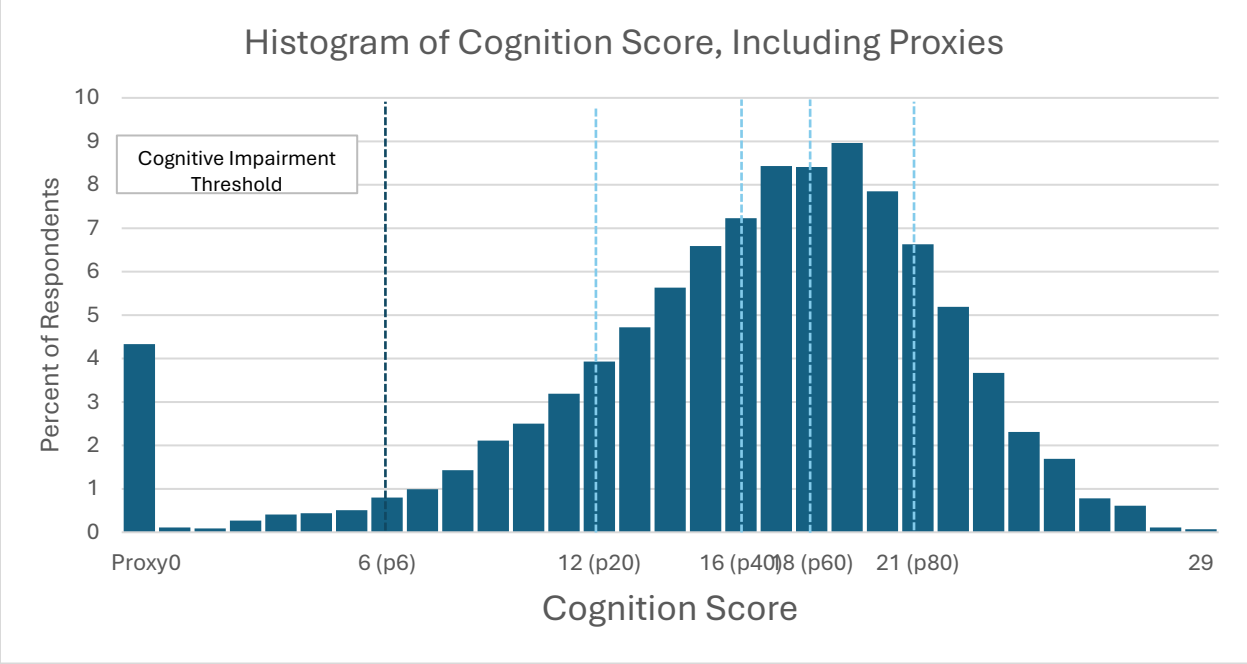

Figure 1b

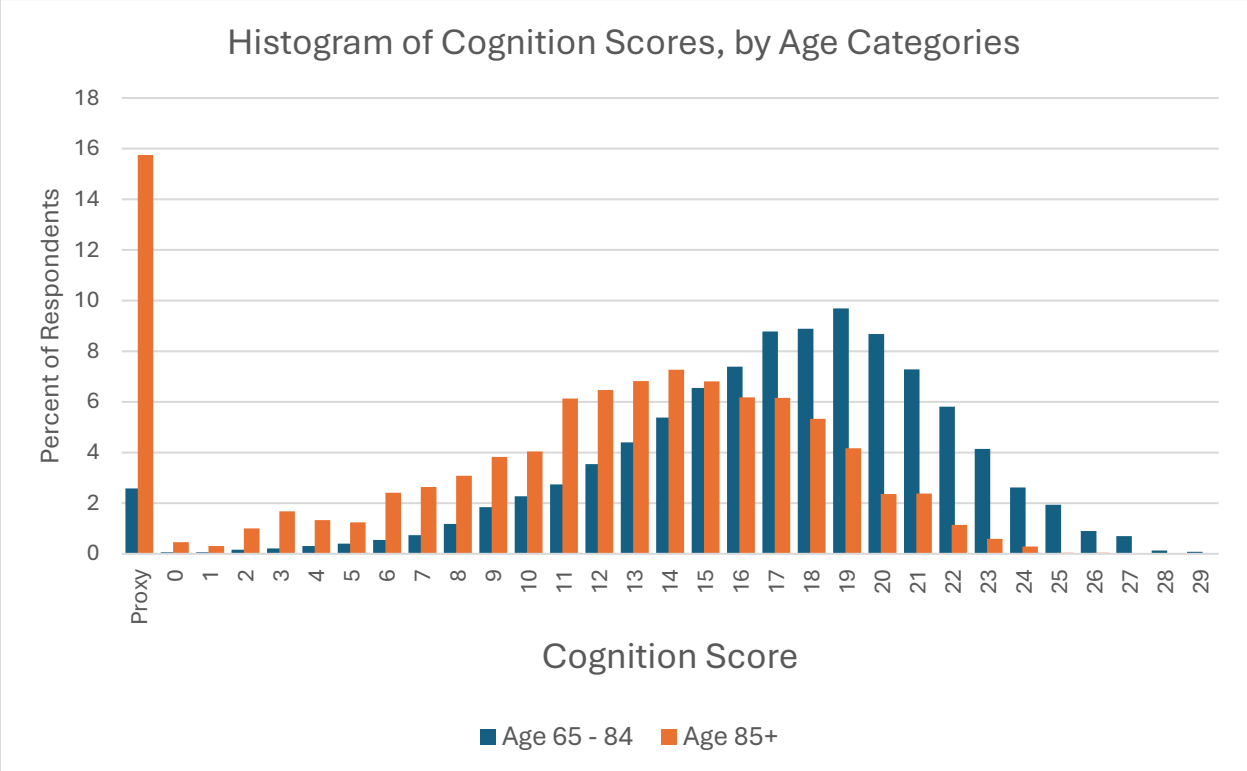

Figure 2a

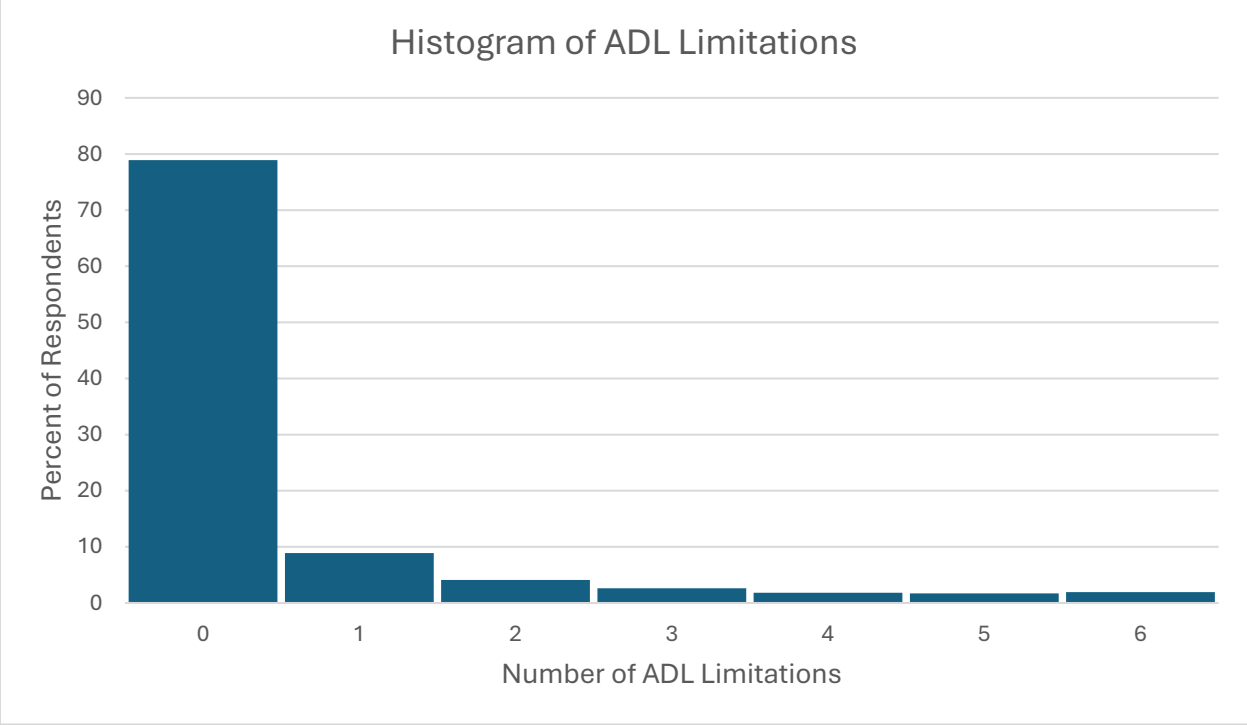

Figure 2b

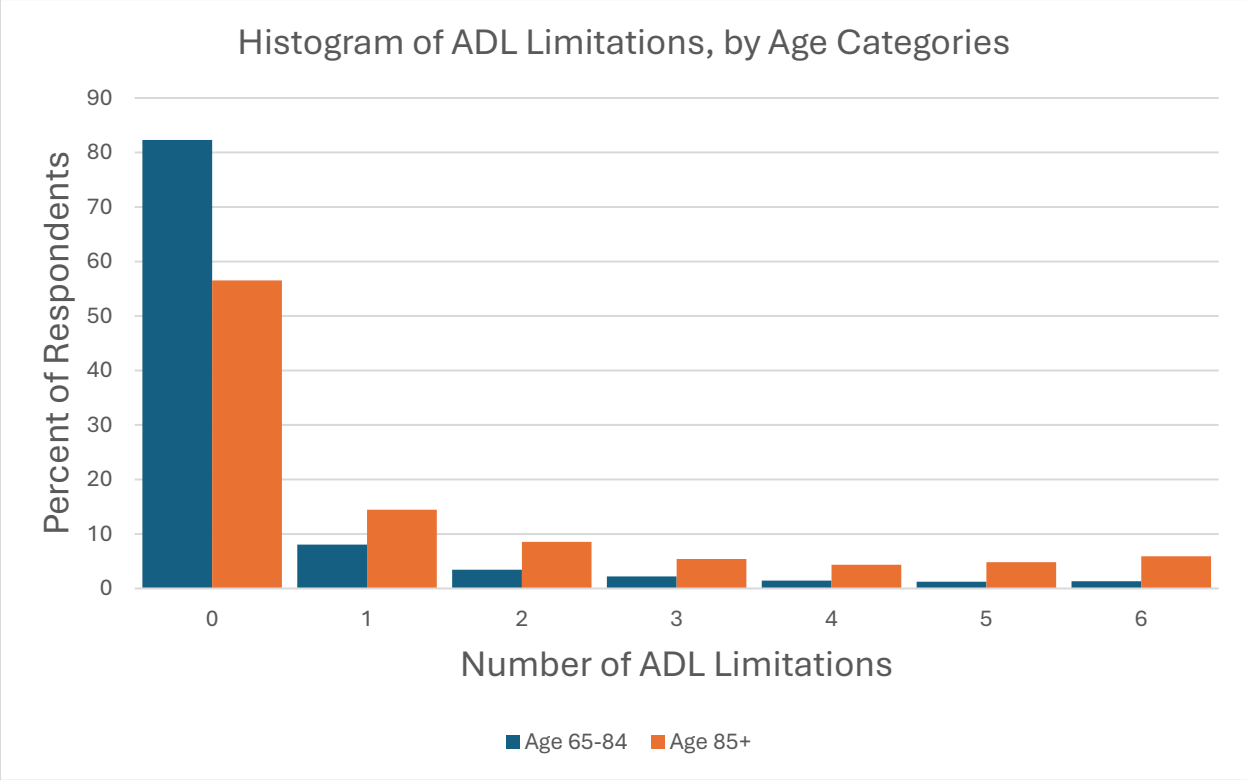

Figure 3

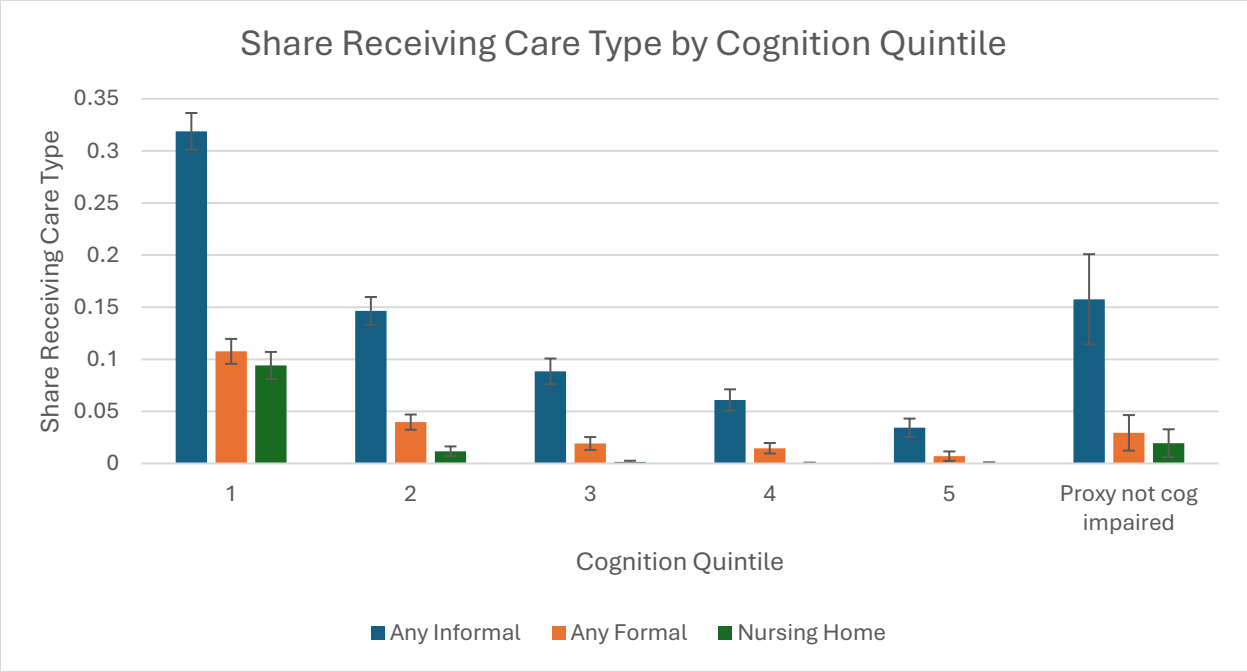
Share Receiving Care Type by Cognition Quintile
Share Receiving Care Type
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1
2
3
4
5
Proxy not cog impaired
Cognition Quintile
Any Informal
Any Formal
Nursing Home

Table 1a: Distribution of Cognitive and Physical Limitations

Limitations	Cognition score 0 - 6	Cognition Score 7+	Total
0 ADLs	2.19%	76.61%	78.80%
1 ADL	0.69%	8.19%	8.88%
2+ ADL	3.91%	8.41%	12.32%
Total	6.79%	93.21%	100%

Notes: Proxy respondents identified as cognitively impaired are grouped with respondents who scored 0–6 on the cognitive assessment. Percents are weighted using HRS population weights.

Table 1b: Distribution of Physical Limitations Conditional on Cognitive Status

Limitations	Cognition score 0 - 6	Cognition Score 7+	Total
0 ADLs	32.27%	82.20%	78.80%
1 ADL	10.18%	8.79%	8.88%
2+ ADL	57.54%	9.02%	12.32%
Total	100%	100%	100%

Notes: Proxy respondents identified as cognitively impaired are grouped with respondents who scored 0–6 on the cognitive assessment. Percents are weighted using HRS population weights.

Table 2a: Means of selected variables

Variable Name	Score 7+ 0 - 1 ADLs	Score 7+ 2+ ADLs	Score 0 - 6 (All ADLs)	Total
Age	73.82	77.02**	83.23**	74.73**
	(0.09)	(0.31)	(0.35)	(0.09)
Female	0.55	0.64**	0.63**	0.56
	(0.01)	(0.02)	(0.02)	(0.01)
Married	0.62	0.42**	0.30**	0.58**
	(0.01)	(0.02)	(0.02)	(0.01)
Non-Hispanic White	0.81	0.67**	0.69**	0.79**
	(0.01)	(0.02)	(0.02)	(0.01)
Non-Hispanic Black	0.09	0.15**	0.16**	0.10*
	(0.003)	(0.01)	(0.01)	(0.003)
Hispanic	0.08	0.14**	0.13**	0.09
	(0.003)	(0.01)	(0.01)	(0.003)
Any children (0 or 1)	0.93	0.91	0.92	0.92
	(0.004)	(0.01)	(0.01)	(0.004)
Number of children	2.91	3.20**	3.33**	2.96
	(0.02)	(0.08)	(0.08)	(0.02)
Less than high school	0.12	0.27**	0.36**	0.15**
	(0.004)	(0.02)	(0.02)	(0.004)
High school	0.33	0.33	0.34	0.33
	(0.01)	(0.02)	(0.02)	(0.01)
Some college	0.25	0.24	0.18**	0.24
	(0.01)	(0.02)	(0.02)	(0.01)
College	0.30	0.16**	0.13**	0.28**
	(0.01)	(0.01)	(0.01)	(0.01)
Working currently	0.24	0.06**	0.01**	0.21**
	(0.01)	(0.01)	(0.004)	(0.01)
Income per capita (mean)	47,620	29,158**	29,020**	44,805
	(1071)	(1638)	(1982)	(936)
Income per capita (median)	28,728	18,757	18,000	26,708
Wealth per capita (mean)	456,619	250,295**	275,774**	427,002
	(13,238)	(20,966)	(28,952)	(11,648)
Wealth per capita (median)	185,000	54,500	50,500	161,507
Enrolled in Medicaid	0.06	0.23**	0.28**	0.09**
	(0.003)	(0.02)	(0.02)	(0.003)
N	14887	1757	1475	18119

Notes: Standard errors are in parenthesis. Standard errors are clustered at the respondent level. Stars correspond to the null hypothesis that the mean is equal to the mean of 0 - 1 ADLs & Score 7+. *Significant at the 95% confidence level. **significant at the 99% confidence level.

Table 2b: Means of Care Use Measures

Variable	Score 7+ 0 - 1 ADLs	Score 7+ 2 or more ADLs	Score 0 - 6 (All ADLs)	Total
Cognitive score (0-29 scale)	17.45	14.49**	4.17**	16.83**
	(0.05)	(0.14)	(0.08)	(0.05)
Expanded cognitive score (0-35 scale)	22.96	19.50**	7.46**	22.23**
	(0.06)	(0.16)	(0.13)	(0.06)
Number of ADL limitations	0.1	3.15**	2.67**	0.52**
	(0.003)	(0.04)	(0.09)	(0.01)
Number of IADL limitations	0.13	1.45**	2.93**	0.43**
	(0.01)	(0.05)	(0.07)	(0.01)
Any care	0.08	0.70**	0.75**	0.17**
	(0.003)	(0.02)	(0.01)	(0.004)
Any Unpaid care	0.07	0.56**	0.49**	0.14**
	(0.003)	(0.02)	(0.02)	(0.003)
Any Paid care	0.01	0.21**	0.19**	0.04**
	(0.001)	(0.02)	(0.01)	(0.002)
Any Nursing home	0.003	0.06**	0.24**	0.02**
	(0.001)	(0.01)	(0.02)	(0.002)
Unpaid care hours per month	66.09	126.72**	213.64**	122.02**
(conditional on unpaid care)	(4.18)	(7.93)	(12.61)	(4.71)
Paid care hours per month	76.85	108.47**	213.81**	135.30**
(conditional on paid care)	(19.15)	(8.47)	(16.23)	(8.20)
NH days per year	187.24	173.51	261.05**	236.06
(conditional on NH use)	(24.57)	(17.77)	(9.48)	(8.76)
N	14,887	1757	1475	18119

Notes: Standard errors are in parenthesis. Standard errors are clustered at the respondent level. Stars correspond to the null hypothesis that the mean is equal to the mean of 0 - 1 ADLs & Score 7+. *: Significant at the 95% confidence level. **: Significant at the 99% confidence level.

Table 3: Regression Analysis for Any Care Use

	Receives Care	Receives Care	Receives Care
Constant	0.07***	0.05***	0.06
	(0.002)	(0.01)	(0.03)
Physically impaired only	0.64***	0.61***	0.59***
	(0.02)	(0.02)	(0.02)
Cognitively impaired	0.68***	0.61***	0.58***
	(0.01)	(0.01)	(0.02)
Age - 65		-0.000229	-0.0007
		(0.001)	(0.001)
(Age - 65)^2		0.000245***	0.0003***
		(0.00005)	(0.00005)
Female			0.03**
			(0.01)
Married			0.04***
			(0.01)
Female * Married			-0.02
			(0.01)
Black			-0.02*
			(0.009)
Hispanic			-0.02
			(0.01)
Other race			-0.01
			(0.02)
Any children			0.02
			(0.01)
Number of children			0.002
			(0.002)
Less than high school			0.04***
			(0.01)
Some college			-0.0004
			(0.008)
College or more			-0.02*
			(0.007)
Income†			-0.001
			(0.003)
Wealth†			-0.005***
			(0.0007)
Covered by Medicaid			0.07***
			(0.01)
Observations	17306	17306	17306
Mean dependent variable	0.17	0.17	0.17
R-squared	0.379	0.395	0.407

Notes: Standard errors in parentheses and clustered at the respondent level. † Income and Wealth are measured as the inverse hyperbolic sine. *Significant at the 95% confidence level. **Significant at the 99% confidence level. ***Significant at the 99.9% confidence level.

Table 4a: Probability of Any Care

	Receives Formal Care	Receives Formal Care	Receives Formal Care
Constant	0.01***	0.01*	-0.04*
	(0.001)	(0.003)	(0.02)
Physically impaired only	0.20***	0.19***	0.18***
	(0.01)	(0.01)	(0.01)
Cognitive impaired	0.18***	0.15***	0.13***
	(0.01)	(0.01)	(0.01)
Age–65		-0.003**	-0.003*
		(0.001)	(0.001)
(Age-65)^2		0.0002***	0.0002***
		(0.00005)	(0.00005)
Female			0.02**
			(0.007)
Married			-0.003
			(0.006)
Female * Married			-0.007
			(0.008)
Black			0.0009
			(0.007)
Hispanic			0.03***
			(0.008)
Other race			0.003
			(0.01)
Any children			0.008
			(0.007)
Number of children			0.0005
			(0.001)
Less than high school			0.008
			(0.006)
Some college			0.01**
			(0.005)
College or more			0.02***
			(0.004)
Income†			0.004**
			(0.001)
Wealth†			-0.002**
			(0.0006)
Covered by Medicaid			0.03***
			(0.009)
Observations	17306	17306	17306
Mean dep variable	0.04	0.04	0.04
R-squared	0.124	0.139	0.149

Notes: Standard errors in parentheses and clustered at the respondent level. † Income and Wealth are measured as the inverse hyperbolic sine. *Significant at the 95% confidence level. **Significant at the 99% confidence level. ***Significant at the 99.9% confidence level.

Table 4b: Regression Analysis of Number of Hours of Formal Care

	Formal Care Hours	Formal Care Hours	Formal Care Hours
Constant	78.21***	81.91**	148.50
	(19.64)	(27.60)	(85.06)
Physically impaired only	30.01	39.57*	40.93*
	(21.37)	(15.68)	(16.40)
Cognitively impaired	141.5***	129.0***	131.80***
	(26.07)	(27.00)	(26.85)
Age - 65		-4.99	-6.68
		(3.84)	(3.80)
(Age - 65)^2		0.21	0.26
		(0.14)	(0.13)
Female			-46.76
			(24.91)
Married			-43.21
			(36.00)
Female * Married			56.40
			(38.69)
Black			11.40
			(24.12)
Hispanic			27.89
			(26.09)
Other race			18.96
			(34.03)
Any children			2.48
			(43.32)
Number of children			6.29
			(3.70)
Less than high school			-8.48
			(24.42)
Some college			1.11
			(18.10)
College or more			49.80
			(26.97)
Income†			-6.69
			(6.84)
Wealth†			2.19*
			(1.05)
Covered by Medicaid			-6.29
			(15.16)
Observations	743	743	743
Mean dep variable	137.27	137.27	137.27
R-squared	0.101	0.126	0.157

Notes: Standard errors in parentheses and clustered at the respondent level. † Income and Wealth are measured as the inverse hyperbolic sine. *Significant at the 95% confidence level. **Significant at the 99% confidence level. ***Significant at the 99.9% confidence level.

Table 5a: Regression Analysis for Use of Any Unpaid Care

	Any Unpaid Care	Any Unpaid Care	Any Unpaid Care
Constant	0.07***	0.04***	0.02
	(0.003)	(0.01)	(0.03)
Physically impaired only	0.51***	0.49***	0.49***
	(0.02)	(0.02)	(0.02)
Cognitively impaired	0.43***	0.38***	0.37***
	(0.02)	(0.02)	(0.02)
Age - 65		0.0007	-0.0004
		(0.001)	(0.001)
(Age - 65) Squared		0.0001**	0.0002***
		(0.00005)	(0.00005)
Female			0.048***
			(0.009)
Married			0.09***
			(0.009)
Female * Married			-0.05***
			(0.01)
Black			0.006
			(0.01)
Hispanic			0.007
			(0.01)
Other race			-0.004
			(0.02)
Any children			0.02
			(0.01)
Number of children			0.004*
			(0.002)
Any children			0.02
			(0.01)
Less than high school			0.05***
			(0.01)
Some college			-0.006
			(0.008)
College or more			-0.02**
Income†			-0.003
			(0.003)
Wealth†			-0.003***
			(0.0007)
Covered by Medicaid			-0.03*
			(0.01)
Observations	17306	17306	17306
Mean dep variable	0.14	0.14	0.14
R-squared	0.240	0.250	0.264

Notes: Standard errors in parentheses and clustered at the respondent level. † Income and Wealth are measured as the inverse hyperbolic sine. *Significant at the 95% confidence level. **Significant at the 99% confidence level. ***Significant at the 99.9% confidence level.

Table 5b: Regression Analysis of Use of Informal Care Hours

	Informal Care Hours	Informal Care Hours	Informal Care Hours
Constant	66.64***	55.38***	12.43
	(4.29)	(11.78)	(47.38)
Physically impaired only	62.45***	62.98***	59.22***
	(9.30)	(9.248)	(9.05)
Cognitively impaired	143.90***	142.4***	132.60***
	(13.55)	(13.94)	(13.44)
Age - 65		1.76	2.28
		(1.90)	(1.85)
(Age - 65)^2		-0.05	-0.02
		(0.07)	(0.06)
Female			25.87
			(14.19)
Married			80.34***
			(16.06)
Female * Married			-36.00
			(18.58)
Black			40.06*
			(17.24)
Hispanic			19.23
			(17.83)
Other race			30.93
			(37.66)
Any children			45.27**
			(15.98)
Number of children			0.321
			(2.76)
Less than high school			16.75
			(13.73)
Some college			-14.03
			(10.42)
College or more			-13.39
			(12.61)
Income†			-5.841
			(4.00)
Wealth†			-1.19
			(0.88)
Covered by Medicaid			30.97
			(16.25)
Observations	2584	2584	2584
Mean dep variable	121.89	121.89	121.89
R-squared	0.075	0.076	0.113

Notes: Standard errors in parentheses and clustered at the respondent level. † Income and Wealth are measured as the inverse hyperbolic sine. *Significant at the 95% confidence level. **Significant at the 99% confidence level. ***Significant at the 99.9% confidence level.

Table 6: Regression Results for Nursing home use

	Reside in Nursing Home	Reside in Nursing Home	Reside in Nursing Home
Constant	0.003***	-0.0008	0.037*
	(0.0005)	(0.002)	(0.017)
2+ ADLs and Score 7+	0.05***	0.05***	0.04***
	(0.008)	(0.008)	(0.008)
Score 0 - 6	0.23***	0.22***	0.20***
	(0.02)	(0.02)	(0.02)
Age - 65		-0.00005	0.0003
		(0.0006)	(0.0006)
(Age - 65) Squared		0.00003	0.00001
		(0.00003)	(0.00003)
Female			-0.02*
			(0.007)
Married			-0.03***
			(0.007)
Female * Married			0.02**
			(0.008)
Black			-0.02***
			(0.005)
Hispanic			-0.03***
			(0.006)
Other race			-0.01
			(0.01)
Any children			0.002
			(0.007)
Number of children			-0.001
			(0.0008)
Less than high school			-0.02**
			(0.006)
Some college			0.0003
			(0.004)
College or more			0.0002
			(0.003)
Income†			-0.0001
			(0.001)
Wealth†			-0.0007
			(0.0004)
Covered by Medicaid			0.08***
			(0.01)
Observations	17306	17306	17306
Mean dependent variable	0.02	0.02	0.02
R-squared	0.151	0.153	0.186

Notes: Standard errors in parentheses and clustered at the respondent level. † Income and Wealth are measured as the inverse hyperbolic sine. *Significant at the 95% confidence level. **Significant at the 99% confidence level. ***Significant at the 99.9% confidence level.

Table 7: Aggregate and Per Capita Cost of Care

	Spending	Not impaired	Physically impaired only	Cognitively Impaired	Total
Formal Care	Total (Billions)	13.5	29.2	49.79	92.49
	Per capita ($)	344	6,922	16,206	1,985
Informal Care	Total (Billions)	65	32.5	47.3	144.8
	Per capita ($)	1,654	7,704	15,396	3,108
Nursing Home	Total (Billions)	24.3	24.9	73	122.2
	Per capita ($)	618	5,902	23,761	2,623
All Care	Total (Billions)	102.8	86.6	160.09	359.49
	Per capita ($)	2,616	20,528	52,108	7,717
	Percent of GDP	0.50	0.42	0.77	1.7
	Population (millions)	39	4	3	47
	Num observations	14,887	1,757	1,475	18,119

See text for description of calculations for various types of care.