

Medicare Spending on Older Adults Who Need Long-Term Services and Supports

Authors*

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Executive Summary

About 13 percent of Medicare beneficiaries age 65 and older need long-term services and supports (LTSS) because of an inability to perform two or more activities of daily living or severe cognitive impairment. This need for LTSS is emerging as a defining characteristic of the high-cost, high-need Medicare population.

Using Medicare fee-for-service claims data linked to 2011 survey data from the National Health and Aging Trends Study, we find that Medicare spends nearly three times as much per capita on the 13 percent of older adults who need LTSS as on the other 87 percent of older beneficiaries who do not have these needs. Although policymakers most often associate being in the high cost group with having chronic conditions and being dually eligible for Medicare and Medicaid, these factors do not fully explain high spending.ⁱ In fact, LTSS need remains associated with high Medicare spending even when holding these characteristics constant. Key findings include:

Medicare spends 2X more on older adults with multiple chronic conditions when they also need LTSS. Older adults with four or more chronic conditions cost Medicare twice as much (\$26,621 compared to \$13,123) per

year when they also need LTSS due to physical or cognitive impairment.

Medicare spends 2X more on older adults dually eligible for Medicaid when they also need LTSS. Older adults who are dually eligible for Medicaid cost Medicare twice as much (\$20,729 compared to \$10,384) when they also need LTSS.

Medicare spends the same amount on dual eligible older adults who need LTSS and their non-dual eligible counterparts. Medicare spends the same amount per person per year for the two-thirds of older adults who need LTSS but are not dually eligible (\$19,985) as it does for the one-third of older adults who need LTSS but are dually eligible (\$20,729). More than half of older adults who need LTSS are not dually eligible for Medicaid, and many of these individuals have incomes below 200% of the federal poverty line.

Implications: Policies to reduce healthcare spending and increase value have focused on improving care coordination and integration for older adults with chronic conditions and dual eligibility for Medicaid. This research suggests that innovations to reduce healthcare spending could be enhanced by addressing the needs of the LTSS population, *regardless of whether the LTSS is financed by Medicaid, out-of-pocket savings, or*

provided exclusively by unpaid family caregivers.

Introductionⁱⁱ

The Congressional Budget Office projects that Medicare will spend about \$700 billion on payments to providers and health plans in 2017.ⁱⁱⁱ A substantial portion of these payments will be made on behalf of high-cost, high-need beneficiaries who constitute only a small part of the overall population. In response, policymakers tend to target program innovations to address the costs of beneficiaries with multiple chronic conditions and those who are dually eligible for Medicare and Medicaid (i.e., “dual eligibles”).

But experts may have overlooked a critical factor in understanding high Medicare spending and defining the high-cost, high-need population: the need for long-term services and supports (LTSS). That is, being unable to eat, bathe, get dressed or perform other daily activities independently appears to be strongly related to high healthcare spending, regardless of other characteristics more commonly associated with high costs.^{iv} And yet, people who need LTSS have not been a focus of program innovation, and the services they need are considered beyond the scope of the Medicare program.

The purpose of this research is to confirm earlier work and further describe the relationship between older adults’ need for LTSS and Medicare spending. Using the National Health and Aging Trends Survey (NHATS) with linked information regarding Medicare fee-for-service spending data and individual-level information including LTSS need, this research seeks to answer the question: What is the relationship between LTSS need and Medicare spending when

holding constant other factors that could influence spending?

The following paper describes how the NHATS was used to answer that question. Specifically, we present the relationship between LTSS need and healthcare spending when holding constant (separately) age, chronic conditions, Medicaid eligibility, and income.

Methodology^v

The National Health and Aging Trends Study (NHATS) is a nationally-representative panel study of Medicare beneficiaries age 65 and older.^{vi} This study uses results from the first round of NHATS which was fielded in 2011 to approximately 8,000 older adults. NHATS builds and improves upon previous survey research to assess disability among older adults, collecting both self-reported and performance-based measures of physical and cognitive capacity, as well as the accommodations respondents make to enhance their capacity (for example by using assistive devices). This analysis relies on self- and proxy reports of how NHATS study participants complete self-care, mobility, and household activities.^{vii} We additionally examine Medicare claims for services received by study participants enrolled in fee-for-service Medicare for one year following their 2011 survey date, which allows for analysis of Medicare utilization as it relates to individual characteristics measured in the survey.

We compared the annual per capita Medicare spending of two groups of fee-for-service beneficiaries: those who need LTSS and everyone else. Because physical and cognitive impairment exist along a continuum, it was necessary to set a precise threshold at which an individual met the

definition of LTSS need. We chose to match as closely as possible the level of need at which an individual would be eligible for long-term care insurance or Medicaid benefits. This represents a fairly high level of impairment—many older adults who fall below this level of need may still have physical and cognitive limitations that make everyday tasks difficult. The definition of need in this paper is not intended to suggest that individuals who do not meet the definition would not benefit from supports.^{viii}

We defined “LTSS Need” as receiving assistance with two or more of five activities of daily living (ADLs)—eating, bathing, using the toilet, getting dressed, and transferring—or having severe cognitive impairment.^{ix} We also consider all nursing home residents to need LTSS given the high degree of impairment among the long-stay nursing facility residents.^x We report data for nursing home residents separately where it is available.

We examined total annual per capita Parts A and B Medicare expenditures for each subgroup. As expenditures are drawn from claims data, they are limited to NHATS participants enrolled in fee-for-service Medicare for the 12 months following the date of their survey (68.3% of our weighted

analytic sample). Total annual Medicare expenditures were computed by summing the payment amount from the inpatient, outpatient, carrier, SNF, home health, hospice, and DME files for all claims in which the through date occurred within 365 days of the 1st of the month of the beneficiary’s 2011 NHATS survey month. Per capita expenditures were not adjusted for mortality. For participants who died, total expenditures reflects all claims from the survey month through the individual’s death.

Other individual characteristics related to Medicare spending that were measured included the presence and number of chronic conditions and enrollment in Medicaid. See the appendix for details on the construction of all variables.

Research Findings

Population Size

Using the definition described above, we estimate that there were 3.5 million older adults who need LTSS living in the community in 2011, or about 10 percent of the 36.4 million older adults enrolled in Medicare. An additional 1.1 million older adults were residents of nursing homes, representing about 3 percent of the Medicare population age 65 and older.

Table 1: Size of the LTSS Need Population All 2011 Medicare Beneficiaries (age 65+) ^{xi}		
Category	Population Size	Population Share
Full Medicare 65+ Population	36.4 million	100%
LTSS Need in the Community	3.5 million	9.9%
Nursing Home Residents	1.1 million	3.1%

Source: 2011 National Health and Aging Trends Study

Population Characteristics

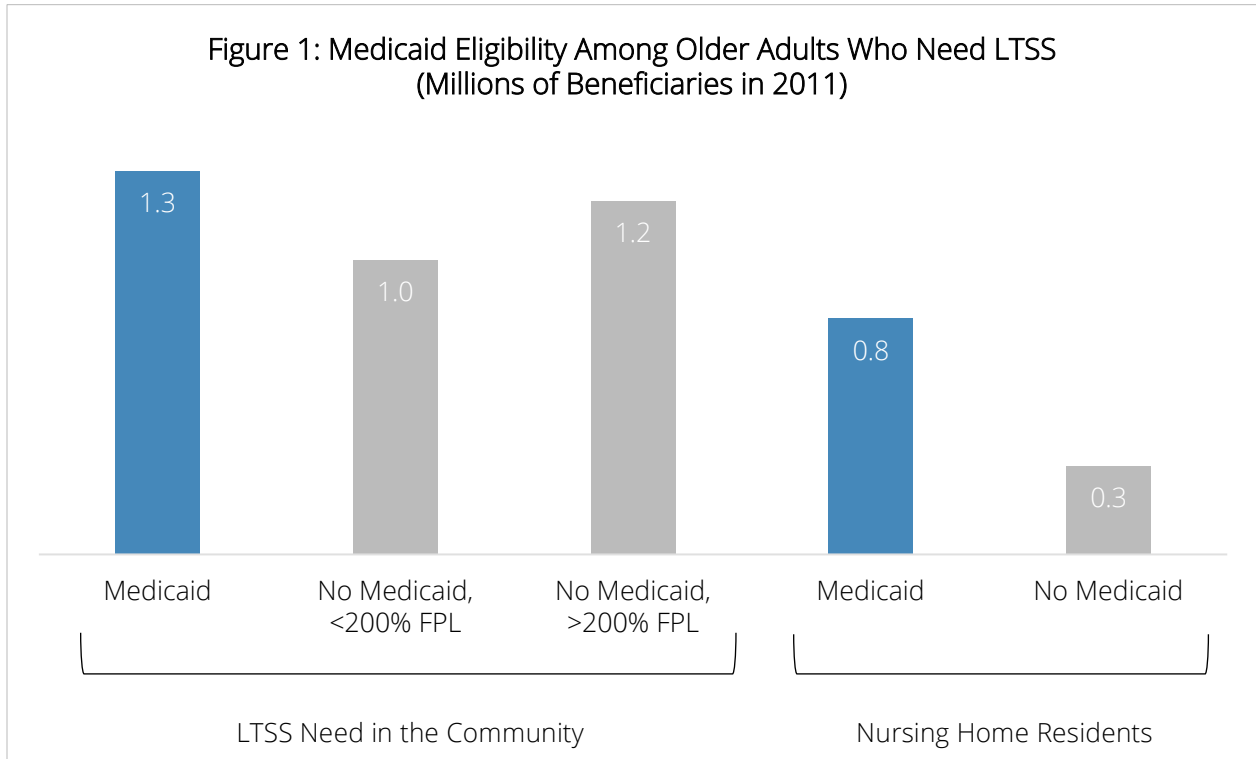
As displayed in Table 2, older adults who need LTSS are much more likely to be older, female, enrolled in Medicaid, and experience more chronic conditions and lower levels of education. We found that 59 percent of people with LTSS need in the community and 71 percent of nursing home residents are age 80 or older compared to 25 percent of those without LTSS need. About 68 percent of older adults with LTSS need in the community

and 73 percent of the nursing home population are female compared to 55 percent of older adults without LTSS need. Individuals with LTSS need are also much more likely than those without LTSS need to have four or more chronic conditions (29 percent versus 11 percent), and to have not completed high school (38 percent versus 20 percent).

Table 2: Characteristics of the LTSS Need Population All 2011 Medicare Beneficiaries (age 65+)^{xii}

Characteristic	No LTSS Need	LTSS Need in the Community	Nursing Home Residents
Population Size	31.8 million	3.5 million	1.1 million
Average age (years)	75	81	84
Age 80 or older	25%	59%	71%
Female	55%	68%	73%
Enrolled in Medicaid	14%	36%	64%
Average number of chronic conditions	2.0	2.7	No Data
Four or more chronic conditions	11%	29%	No Data
Did not graduate high school	20%	38%	No Data

Source: 2011 National Health and Aging Trends Study

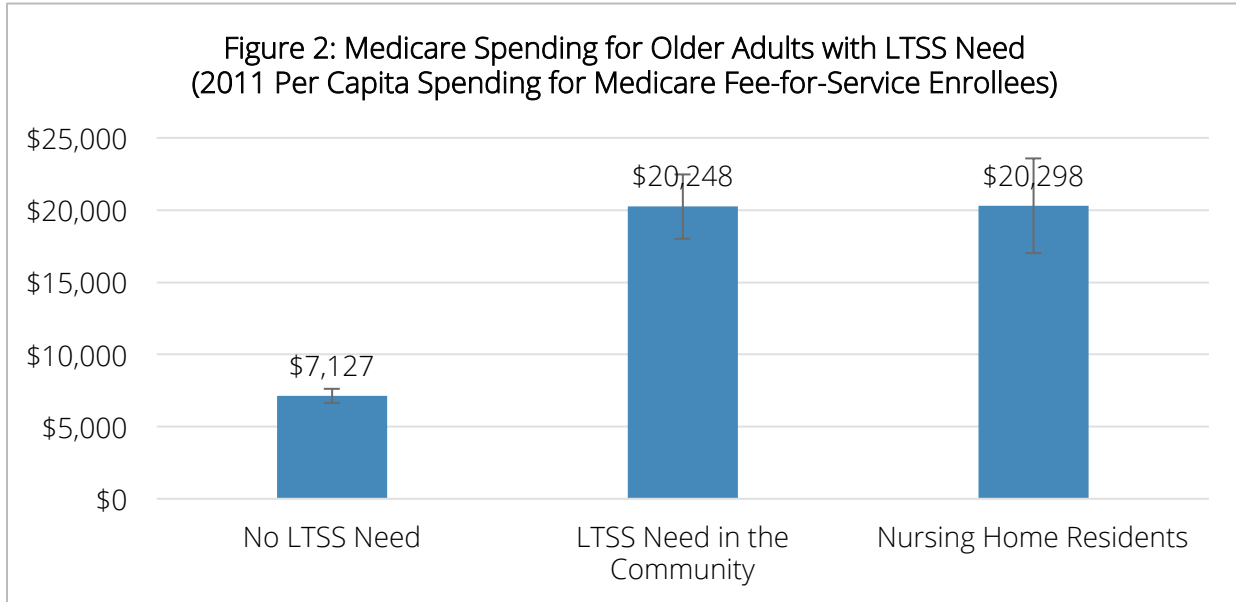


Source: 2011 National Health and Aging Trends Study

Compared to the 14 percent of older adults without LTSS need who are enrolled in Medicaid (Table 2), Figure 1 shows that a little over one-third (1.3 million) of older adults who need LTSS living in the community and two-thirds (0.8 million) of nursing home residents are enrolled in Medicaid.

Two-thirds of older adults with LTSS need in the community are not enrolled in Medicaid, and almost half of these individuals are low income, with incomes under 200 percent of the federal poverty level (FPL).

Medicare Fee-For-Service Spending on the LTSS Need Population



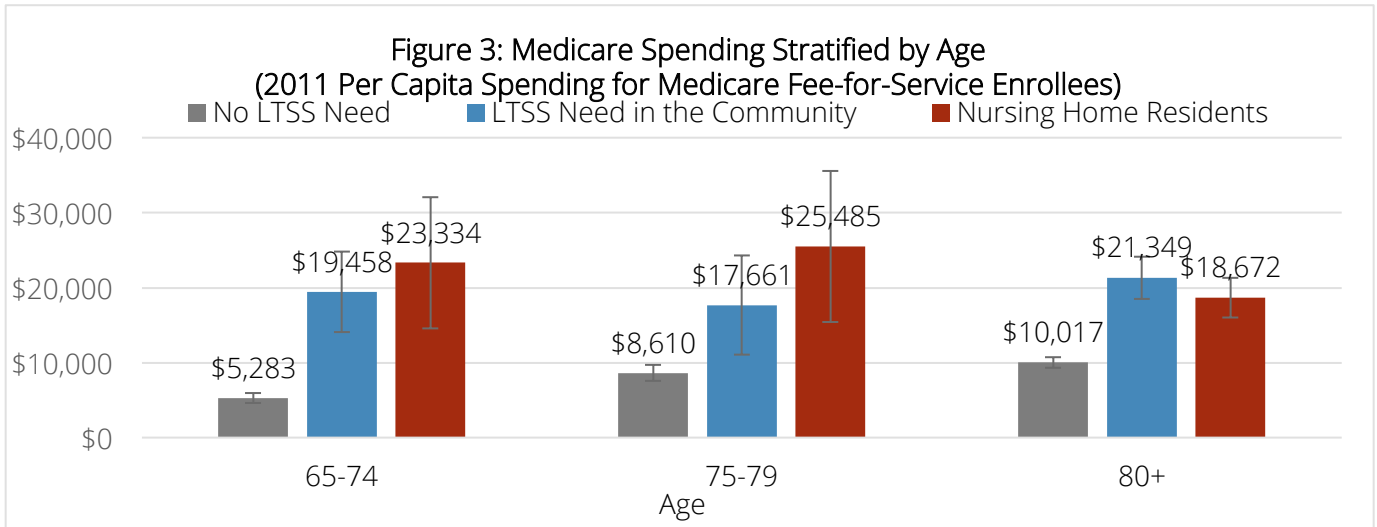
Source: 2011 National Health and Aging Trends Study

	Average Spending	95% Confidence Interval	Sample Size
No LTSS Need	\$7,127	\$6,641-\$7,613	4,351
LTSS Need in the Community	\$20,248	\$18,012-\$22,484	726
Nursing Home Residents	\$20,298	\$17,006-\$23,590	384

Source: 2011 National Health and Aging Trends Study

As Figure 2 illustrates, fee-for-service Medicare spends almost three times as much on individuals who need LTSS (per capita) than on those who do not need LTSS. The annual per capita spending for individuals with LTSS need living in the

community and nursing homes exceeds \$20,000 (\$20,238 and \$20,298 respectively) compared to \$7,127 for those without LTSS need.



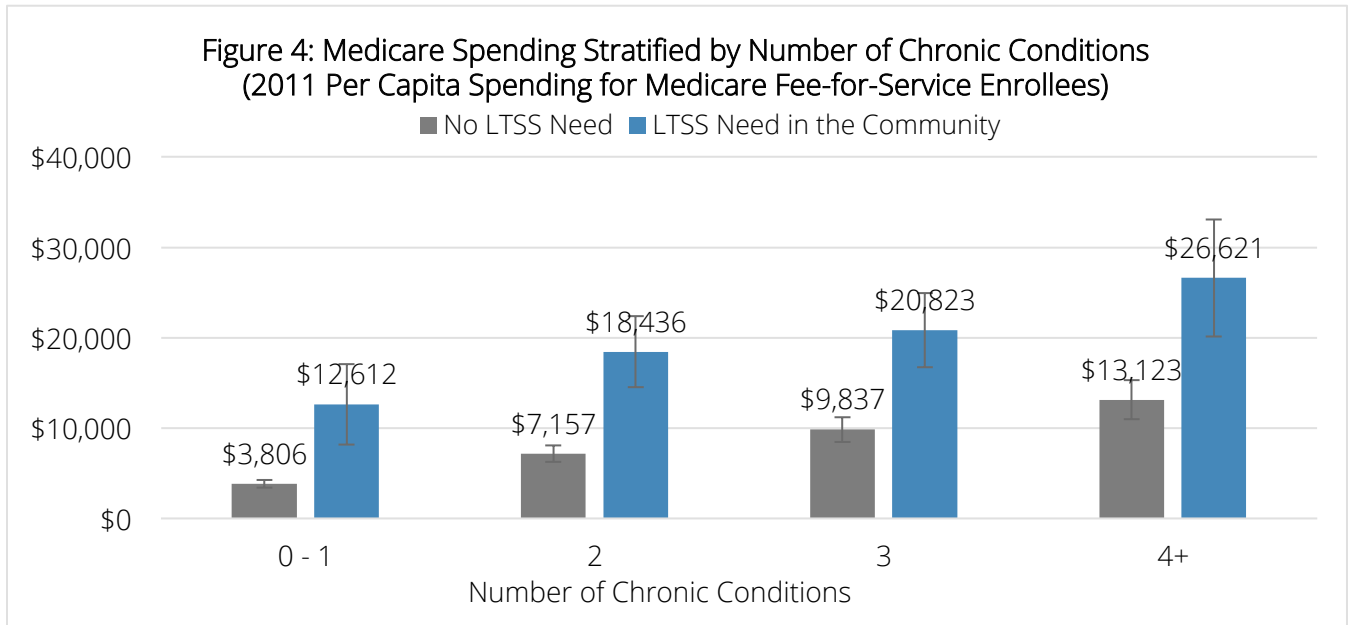
Source: 2011 National Health and Aging Trends Study

	65-74		75-79		80+	
	Average Spending (95% CI)	Sample Size	Average Spending (95% CI)	Sample Size	Average Spending (95% CI)	Sample Size
No LTSS Need	\$5,283 (\$4,620-\$5,946)	1,835	\$8,610 (\$7,531-\$9,689)	863	\$10,017 (\$9,321-\$10,713)	1,653
LTSS Need in the Community	\$19,458 (\$14,087-\$24,829)	100	\$17,661 (\$11,049-\$24,273)	118	\$21,349 (\$18,513-\$24,18)	508
Nursing Home Residents	\$23,334 (\$14,545-\$32,123)	32	\$25,485 (\$15,407-\$35,563)	45	\$18,672 (\$15,993-\$21,351)	307

Source: 2011 National Health and Aging Trends Study

As noted in Table 2, older adults with LTSS need in the community and nursing homes are on average older than their counterparts without LTSS need. However, as shown in Figure 3, the relationship between LTSS need and annual per capita fee-for-service Medicare spending is statistically significant even when stratifying by age.

Among Medicare fee-for-service beneficiaries between age 65 and 74, annual spending for those without LTSS need is \$5,283 while spending for people with LTSS need in the community and in nursing homes is \$19,458 and \$23,334 respectively.



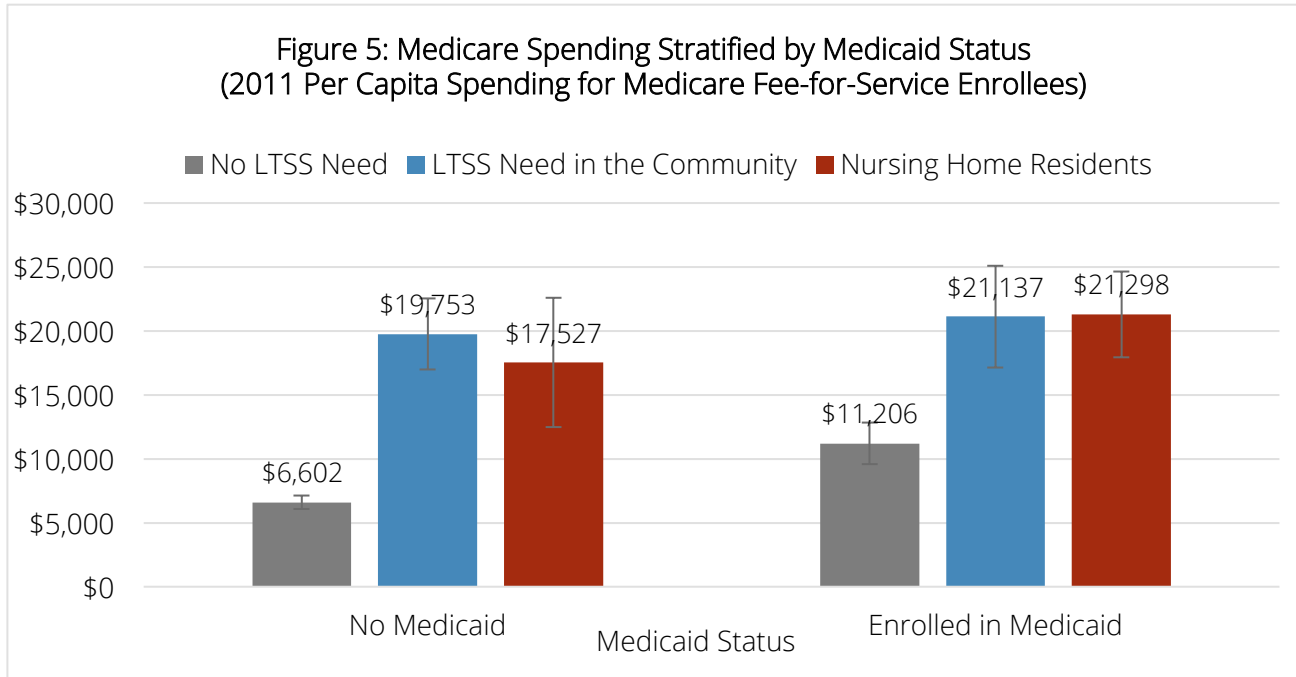
Source: 2011 National Health and Aging Trends Study

	0-1 Chronic Conditions	2 Chronic Conditions	3 Chronic Conditions	4+ Chronic Conditions
	Average Spending (95% CI) [Sample size]	Average Spending (95% CI) [Sample size]	Average Spending (95% CI) [Sample size]	Average Spending (95% CI) [Sample size]
No LTSS Need	\$3,806 (\$3,377-\$4,235) [1,485]	\$7,157 (\$6,260-\$8,054) [1,359]	\$9,837 (\$8,461-\$11,213) [986]	\$13,123 (\$10,955-\$15,291) [521]
LTSS Need in the Community	\$12,612 (\$8,175-\$17,049) [132]	\$18,436 (\$14,517-\$22,355) [186]	\$20,823 (\$16,735-\$24,911) [208]	\$26,621 (\$20,136-\$33,106) [200]

Source: 2011 National Health and Aging Trends Study

The relationship between LTSS need and fee-for-service Medicare spending remains statistically significant when holding the number of chronic conditions constant, as shown in Figure 4 above. Among older adults with four or more chronic conditions,

fee-for-service Medicare spends \$13,123 per capita on those without LTSS need while the program spends \$26,621 per capita on those with LTSS need in the community. Data on chronic conditions was not available for nursing home residents.



Source: 2011 National Health and Aging Trends Study

	No Medicaid		Enrolled in Medicaid	
	Average Spending (95% CI)	Sample Size	Average Spending (95% CI)	Sample Size
No LTSS Need	\$6,602 (\$6,072-\$7,131)	3,770	\$11,206 (\$9,592-\$12,821)	581
LTSS Need in the Community	\$19,753 (\$16,974-\$22,531)	432	\$21,137 (\$17,145-\$25,128)	294
Nursing Home Residents	\$17,527 (\$12,469-\$22,586)	86	\$21,298 (\$17,942-\$24,653)	298

Source: 2011 National Health and Aging Trends Study

As illustrated in Figure 5, the relationship between LTSS need and fee-for-service Medicare spending is statistically significant even when holding Medicaid eligibility constant. Among older adults enrolled in Medicaid, fee-for-service Medicare spends \$11,206 per capita on those without LTSS need while the program spends \$21,137 and

\$21,298 per capita on those with LTSS need in the community and nursing home residents, respectively. Medicare spends very similar amounts on beneficiaries who need LTSS but are not eligible for Medicaid: \$19,753 per capita for people without Medicaid who need LTSS in the community and \$17,527 per capita for nursing home residents without Medicaid.

Discussion

Policymakers have raised concerns about the Medicare program's financial sustainability in light of the growing number of older adults who are expected to live to very old ages in the coming decades. With the passage of the Affordable Care Act (ACA), policy and business leaders have been working to find better ways to finance and deliver healthcare; moving away from fee-for-service, volume-driven payment to value-based care that will bend the healthcare cost curve and ensure a sustainable financial footing for the program's future.

This is a challenging shift to make. Fee-for-service medicine has left a legacy of defining high-cost, high-need populations by the medical conditions they experience or the government programs that pay for their care. These definitions have limited the ability of healthcare systems and payers to intervene effectively by addressing social and long-term service and support needs.

This research demonstrates that the need for LTSS may be at least as important a characteristic to guide program design as chronic illness and dual eligibility. Individuals with multiple chronic conditions and who are dually eligible for both Medicare and Medicaid incur more healthcare costs when they also need LTSS than when they do not.

Further, most of the individuals who need LTSS live in the community (3.5 out of 4.6 million) and two-thirds of these individuals are not eligible for Medicaid, although many of them live below 200 percent of the federal poverty level. As a result, programs aimed at either nursing home residents or those who are dually eligible miss a substantial portion of the high-cost, high-

need population, many of whom are low-income and are at risk of spending down to Medicaid.^{xiii}

Information presented in this research brief and elsewhere points to the opportunity to better deliver value by giving providers and payers the flexibility to use program funds to address the needs of the LTSS population, *regardless of whether the LTSS is financed by Medicaid, out-of-pocket savings, or provided exclusively by unpaid family caregivers*. The non-dually eligible population has the same need for coordination and care integration as dual eligibles, and they often lack access to financing for services, such as home-based care, transportation, and meals.

As the Bipartisan Policy Center points out in a recently issued report,^{xiv} there are many opportunities for the Centers for Medicare and Medicaid Services (CMS) and Congress to improve demonstration design and Medicare Advantage payment policy to give providers and health plans the tools they need to target and serve Medicare beneficiaries with LTSS need living in the community. This includes allowing them to redirect resources from hospitalizations to social services and supports that create greater value for beneficiaries and the program.

Conclusion

The need for LTSS is associated with high Medicare spending for older adults, even when controlling for other characteristics of high-cost, high-need populations like multiple chronic conditions and dual eligibility. The relationship between LTSS need and Medicare utilization has been reported infrequently, perhaps due to the lack of widespread availability of information

on both functional and cognitive impairment in population-based datasets. More research is needed to better understand the experience and outcomes of beneficiaries who need LTSS in the Medicare program. Updated analysis with more recent data will also be critical to understanding whether the widely reported declines in Medicare hospitalization utilization since 2011 have been experienced by those who need LTSS.^{xv}

In a follow-up to this analysis, we will examine whether managing older adults' LTSS needs can result in lower medical utilization. If that's true, as evaluations of innovative integrated programs suggest that it is,^{xvi,xvii,xviii} then Medicare's strict limitation on covering only "health-related" services and prohibition of reimbursement for LTSS may be counterproductive. On the contrary, integrating LTSS may be critical to ensuring Medicare's long-term financial sustainability.

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ⁱ S Rodriguez et al. (2014) "Effective Management of High-Risk Medicare Populations," Avalere Health. Available at: <http://avalere.com/news/avalere-issues-white-paper-on-the-management-of-high-risk-medicare-populati>

ⁱⁱ LTQA is grateful to the members of our technical advisory panel, who provided expert consultation for this research: Marc Cohen, University of Massachusetts Boston; Karen Davis, Johns Hopkins University; Howard Gleckman, Urban Institute; David Grabowski, Harvard University; R. Tamara Konetzka, University of Chicago; Vince Mor, Brown University; Paul Saucier, Truven Health Analytics; Brenda Spillman, Urban Institute; and Joshua Wiener, RTI.

ⁱⁱⁱ Congressional Budget Office (June 2017) "Baseline Projections for Selected Programs: Medicare." Available at: <https://www.cbo.gov/about/products/baseline-projections-selected-programs#10>

^{iv} Anne Tumlinson Innovations (2017) "[Functional Impairment a Key Factor in High Medical Spending](#)," and Komisar and Feder (2011) "[Transforming Care for Medicare Beneficiaries with Chronic Conditions and Long-Term Care Needs](#)."

^v For a more detailed methodology, please see the Appendix that accompanies this research brief.

^{vi} For more information about NHATS, please visit: <http://www.nhats.org/>

^{vii} The self-care, mobility, and household activity information collected in the NHATS survey correspond to activities of daily living (ADLs) and instrumental activities of daily living (IADLs) used by long-term care insurance firms and Medicaid programs to determine eligibility for benefits.

^{viii} Medicare utilization data are also available for a broader definition of LTSS Need that capture about twice as many older adults living in the community. See the appendix for those results and further details on the definition.

^{ix} For more information about the construction of our cognitive impairment variable, please consult the appendix.

^x B Williams et al. (1994) "Activities of Daily Living and Costs in Nursing Homes," *Health Care Financing Review* 15(4):117-135.

^{xi} This table includes beneficiaries enrolled in fee-for-service Medicare as well as those enrolled in Medicare Advantage plans.

^{xii} This table includes beneficiaries enrolled in fee-for-service Medicare as well as those enrolled in Medicare Advantage plans.

^{xiii} A Willink, K Davis, C Schoen, and J Wolff (2016) "Physical and/or Cognitive Impairment, Out-of-Pocket Spending, and Medicaid Entry among Older Adults," *Journal of Urban Health* 93(5): 840-850.

^{xiv} Bipartisan Policy Center (2017) "Improving Care for High-Need, High-Cost Medicare Patients." Available at:

<https://bipartisanpolicy.org/library/improving-care-for-high-need-high-cost-medicare-patients/>

^{xv} MedPac (2017) "Databook: Health Care Spending and the Medicare Program," Chapter 6. Available at: [http://www.medpac.gov/docs/default-source/data-](http://www.medpac.gov/docs/default-source/data-book/jun17_databooksec6_sec.pdf?sfvrsn=0)

[book/jun17_databooksec6_sec.pdf?sfvrsn=0](http://www.medpac.gov/docs/default-source/data-book/jun17_databooksec6_sec.pdf?sfvrsn=0)

^{xvi} W Anderson, Z Feng, and S Long, (2016) "Minnesota Managed Care Longitudinal Data Analysis," Report prepared for Office of Disability, Aging and Long-Term Care Policy. Available at: <https://aspe.hhs.gov/report/minnesota-managed-carelongitudinal-data-analysis>

^{xvii} S Szanton et al. (2016) "Home-Based Care Program Reduces Disability and Promotes Aging in Place," *Health Affairs* 35(9):1558-63.

^{xviii} S Ruiz et al. (2017) "Innovative Home Visit Models Associated with Reductions in Costs, Hospitalizations, and Emergency Department Use," *Health Affairs* 36(3):425-432.