

# UCSF

## UC San Francisco Previously Published Works

### Title

Home-Based Medical Care Use In Medicare Advantage And Traditional Medicare In 2018.

### Permalink

<https://escholarship.org/uc/item/0x59k8t1>

### Journal

Health Affairs, 42(9)

### Authors

Marr, Jeffrey

Leff, Bruce

Ornstein, Katherine

et al.

### Publication Date

2023-09-01

### DOI

10.1377/hlthaff.2023.00376

Peer reviewed



# HHS Public Access

Author manuscript

*Health Aff (Millwood)*. Author manuscript; available in PMC 2024 March 18.

Published in final edited form as:

*Health Aff (Millwood)*. 2023 September ; 42(9): 1198–1202. doi:10.1377/hlthaff.2023.00376.

## Home-Based Medical Care Use In Medicare Advantage And Traditional Medicare In 2018

**Jeffrey Marr,**

Johns Hopkins University, Baltimore, Maryland.

**Christine Ritchie,**

Massachusetts General Hospital and Harvard University, Boston, Massachusetts.

**Bruce Leff,**

Johns Hopkins University.

**Katherine A. Ornstein**

Johns Hopkins University.

### Abstract

The use of home-based medical care differed in Medicare Advantage and traditional Medicare in 2018. Having exactly one such visit was thirty-one times as likely for Medicare Advantage beneficiaries (18.6 percent) as for traditional Medicare beneficiaries (0.6 percent), likely reflecting incentives in the Medicare Advantage program to code all accurate diagnoses. Multiple home-based medical care visits were less likely in Medicare Advantage than in traditional Medicare (1.6 percent versus 2.1 percent of beneficiaries, respectively).

---

Millions of Medicare beneficiaries are homebound or have difficulty leaving home.<sup>1</sup> These patients may benefit from home-based medical care, where physicians, physician assistants, or nurse practitioners conduct medical visits in the patient's home or a domiciliary setting (for example, assisted living) rather than the office setting.<sup>2</sup> However, take-up of home-based medical care is low.<sup>1</sup>

Using Medicare Advantage (MA) encounter data and 2018 traditional Medicare claims, we identified key differences in home-based medical care use in MA and traditional Medicare. As shown in exhibit 1, MA beneficiaries were 23.8 percent less likely than traditional Medicare beneficiaries to receive more than one home-based medical care visit that year (2.1 percent versus 1.6 percent;  $p < 0:001$ ). The use of only one such visit during the year was rare in traditional Medicare (0.6 percent of beneficiaries); it was thirty-one times as likely in MA (18.6 percent of beneficiaries;  $p < 0:001$ ).

### Study Data And Methods

Our two main data sources were both from the Centers for Medicare and Medicaid Services (CMS). For MA beneficiaries, we used 20 percent MA encounter data from 2018. This novel

data source provides a broad view of resource use in MA that encompasses a large set of insurers. Although past work has calculated the rate of longitudinal home-based medical care—that is, receipt of more than one such visit in a year—in a smaller cohort of MA beneficiaries, using OptumLabs data,<sup>3</sup> the MA encounter data allow a broader look at the MA program while enabling direct comparison to a similarly defined traditional Medicare cohort. Although these data theoretically include all MA beneficiaries, there are concerns that not all MA contracts report complete data.<sup>4</sup> To mitigate bias, we restricted our analysis to MA contracts identified in past research as reporting highly complete data.<sup>4</sup> With this restriction, our final sample represented approximately 68 percent of the MA population that otherwise met our inclusion criteria. Our sample included a large set of insurers and different types of plans, including health maintenance organizations, preferred provider organizations, and Special Needs Plans. For traditional Medicare beneficiaries, we used 20 percent traditional Medicare claims. We also used the Master Beneficiary Summary File, the Medicare Provider Analysis and Review file, and publicly reported data on MA plans.

Our sample included only beneficiaries continuously enrolled in Medicare Parts A and B in 2018 ( $N = 10,329,155$ ). We excluded beneficiaries who switched between MA and traditional Medicare, switched between MA contracts, or died during 2018 ( $n = 423,742$ ). We also excluded beneficiaries who lived outside of the fifty states and Washington, D.C. ( $n = 119,961$ ). Finally, we excluded beneficiaries in MA contracts lacking high encounter data completeness, as defined by past research ( $n = 1,200,070$ ).<sup>4</sup>

Our final sample contained 8,585,382 beneficiaries (weighted  $N = 42,926,910$ ): 2,512,846 (weighted  $n = 12,564,230$ ) in MA and 6,072,536 (weighted  $n = 30,362,680$ ) in traditional Medicare. Our sample included beneficiaries eligible for Medicare because of age, disability, and end-stage renal disease, so 14.1 percent of our sample was younger than age sixty-five (overall mean age: 72.1 years).

We used Healthcare Common Procedure Coding System codes to identify home-based medical care visits that occurred both in beneficiaries' homes (99341–50) and in domiciliary settings (99324–8 and 99334–7).<sup>5</sup> We counted a maximum of one visit per day and classified patients as having zero, one, or more than one home-based medical care visits in calendar year 2018. One-time home-based medical care visits may be used for assessment purposes, whereas longitudinal home-based medical care may better reflect ongoing medical care for homebound patients. Using these definitions, we examined the probability of home-based medical care use in MA and traditional Medicare, as well as the number and site of visits for those receiving longitudinal care. For one-time visits in MA, we examined differences across MA insurers. We also compared clinical risk factors by the intensity of home-based medical care use for MA beneficiaries to determine whether the different types of home-based medical care (one-time versus longitudinal) were targeted toward different populations by MA plans. We used  $t$ -tests, defining statistical significance as  $p < 0.05$ .

This study had limitations. First, although MA encounter data provide new opportunities to understand health care use in MA, reporting may be incomplete. Although we restricted our sample to data from MA contracts that have been shown in past research to have highly complete data reporting overall, we may still have underestimated home-based medical

care use in MA.<sup>4</sup> Second, MA beneficiaries are likely different than traditional Medicare beneficiaries in terms of their clinical status, social factors, or geographic location.<sup>6</sup> This may affect their need for—or the availability of—home-based medical care services. The results of our adjusted analyses in online supplemental exhibit 1 suggest that these differences did not drive our results.<sup>7</sup> However, other unobservable factors may have influenced home-based medical care use. Finally, we used data from 2018—before the COVID-19 pandemic—which may have affected subsequent home-based medical care use.

## Study Results

As noted, MA beneficiaries were less likely than traditional Medicare beneficiaries to receive longitudinal home-based medical care (exhibit 1). There were modest differences in longitudinal home-based medical care use across MA insurers (supplemental exhibit 2).<sup>7</sup> However, all MA insurers had lower rates of longitudinal home-based medical care use than that observed in traditional Medicare, after differences in ZIP code of residence were adjusted for ( $p < 0:001$  for all insurers) (supplemental exhibit 3).<sup>7</sup>

Delivery of longitudinal home-based medical care also differed in MA and traditional Medicare. Longitudinal home-based medical care recipients had 1.1 fewer visits in MA (7.0 visits) than in traditional Medicare (8.1 visits), on average, during 2018 ( $p < 0:001$ ) (data not shown). Moreover, a higher proportion of MA longitudinal home-based medical care recipients had at least two visits in their home (56.5 percent compared with 47.6 percent in traditional Medicare;  $p < 0:001$ ), whereas a lower share had at least two visits in a domiciliary setting (44.6 percent compared with 55.8 percent in traditional Medicare;  $p < 0:001$ ) (exhibit 2).

MA beneficiaries were far more likely than traditional Medicare beneficiaries to have had exactly one home-based medical care visit during the year in 2018 ( $p < 0:001$ ) (exhibit 1). There was also substantial variation across MA insurers (exhibit 3). For example, 7.9 percent of Blue Cross Blue Shield enrollees had exactly one visit, compared with more than three times that proportion of UnitedHealth care enrollees (26.1 percent) ( $p < 0:001$ ).

On average, MA beneficiaries with one home-based medical care visit were one year older than those without any such visits ( $p < 0:001$ ) but 7.8 years younger ( $p < 0:001$ ) than those with longitudinal home-based medical care (exhibit 4). MA beneficiaries with one home-based medical care visit were less likely to be hospitalized, had fewer comorbidities (that is, chronic conditions), and had a lower probability of having dementia than those who received longitudinal home-based medical care ( $p < 0:001$  for all differences). The profile of MA beneficiaries receiving longitudinal home-based medical care was consistent with appropriate targeting of these services to high-risk patients, whereas those with one visit had lower risk. See supplemental exhibit 4 for differences in patient characteristics by MA and traditional Medicare enrollment and home-based medical care intensity.<sup>7</sup>

## Discussion

Using MA encounter data and traditional Medicare claims data, we found that, relative to traditional Medicare, MA beneficiaries used less longitudinal home-based medical care but had more one-time home-based medical care visits in 2018.

Past research on home-based medical care has focused almost exclusively on longitudinal care, showing that it can reduce hospitalizations while improving quality of life and patient satisfaction.<sup>2,8</sup> We found MA beneficiaries to be 23.8 percent less likely than traditional Medicare beneficiaries to receive longitudinal home-based medical care. Our estimate of the prevalence of longitudinal home-based medical care in MA is consistent with past work examining a more limited cohort of MA beneficiaries.<sup>3</sup>

In addition, we found important differences in the delivery of longitudinal home-based medical care among the relatively small share of MA beneficiaries who received it. Compared with those enrolled in traditional Medicare, MA beneficiaries who received longitudinal home-based medical care had fewer visits but were more likely to have those visits at home rather than in a domiciliary setting (for example, assisted living). This finding relates to recent research showing that the growth in home-based medical care use has been driven by increases in the domiciliary setting, likely because it is more efficient for providers to conduct visits in assisted living settings, where there may be economies of scale to seeing multiple patients.<sup>5</sup> Future research should consider how home-based medical care in MA varies with the use of other related services, including supplemental benefits, such as palliative care, introduced in 2019.<sup>9</sup>

Although MA beneficiaries were, overall, thirty-one times as likely as traditional Medicare beneficiaries to have had exactly one home-based medical care visit during 2018, the considerable variation seen in the use of one-time visits across MA insurers suggests that some put greater emphasis on these visits than others did. The differences in clinical risk factors between MA beneficiaries receiving one-time and longitudinal home-based medical care suggest that these services are targeted toward different groups. In-home assessments may help MA plans better characterize their beneficiaries' clinical needs and coordinate care. However, concern has been raised that these visits may also serve to identify additional diagnoses that, when used in risk adjustment, might increase Medicare payments to plans.<sup>10</sup> A recent report found that MA plans used diagnoses recorded during in-home assessments to increase payments by more than \$2 billion.<sup>11</sup> Bipartisan legislation was introduced in March 2023 to exclude the diagnoses from these types of visits from MA risk adjustment.<sup>12</sup> In addition, CMS issued guidance to MA plans in 2015 on how in-home assessments could be better used to improve care, including by making needed medical referrals and connecting patients to community resources.<sup>13</sup> Researchers and policy makers should continue to examine the role of in-home assessment visits in both risk adjustment and patient care. Future work is needed to clarify the effects of in-home assessment visits on health care use and patient outcomes.

## Conclusion

Compared with traditional Medicare beneficiaries, MA beneficiaries were more likely to have exactly one home-based medical care visit in 2018 but less likely to have received longitudinal home-based medical care. As MA enrollment continues to grow, the behavior of MA plans will likely remain a key determinant of access to home-based medical care.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

## Acknowledgments

Jeffrey Marr received funding through Grant No. T32AG066576 from the National Institute on Aging, National Institutes of Health.

## NOTES

1. Ornstein KA, Leff B, Covinsky KE, Ritchie CS, Federman AD, Roberts L, et al. Epidemiology of the homebound population in the United States. *JAMA Intern Med.* 2015;175(7):1180–6. [PubMed: 26010119]
2. Zimbroff RM, Ornstein KA, Sheehan OC. Home-based primary care: a systematic review of the literature, 2010–2020. *J Am Geriatr Soc.* 2021;69(10):2963–72. [PubMed: 34247383]
3. Leff B, Ritchie C, Ciemins E, Dunning S. Prevalence of use and characteristics of users of home-based medical care in Medicare Advantage. *J Am Geriatr Soc.* 2023;71(2):455–62. [PubMed: 36222194]
4. Jung J, Carlin C, Feldman R, Tran L. Implementation of resource use measures in Medicare Advantage. *Health Serv Res.* 2022;57(4):957–62. [PubMed: 35411550]
5. Liu B, Ritchie CS, Ankuda CK, Perez-Benzo G, Osakwe ZT, Reckrey JM, et al. Growth of fee-for-service Medicare home-based medical care within private residences and domiciliary care settings in the U.S., 2012–2019. *J Am Med Dir Assoc.* 2022;23(10):1614–1620.e10. [PubMed: 36202531]
6. Ochieng N, Biniek JF. Beneficiary experience, affordability, utilization, and quality in Medicare Advantage and traditional Medicare: a review of the literature [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2022 Sep 16 [cited 2023 Jul 3]. Available from: <https://www.kff.org/medicare/report/beneficiary-experience-affordability-utilization-and-quality-in-medicare-advantage-and-traditional-medicare-a-review-of-the-literature/>
7. To access the appendix, click on the Details tab of the article online.
8. Federman AD, Brody A, Ritchie CS, Egorova N, Arora A, Lubetsky S, et al. Outcomes of home-based primary care for homebound older adults: a randomized clinical trial. *J Am Geriatr Soc.* 2023;71(2):443–54. [PubMed: 36054295]
9. Meyers DJ, Durfey SNM, Gadbois EA, Thomas KS. Early adoption of new supplemental benefits by Medicare Advantage plans. *JAMA.* 2019;321(22):2238–40. [PubMed: 31184727]
10. Geruso M, Layton T. Upcoding: evidence from Medicare on squishy risk adjustment. *J Polit Econ.* 2020;128(3):984–1026. [PubMed: 32719571]
11. Department of Health and Human Services, Office of Inspector General. Some Medicare Advantage companies leveraged chart reviews and health risk assessments to disproportionately drive payments [Internet]. Washington (DC): HHS; 2021 Sep [cited 2023 Jul 3]. (Report No. OEI-03–17-00474). Available from: <https://oig.hhs.gov/oei/reports/OEI-03-17-00474.pdf>
12. Office of US Senator Bill Cassidy [Internet]. Washington (DC): The Office. Press release, Cassidy, Merkley introduce bill to better assess Medicare patient health, avoid overpayments; 2023 Mar 27 [cited 2023 Jul 3]. Available from: <https://www.cassidy.senate.gov/newsroom/press-releases/cassidy-merkley-introduce-bill-to-better-assess-medicare-patient-health-avoid-overpayments>

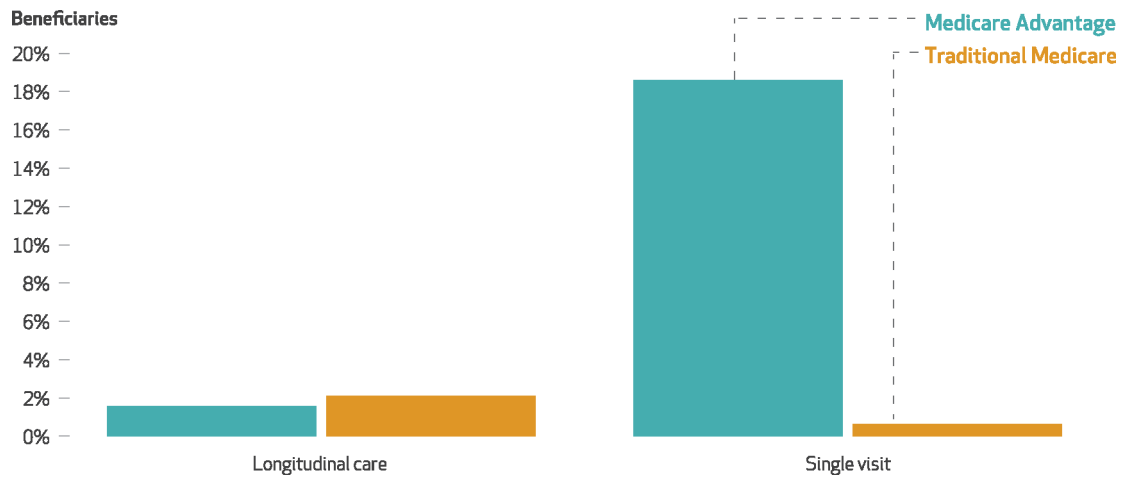
13. Centers for Medicare and Medicaid Services. Announcement of calendar year (CY) 2016 Medicare Advantage capitation rates and Medicare Advantage and Part D payment policies and final call letter [internet]. Baltimore (MD): CMS; 2015 Apr 6 [cited 2023 Jul 3]. Available from: <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Announcement2016.pdf>

Author Manuscript

Author Manuscript

Author Manuscript

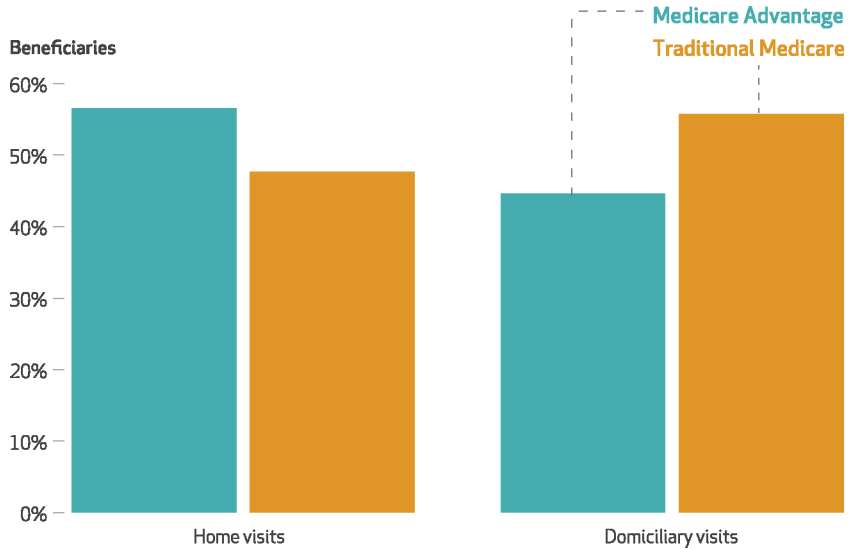
Author Manuscript



**EXHIBIT 1. Proportion of Medicare Advantage (MA) and traditional Medicare beneficiaries receiving home-based medical care visits, by care intensity, 2018**

**SOURCE** Authors’ analysis of 20 percent MA encounter data and traditional Medicare claims from 2018. **NOTES** Differences between MA and traditional Medicare for both types of visits were statistically significant ( $p < 0:001$ ). “Longitudinal care” means multiple (that is, 2 or more) home-based medical care visits over the course of a year.





**EXHIBIT 2. Proportion of Medicare Advantage (MA) and traditional Medicare beneficiaries receiving longitudinal home-based medical care, by setting, 2018**

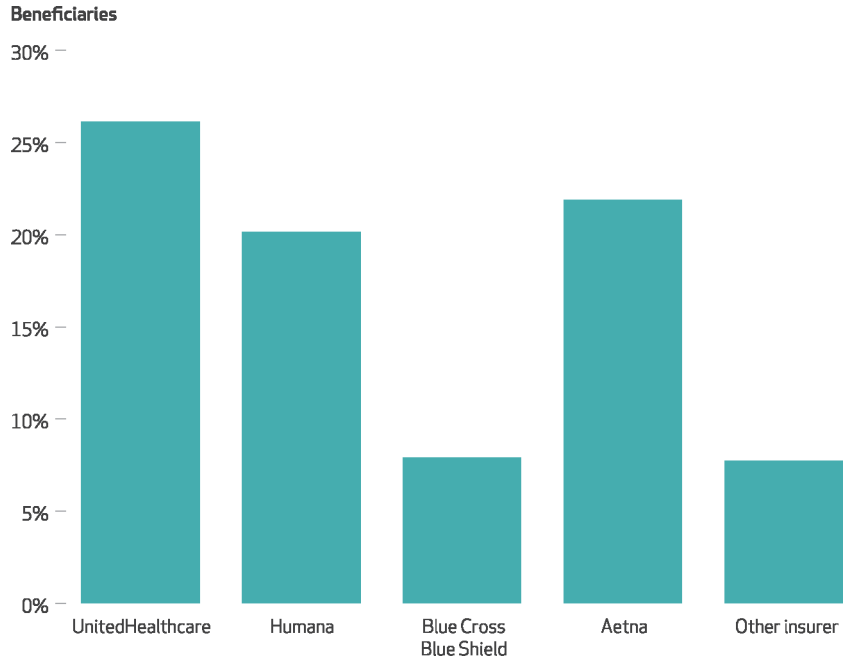
**SOURCE** Authors' analysis of 20 percent MA encounter data and traditional Medicare claims from 2018. **NOTES** Includes only beneficiaries who received longitudinal home-based medical care (defined in the exhibit 1 notes). Domiciliary visits occur in assisted living or similar settings. Differences between MA and traditional Medicare for both types of visits were statistically significant ( $p < 0:001$ ). Combined percentages across visit settings sum to greater than 100 percent because beneficiaries may have received both types of visits.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript



**EXHIBIT 3. Proportion of Medicare Advantage (MA) beneficiaries receiving exactly 1 home-based medical care visit during the year, by MA insurer, 2018**

**SOURCE** Authors’ analysis of 20 percent MA encounter data and traditional Medicare claims from 2018. **NOTES** Pairwise differences between all listed insurers (including the “other insurer” category) were statistically significant ( $p < 0:01$ ). Insurer was determined using parent organization, as reported in publicly available data from the Centers for Medicare and Medicaid Services. Blue Cross Blue Shield includes MA insurers specifying Blue Cross Blue Shield in their names, as well as Anthem, Premera, and Highmark.

**Exhibit 4**

Selected characteristics of Medicare Advantage beneficiaries, by intensity of home-based medical care, 2018

Beneficiary characteristics	Home-based medical care use in 2018		
	Zero visits	One visit	Multiple visits
Age (mean years)	72.5 *****	73.5	81.3 *****
Clinical risk factors			
Any 2017 hospitalizations (%)	10.5 *****	14.4	32.1 *****
Multiple 2017 hospitalizations (%)	2.7 *****	4.0	12.6 *****
No. of 2017 hospitalizations (mean)	0.1 *****	0.2	0.6 *****
No. of chronic conditions (mean)	3.7 *****	4.9	6.6 *****
Alzheimer's disease and related dementias (%)	5.4 *****	8.8	50.0 *****

**SOURCE** Authors' analysis of 20 percent Medicare Advantage encounter data and traditional Medicare claims from 2018.

**NOTES** Hospitalization counts were determined using the Medicare Provider Analysis and Review file. We also used indicators of whether the patient had any hospitalizations in 2017 and whether they had multiple hospitalizations in 2017. The number of chronic conditions and the indicator for Alzheimer's disease and related dementias were calculated using the Chronic Conditions Warehouse algorithm, using only 2018 encounter data. For each row, we compared the values for zero visits and multiple visits with that of one visit, using *t*-tests.

\*\*\*\*\*  
 $p < 0.001$