Medicare Advantage Achieves Cost-Effective Care and Better Outcomes for Beneficiaries with Chronic Conditions Relative to Fee-for-Service Medicare

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Executive Summary

Medicare is the largest payer of healthcare in the United States. Medicare Advantage, the private Medicare health plan option available to beneficiaries, now provides coverage for more than one-third of all people with Medicare. As policymakers look to encourage value-driven, high-quality, and cost-effective care delivery models, there is growing interest in directly comparing traditional Fee-for-Service (FFS) Medicare and Medicare Advantage.

The clinical characteristics and care needs of older adults are changing over time. More than half of the Medicare population has 4 or more chronic conditions. Effectively managing the delivery of care for Medicare beneficiaries with multiple chronic conditions has the potential to improve the quality of life for these beneficiaries while reducing Medicare spending.

To date, there is little comprehensive information on the performance and value of Medicare Advantage compared to FFS Medicare, due in part to a lack of access to Medicare Advantage data comparable to that available for FFS Medicare. The objective of this study is to compare demographic and clinical characteristics, overall healthcare utilization, cost of care, and related clinical quality outcomes in 2 large national samples of Medicare Advantage and FFS Medicare beneficiaries enrolled for the full year of 2015. Avalere selected beneficiaries with 1 or more of 3 of the top-5 most prevalent chronic conditions in the Medicare population: hypertension, hyperlipidemia, and diabetes. This descriptive study lays the groundwork for further exploration into the significant differences observed in the utilization patterns, cost of care, and quality outcomes between the 2 chronically ill populations.

Key Findings:

Medicare Advantage has a higher proportion of patients with clinical and social risk factors shown to affect health outcomes and cost than FFS Medicare.

- Medicare Advantage had a higher percentage of beneficiaries with chronic conditions who enrolled in Medicare due to disability (36% versus 22% FFS Medicare) and are dual eligible/low-income beneficiaries (23% versus 20% FFS Medicare) than FFS Medicare.
- Medicare Advantage had a higher proportion of racial/ethnic minorities, who tend to have more clinical and social risk factors, than FFS Medicare (31% versus 15% FFS Medicare).
- Medicare Advantage beneficiaries had a 57% higher rate of serious mental illness[1] (9% versus 5% of FFS Medicare) and a 16% higher rate of alcohol/drug/substance abuse (7% versus 6% of FFS Medicare) than FFS Medicare beneficiaries.

[1] Serious mental illness defined as bipolar disorder, major depressive disorder, or schizophrenia

Note: Percent differences are based on rates carried out to at least 1 decimal point and cannot be calculated precisely using rounded rates reported in the summary.

Despite a higher proportion of clinical and social risk factors, Medicare Advantage beneficiaries with chronic conditions experience lower utilization of high-cost services, comparable average costs, and better outcomes.

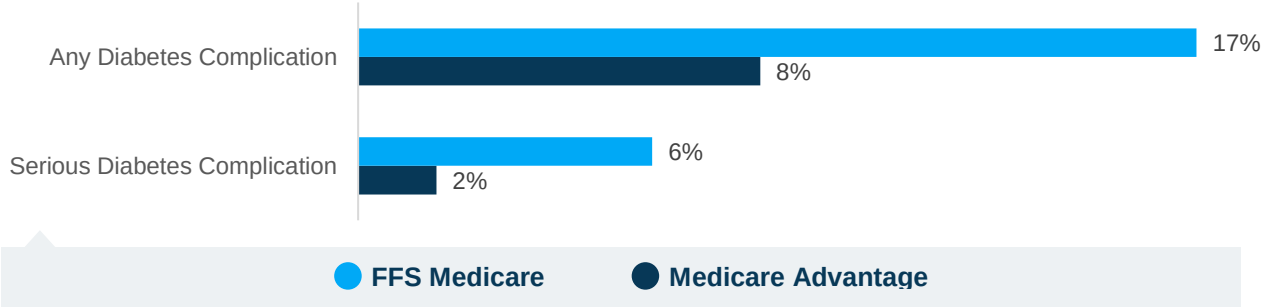
- Utilization of costly healthcare services was lower for Medicare Advantage beneficiaries, including 23% fewer inpatient stays (249 versus 324 per 1,000 beneficiaries in FFS Medicare) and 33% fewer emergency room visits (511 versus 759 per 1,000 beneficiaries in FFS Medicare).
- Average annual Medicare Advantage beneficiary costs were not significantly different from average costs for FFS Medicare beneficiaries, but annual spending per beneficiary on preventive services and tests was 21% higher in Medicare Advantage ($3,811 versus $3,139 in FFS Medicare) whereas FFS Medicare had 17% higher spending on inpatient costs ($3,477 versus $2,898 in Medicare Advantage) and 5% higher spending on outpatient/emergent care services ($2,474 versus $2,359 in Medicare Advantage).
- Average costs for non-dual FFS Medicare enrollees were 10% lower than for non-dual Medicare Advantage beneficiaries in the overall study population ($8,357 versus $9,177 in Medicare Advantage), primarily due to higher spending on preventive services and tests in Medicare Advantage.
- Medicare Advantage outperformed FFS Medicare on several key quality measures, including a nearly 29% lower rate of all potentially avoidable hospitalizations (17% versus 24% in FFS Medicare), 41% fewer avoidable acute hospitalizations, 18% fewer avoidable chronic hospitalizations, and higher rates of preventive screenings/tests, including LDL testing (5% more) and breast cancer screenings (13% more).

Health outcomes and cost savings are significantly better for Medicare Advantage beneficiaries with diabetes—the most clinically complex cohort in which more than 75% of beneficiaries had all 3 chronic conditions in both populations—than for FFS Medicare beneficiaries with diabetes.

- Relative to FFS Medicare, Medicare Advantage beneficiaries in the clinically complex diabetes cohort experienced a 52% lower rate of any complication (8% versus 17% of FFS Medicare) and a 73% lower rate of serious complications (2% versus 6% of FFS Medicare).
- Medicare Advantage achieved a 71% lower rate of serious complications than FFS Medicare for dual eligible patients with diabetes (2% versus 7% of FFS Medicare).
- Medicare Advantage acheived 6% lower average per beneficiary costs than FFS Medicare for all patients in the clinically complex diabetes cohort ($11,635 versus $12,438 of FFS Medicare).
- Medicare Advantage acheived 21% lower average per beneficiary costs than FFS Medicare for dual eligible patients in the clinically complex diabetes cohort ($13,398 versus $16,897 in FFS Medicare).

Note: Percent differences are based on rates carried out to at least 1 decimal point and cannot be calculated precisely using rounded rates reported in the summary.

Rates of Lower Extremity Complications in Medicare Advantage and FFS Medicare Beneficiaries in the Clinically Complex Diabetes Cohort

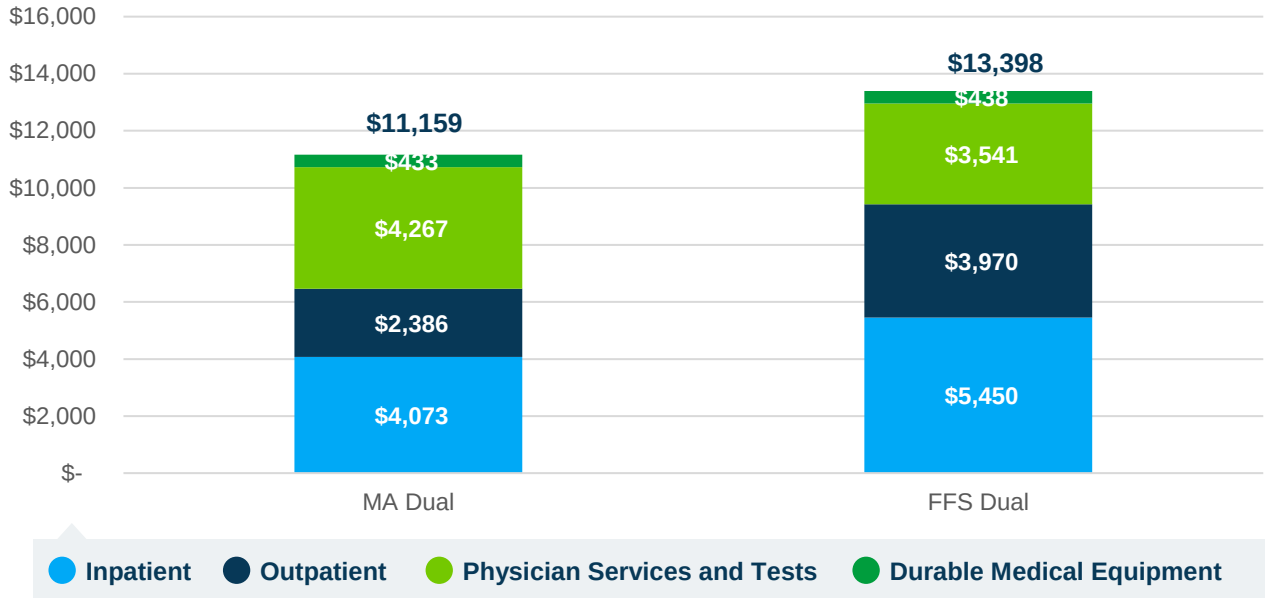


Dual eligible/low-income subsidy Medicare Advantage beneficiaries with chronic conditions experience significantly better patient outcomes and lower costs savings compared to similar beneficiaries in FFS Medicare.

- Medicare Advantage achieved 17% lower annual costs per dual eligible beneficiary than FFS Medicare ($13,398 versus $11,159 in Medicare Advantage).
- Medicare Advantage dual eligible beneficiaries experienced 33% fewer total hospitalizations (346 versus 516 per 1,000 beneficiaries in FFS Medicare) and 42% fewer emergency room visits (822 versus 1,419 per 1,000 beneficiaries in FFS Medicare).
- Medicare Advantage achieved better patient outcomes among dual eligible beneficiaries, including 49% fewer potentially avoidable hospitalizations for acute conditions based on the quality measure (4% versus 7% of FFS Medicare).
- Medicare Advantage dual eligible beneficiaries had a higher frequency of testing and preventive services than those in FFS Medicare, including a 46% higher rate of breast cancer screening (73% versus 50% of FFS Medicare).

Note: Percent differences are based on rates carried out to at least 1 decimal point and cannot be calculated precisely using rounded rates reported in the summary.

Healthcare Costs for Dual Eligible Beneficiaries in Medicare Advantage and FFS Medicare



Note: Differential percentages may vary due to rounding

These results indicate that, compared to FFS Medicare, Medicare Advantage provides more preventive services and utilizes interventions designed to better manage chronic conditions, which may avert preventable complications and result in lower overall costs. This was especially true among the most clinically complex and dual eligible/low-income beneficiaries. Despite Medicare Advantage beneficiaries having more social and clinical risk factors, they had similar costs to those in FFS Medicare overall, indicating that Medicare Advantage's focus on coordination of care may lead to more efficient treatment patterns and care delivery. Medicare Advantage has inherent incentives to coordinate care and deliver preventive services that do not exist in the FFS Medicare program. The study findings show that Medicare Advantage beneficiaries with chronic conditions experience better outcomes, fewer adverse events at similar or lower costs, and suggests a better quality of life for beneficiaries with chronic conditions in Medicare Advantage.

Note: Percent differences are based on rates carried out to at least 1 decimal point and cannot be calculated precisely using rounded rates reported in the summary.

Background

The Medicare Advantage program is growing rapidly relative to traditional FFS Medicare, comprising 34% of all people with Medicare in 2018. Despite the increasing role of Medicare Advantage, there are few full-scale studies that offer insights into the composition, utilization, quality, and cost of care of the population relative to FFS Medicare.[2]

Medicare Advantage plans manage the full spectrum of risk for a population of enrolled Medicare beneficiaries. The capitated structure of the Medicare Advantage program creates incentives to manage and coordinate care for beneficiaries and the program's rules allow health plans to offer additional benefits that are not covered by FFS Medicare. To date, there is limited and mixed evidence regarding how access, quality, and costs compare between Medicare Advantage and FFS Medicare. Comparative studies that do exist tend to be limited in their scope, as they are based on convenience samples of a single health plan and/or selected geographic area. More studies are needed using large nationally representative and similarly sourced encounter data to enable comparisons of the Medicare Advantage and FFS Medicare populations.

Avalere conducted an independent analysis of differences in demographic and clinical characteristics, healthcare utilization, clinical quality outcomes, and costs between similar cohorts of beneficiaries in Medicare Advantage and FFS Medicare derived from nationally representative samples of the 2 populations. The results provide new evidence to inform ongoing policy discussions on the relative performance and value of the Medicare Advantage program and how it compares to FFS Medicare.

Medicare Advantage and FFS Medicare Today

Medicare beneficiaries have had the option to receive their Medicare benefits through private health plans (now known as Medicare Advantage plans) as an alternative to the federally-administered FFS Medicare program since the mid-1970s. Following the passage of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) in 2003, enrollment in the Medicare Advantage program grew from 5.3 million to 20 million beneficiaries in 2018, and program enrollment is projected to grow to over 30 million enrollees by 2027, increasing the percentage of beneficiaries covered by Medicare Advantage to 41% of the Medicare population.[3,4] As Medicare Advantage continues to grow, focus will sharpen on the value of Medicare Advantage plans and their ability to manage health outcomes and costs.

Medicare Advantage plans have the flexibility and financial incentives to provide coordinated care and additional benefits to improve the health of beneficiaries. For example, high-performing Medicare Advantage plans, as measured by the CMS Medicare Advantage/Part D Quality Star Ratings System, receive quality bonus payments that must be used to provide extra benefits to enrollees, such as disease management programs or reduced cost-sharing. FFS Medicare does

[2] Brennan N, Shephard M. "Comparing Quality of Care in the Medicare Program." American Journal of Managed Care. 16(2010): 841-848.
[3] The Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. (2018). Annual Report of the Boards of Medicare Trustees. Retrieved from: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/TR2018.pdf
[4] Congressional Budget Office (2018). Medicare – Congressional Budget Office's April 2018 Baseline. Retrieved from: https://www.cbo.gov/sites/default/files/recurringdata/51302-2018-04-medicare.pdf

not have a comparable system of quality measurement and rating, outside of those in the handful of alternative payment models currently being tested. The capitated payment structure of Medicare Advantage incentivizes plans to avoid unnecessary utilization of high-cost healthcare services and improve health outcomes through preventive measures and care coordination. Additionally, Medicare Advantage plans have the flexibility to utilize certain care settings more easily, such as their ability to transition patients directly to a skilled nursing facility without requiring a longer hospital stay.[5] Medicare Advantage health plans also have the ability to develop networks of providers, implement care coordination models, allow the sharing of data and information, and evaluate providers on quality performance. On the other hand, FFS Medicare beneficiaries may see any provider who accepts Medicare payment, but the FFS structure lacks similar incentives for providers to coordinate care or focus on preventive services. This can lead to fragmented and unnecessary care, higher costs, and challenges in effectively caring for complex beneficiaries.

Across the available measures of quality and access, results comparing FFS Medicare to Medicare Advantage are mixed and have changed over time. There is some evidence that more complex Medicare beneficiaries are moving from Medicare Advantage to FFS Medicare, so effectively managing the care and costs for these beneficiaries is especially important.[6] A review of the literature on preventive care, quality and access, avoidable hospitalizations, readmission rates, health outcomes and utilization found Medicare Advantage Health Maintenance Organizations (HMOs) have tended to outperform FFS Medicare on preventive services and resource use, whereas beneficiaries have rated FFS more favorably on access and quality of care.[7,8,9,10,11] More recent research suggests Medicare Advantage has closed the gap in terms of access and quality.[12]

Quality and Costs in Medicare

The Medicare program and population has changed considerably since findings from the few existing studies on quality in Medicare Advantage and FFS Medicare were released.[13] Medicare Advantage, on average, has superior performance relative to FFS Medicare on Medicare Healthcare Effectiveness Data and Information Set (HEDIS) indicators pertaining to the use of

[5] In FFS Medicare, a beneficiary must spend at least 3 days in an acute care hospital, excluding the day of discharge, in order for Medicare to cover a subsequent stay in a skilled nursing facility. Medicare Advantage health plans have the flexibility to waive this rule.
[6] Riley, G. Impact of Continued Biased Disenrollment from the Medicare Advantage Program to Fee-for-Service. Medicare & Medicaid Research Review 2012 2 (4): E1–E17. doi:10.5600/mmrr.002.04.a08
[7] Ayanian J et al. "Medicare Beneficiaries More Likely to Receive Appropriate Ambulatory Services in HMOs than in Traditional Medicare." *Health Affairs*. 32(2013a): 1228-1235.
[8] Ayanian J, Landon B, Zaslavsky A. Newhouse J. "Racial and Ethnic Differences in Use of Mammography Between Medicare Advantage and Traditional Medicare." *Journal of the National Cancer Institute*. 105(2013b): 1891-1896.
[9] Brennan N, Shephard M. "Comparing Quality of Care in the Medicare Program." *American Journal of Managed Care.* 16(2010): 841-848.
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[11] Elliott MN, Haviland AM, Orr N, Hambarsoomian K, Cleary PD. "How Do the Experiences of Medicare Beneficiary Subgroups Differ Between Managed Care and Original Medicare?" *Health Services Research*. 46(2011): 1039-1058.
[12] Ayanian J et al. "Medicare Beneficiaries More Likely to Receive Appropriate Ambulatory Services in HMOs than in Traditional Medicare." *Health Affairs*. 32(2013a): 1228-1235.
[13] Kaiser Family Foundation. What Do We Know About Healthcare Access and Quality in Medicare Advantage Versus the Traditional Medicare Program? November 2014. Available at: https://www.kff.org/medicare/report/what-do-we-know-about-health-care-access-and-quality-in-medicare-advantage-versus-the-traditional-medicare-program/view/print/

preventive care services.[14,15,16,17] Other evidence suggests that Medicare Advantage HMO plans utilize fewer resources than FFS Medicare, including end-of-life care and overall hospital services.[18] Further, Medicare Advantage beneficiaries in HMO plans had fewer emergency room visits and inpatient stays and more appropriate care patterns than beneficiaries in FFS Medicare.[19,20,21] Previous studies on readmission rates in Medicare Advantage and FFS Medicare are inconclusive.[22,23,24,25] Overall, findings from comparative studies of quality of care in Medicare Advantage and FFS Medicare are limited.[26]

More than 50% of healthcare spending is concentrated among 5% of the population with substantial healthcare needs.[27,28] The 5% of the population that drives 50% of spending is a heterogenous population comprised of individuals with various clinical and social risk factors including disabilities, functional and /or cognitive impairment, severe or multiple chronic conditions, old age, and dual eligibility for Medicare and Medicaid.[29] These risk factors drive up healthcare utilization making these individuals high-need patients.[30] Such individuals with clinical and social risk factors are more likely to be high-cost.[31,32,33,34,35,36] Due to the heterogeneity of the high-need patient population, there is wide variation in utilization and

[14] Ibid.
[15] Ayanian J et al. "Medicare Beneficiaries More Likely to Receive Appropriate Ambulatory Services in HMOs than in Traditional Medicare." *Health Affairs*. 32(2013a): 1228-1235.
[16] Ayanian J, Landon B, Zaslavsky A. Newhouse J. "Racial and Ethnic Differences in Use of Mammography Between Medicare Advantage and Traditional Medicare." *Journal of the National Cancer Institute*. 105(2013b): 1891-1896.
[17] Brennan N, Shephard M. "Comparing Quality of Care in the Medicare Program." *American Journal of Managed Care.* 16(2010): 841-848.
[18] Stevenson DG, Ayanian JZ, Zaslavsky AM, Newhouse JP, Landon BE. "Service Use at the End-of-Life in Medicare Advantage Versus Traditional Medicare." *Medical Care*. 51(2013): 931-937.
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[21] Mello MM, Stearns SC, Norton EC. "Do Medicare HMOs Still Reduce Health Services Use after Controlling for Selection Bias?" *Health Economics*. 11(2002): 323-340.
[22] AHIP Center for Policy and Research. "Reductions in Hospital Days, Re-Admissions, and Potentially Avoidable Admissions among Medicare Advantage Enrollees in California and Nevada." Washington: America's Health Insurance Plans, (Revised) October 2009.[endnote 133466-1111]
[23] Anderson G. "The Benefits of Care Coordination: A Comparison of Medicare Fee-for-Service and Medicare Advantage." *Report prepared for the Alliance of Community Health Plans.* September 2009.
[24] Friedman B, Jiang HJ, Steiner CA, Bott J. "Likelihood of Hospital Readmission after First Discharge: Medicare Advantage vs. Fee-for-Service Patients." *INQUIRY: The Journal of Healthcare Organization, Provision, and Financing*. *49(2012): 202-213.*
[25] Smith MA, Frytak JR, Liou J, Finch MD. "Rehospitalization and Survival for Stroke Patients in Managed Care and Traditional Medicare Plans. *Medical Care*. 43(2005): 902-910.
[26] Stuart Guterman, Laura Skopec, and Stephen Zuckerman. Do Medicare Advantage Plans Respond to Payment Changes? A Look at the Data from 2009 to 2014. The Commonwealth Fund. March 14, 2018. Retrieved from: https://www.commonwealthfund.org/publications/issue-briefs/2018/mar/do-medicare-advantage-plans-respond-payment-changes-look-data
[27] Figures cited at: https://www.commonwealthfund.org/high-need-high-cost-patients
[28] MedPAC. Healthcare Spending and the Medicare Program Data Book. June 2016. Available at: http://www.medpac.gov/docs/default-source/data-book/june-2016-data-book-health-care-spending-and-the-medicare-program.pdf
[29] Susan L. Hayes, Claudia A. Salzberg, Douglas McCarthy, David Radley, Melinda K. Abrams, Tanya Shah, and Gerard Anderson. High-Need, High-Cost Patients: Who Are They and How Do They Use Healthcare? A Population-Based Comparison of Demographics, Healthcare Use, and Expenditures. The Commonwealth Fund. August 29, 2016. Retrieved from: https://www.commonwealthfund.org/publications/issue-briefs/2016/aug/high-need-high-cost-patients-who-are-they-and-how-do-they-use
[30] Ibid.
[31] Graven P, Meath T, Mendelson A. et al. Preventable acute care spending for high-cost patients across payer types. Journal of Healthcare Finance 2016:1-22.
[32] Reschovsky JD, Hadley J, Saiontz-Martinez CB et al. Following the money: Factors associated with the cost of treating high-cost Medicare beneficiaries. Health Services Research 2011; 46(4): 997-1021.
[33] Berk ML, Monheit AC. The concentration of healthcare expenditures, revisited. Health Affairs 2001; 20(2): 9-18.
[34] Congressional Budget Office. High-cost Medicare beneficiaries. Washington, D.C.: Congress of the United States, 2005.
[35] Hayes SL, Salzberg CA, McCarthy D et al. High-need, high-cost patients: Who are they and how do they use healthcare? Commonwealth Fund Issue Brief 2016; 26: 1-11.
[36] Blumenthal D, Anderson G, Burke S et al. Tailoring complex-care management, coordination, and integration for high-need high-cost patients: A vital direction for health and healthcare. Perspectives 2016: 1-11.

spending for healthcare services. Further research is needed to examine differences in clinical characteristics, healthcare utilization, and cost of care between Medicare Advantage and FFS Medicare high-need beneficiaries.

This study compares differences in utilization, cost, and quality for beneficiaries with chronic conditions using nationally representative samples of Medicare Advantage and FFS Medicare beneficiaries. By examining the utilization, cost, and quality profiles of beneficiaries with similar disease prevalence in Medicare Advantage and FFS Medicare, Avalere is updating and adding to the literature on the differences between the 2 programs, including differences in treatment patterns and cost of care for dual and non-dual eligible beneficiaries with chronic conditions within the Medicare population.

Study Populations

The Medicare beneficiaries examined in this retrospective observational study were extracted from large nationally representative samples of the 2 Medicare populations enrolled for the full year in 2015, including 1,813,937 Medicare Advantage beneficiaries (extracted from the MORE^2 Registry®) and 1,376,573 FFS Medicare beneficiaries (extracted from the Medicare Standard Analytical Files). See Methods section for a detailed description of data sources used in the analysis.

We evaluated the representativeness of the Medicare Advantage sample population by comparing it to national enrollment data (Table 1). The populations were distributed similarly by age group, gender, and dual eligible status, but the Medicare Advantage sample population had higher representation in the Northeast and lower representation in the West. However, after applying national population adjustments, the results did not change significantly, so unadjusted results are reported in this paper.

Table 1: Demographic Distributions of the Medicare Advantage Overall Sample Population (MORE^2) versus National Medicare Advantage Population (2015)

	MORE^2 Medicare Advantage	National Medicare Advantage
Total	**100.0%**	**100.0%**
Age Group		
18-54	5.4%	4.7%
55-64	7.0%	7.5%
65-69	21.2%	23.7%
70-74	23.6%	24.3%
75-79	17.6%	17.1%
80-84	12.7%	11.7%
85+	12.5%	11.0%
Gender		
Female	56.9%	56.6%
Male	43.1%	43.4%
Census Region		
Northeast	34.6%	17.6%
Midwest	25.4%	20.7%
South	30.2%	33.8%
West	5.3%	24.5%
US Territory	4.4%	3.3%
Medicaid Dual Status		
Full	10.2%	9.7%
Partial	7.1%	6.9%
None	82.7%	83.5%
Plan Type		
HMO/HMO-POS	72.7%	63.7%
Private FFS or 1876 Cost	6.0%	4.8%
Local PPO	18.4%	24.3%
Regional PPO	3.0%	7.3%

Note: National Medicare Advantage statistics are derived from the master Medicare beneficiary data file.

Avalere's initial analysis of the Medicare Advantage and FFS Medicare sample populations showed a similar prevalence and ranking of chronic conditions in the Medicare Advantage and FFS Medicare populations (Table 2). We selected 3 of the 5 most prevalent chronic conditions – hypertension, hyperlipidemia, and diabetes – among the Medicare Advantage and FFS Medicare sample populations to examine in more detail for this analysis (i.e., the study population is a subset of the national sample populations). These conditions were selected because they are clinically-related and highly prevalent in the Medicare population at large.

Table 2: Prevalence of Chronic Conditions in Medicare Advantage and FFS Medicare Overall National Sample Populations (2015)

Prevalence of Chronic Conditions in Medicare Advantage (MORE^2) and FFS Medicare (Medicare Standard Analytical Files) Populations in 2015		
	Medicare Advantage	**FFS Medicare**
Total Number of Study Beneficiaries	**1,813,937**	**1,376,573**
Chronic Condition		
Hypertension	**70.3%**	**75.5%**
Hyperlipidemia	**63.9%**	**69.0%**
Eye disease	32.9%	42.0%
Rheumatoid arthritis / osteoarthritis	32.3%	38.9%
Diabetes	**32.6%**	**32.6%**
Ischemic heart disease	21.1%	25.4%
Anemia	19.3%	24.1%
Acquired hypothyroidism	18.8%	24.1%
Chronic kidney disease	21.1%	22.2%
Chronic obstructive pulmonary disease and bronchiectasis	17.4%	19.6%
Depression	16.9%	19.4%
Asthma	14.2%	16.4%
Benign prostatic hyperplasia	10.8%	13.0%
Osteoporosis	10.0%	11.9%
Stroke / transient ischemic attack	10.0%	14.5%
Heart failure	9.9%	12.2%
Atrial fibrillation	9.7%	13.3%
Alzheimer's disease and related disorders or senile dementia	5.7%	8.5%
Prostate cancer	3.5%	4.5%
Female / male breast cancer	3.5%	4.6%
Alzheimer's disease	2.1%	3.2%
Colorectal cancer	1.5%	1.9%
Acute myocardial infarction	1.3%	1.6%
Hip/pelvic fracture	0.9%	1.5%
Lung cancer	1.0%	1.2%
Endometrial cancer	0.5%	0.5%

Notes: Chronic Conditions are defined using the Medicare Chronic Conditions Warehouse (CCW). See Methods section for a detailed description of data sources.

The resulting study populations, which consist of beneficiaries from the overall sample populations, are comprised of beneficiaries with 1 or more of the 3 selected chronic conditions, including 1,581,822 Medicare Advantage beneficiaries (87% of the sample population) and

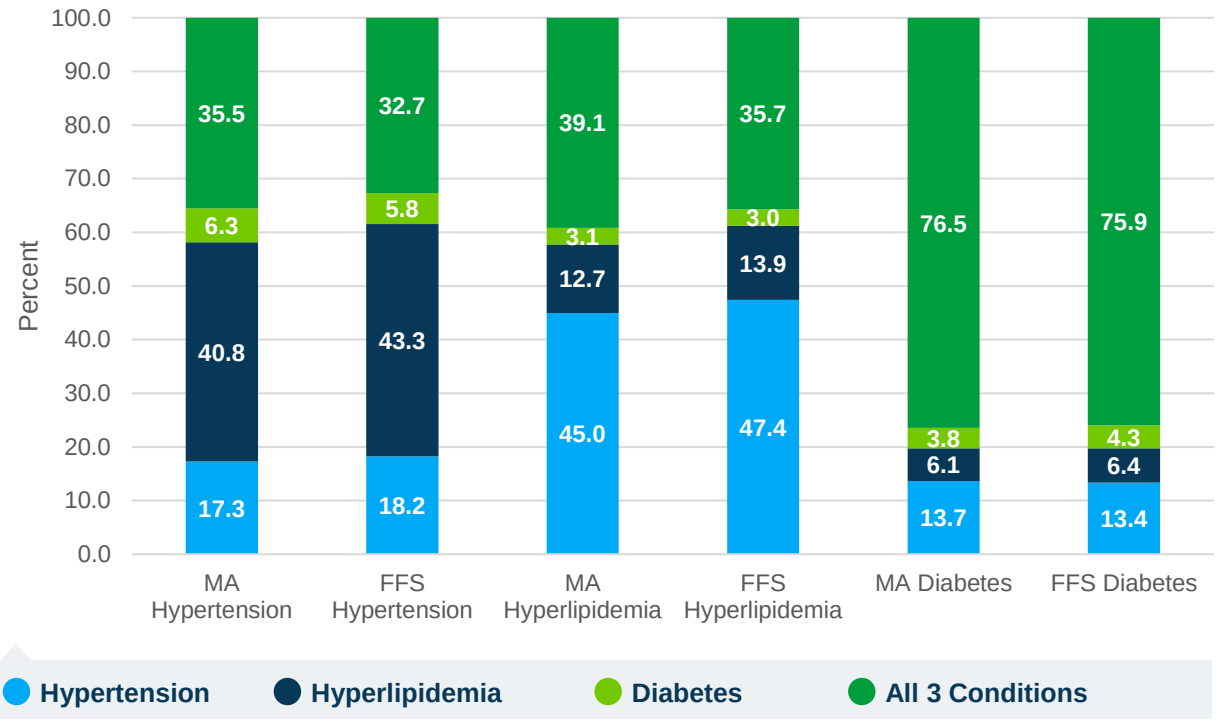
1,212,698 FFS Medicare beneficiaries (88% of the sample population). To further assess clinical similarities between the Medicare Advantage and FFS Medicare study populations, we compared the distribution of combinations of the selected chronic conditions. The percentage of beneficiaries with various combinations of the 3 conditions was very similar in Medicare Advantage and FFS Medicare (Table 3).

Table 3: Distribution by Chronic Condition Cohort in Medicare Advantage and FFS Medicare Study Populations (2015)

	Medicare Advantage		FFS Medicare	
Chronic Condition Cohort	**N**	**%**	**N**	**%**
Hypertension only	235,834	14.9%	188,446	15.5%
Hyperlipidemia only	157,395	10.0%	131,090	10.8%
Diabetes only	23,953	1.5%	19,262	1.6%
Hypertension and Hyperlipidemia	555,911	35.1%	448,212	37.0%
Hypertension and Diabetes	86,370	5.5%	59,528	4.9%
Hyperlipidemia and Diabetes	38,664	2.4%	28,258	2.3%
Hypertension, Hyperlipidemia and Diabetes (all 3 conditions)	483,695	30.6%	337,902	27.9%

The distributions of disease within the 3 chronic condition cohorts (hypertension, hyperlipidemia, and diabetes) were also similar between Medicare Advantage and FFS Medicare (Figure 1). For example, the Medicare Advantage hypertension cohort had 17.3% with hypertension only, versus 18.2% in FFS Medicare, 40.8% with hypertension and hyperlipidemia versus 43.3% in FFS Medicare, 6.3% with hypertension and diabetes versus 5.8% in FFS Medicare, and 35.5% with all 3 conditions versus 32.7% in FFS Medicare. The diabetes cohort was the most complex, with more than 75% of Medicare Advantage and FFS Medicare diabetic patients having all 3 chronic conditions (referred throughout the report as the “clinically complex diabetes cohort”) (Figure 1).

Figure 1: Distribution of Beneficiary Conditions in Medicare Advantage and FFS Medicare Within 3 Chronic Condition Cohorts (2015)



Focusing on the Medicare populations with similar disease profiles allowed us to directly compare the clinical profiles, utilization, cost of care, and clinical quality outcomes of beneficiaries with the selected chronic conditions in Medicare Advantage and FFS Medicare.

To assist in navigating the various terms used to differentiate the beneficiaries studied, see the list of key definitions below:

Sample Population	Medicare Advantage (MORE^2) or FFS population, including all enrolled beneficiaries (not only those with the selected chronic conditions)
Overall Study Population	Beneficiaries in the sample population with 1 or more of 3 selected chronic conditions (hypertension, hyperlipidemia, diabetes) selected for analysis
Study Cohorts	Beneficiary group with a certain chronic condition or characteristic, including cohorts of dual eligible beneficiaries within the overall study population
Clinically Complex Diabetes Cohort	Diabetes cohort, in which more than 75% of beneficiaries had all 3 chronic conditions

Results

Beneficiary Characteristics

Medicare Advantage and FFS Medicare beneficiaries were similar in demographic composition, chronic disease prevalence, and measures of clinical complexity.

Demographic Composition: The Medicare Advantage and FFS Medicare study populations share similar demographic characteristics, with similar age group distributions (average age 72 in both populations) (Figure 2). A slightly higher percentage of Medicare Advantage beneficiaries is female (58.1% versus 56.5% of FFS Medicare) (Figure 3).

Figure 2: Age Distribution in Medicare Advantage and FFS Medicare Study Populations

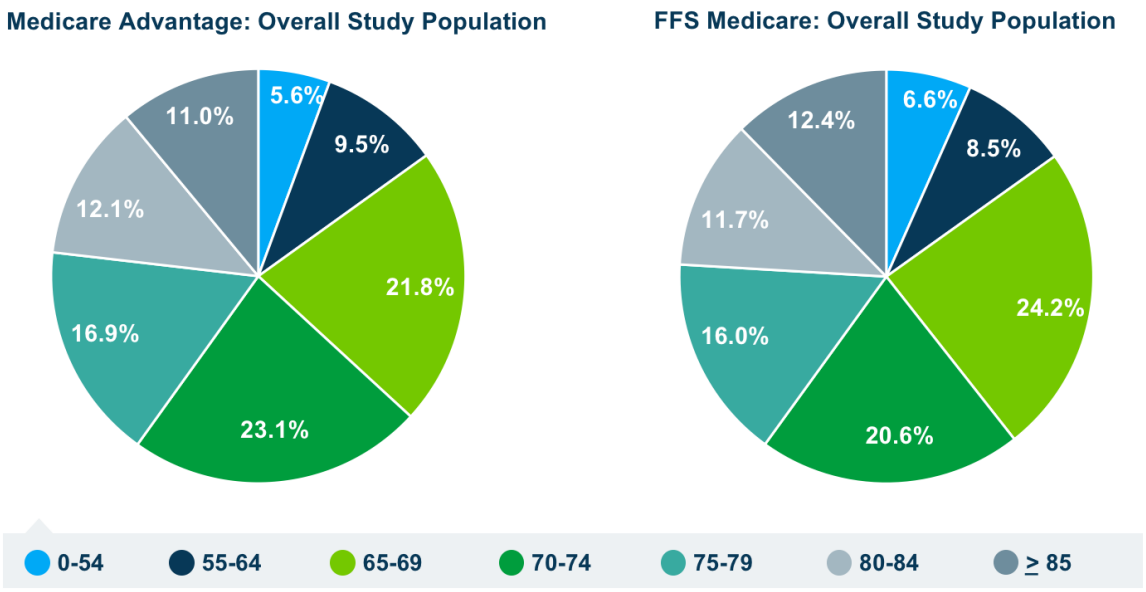
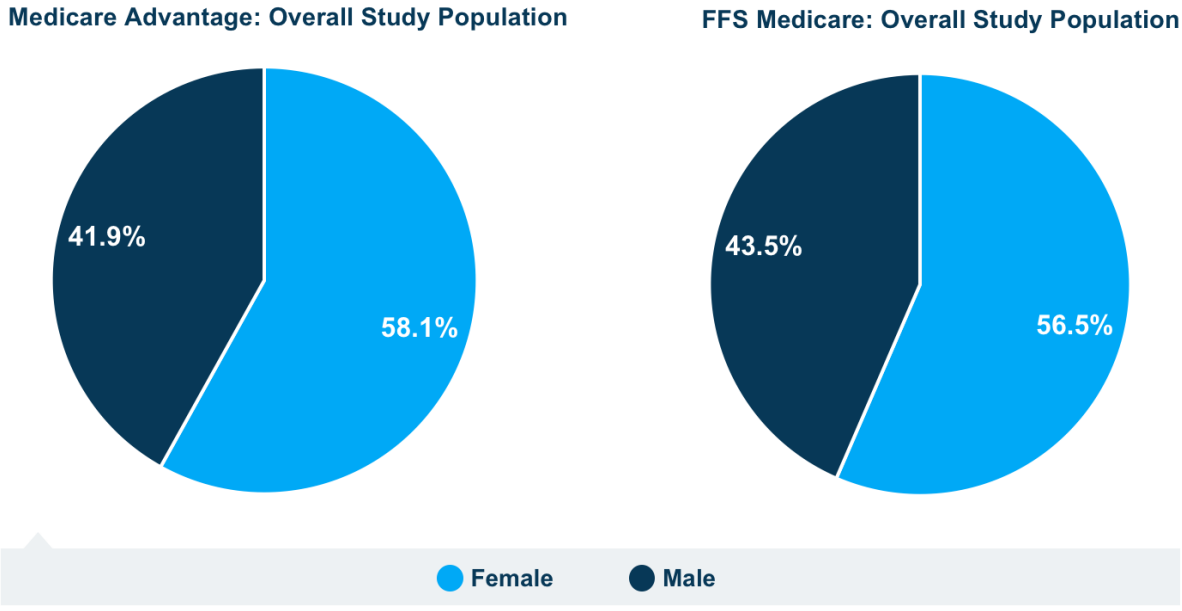


Figure 3: Gender Distribution in Medicare Advantage and FFS Medicare Study Populations



Clinical Complexity: In addition to comparing the prevalence of chronic conditions, we used the Charlson Comorbidity Index (CCI) Score to evaluate the severity of illness in the Medicare Advantage and FFS Medicare study populations.[37]

The mean CCI scores were identical at 2.5 in the 2 overall study populations and the 2 populations also had similar CCI scores for beneficiaries with 1 or more hospital admissions (4.6 for both) (Table 4). These results indicate that the Medicare Advantage and FFS Medicare study populations are clinically similar based on prevalence and severity of chronic conditions.

Table 4: Charlson Comorbidity Index Scores in Medicare Advantage and FFS Medicare by Study Cohort

Cohort	Mean Charlson Comorbidity Index		Mean Charlson Comorbidity Index: Patients with 1 or More Hospital Admission	
	Medicare Advantage	FFS Medicare	Medicare Advantage	FFS Medicare
1. Overall Study Population	2.5	2.5	4.6	4.6
2. Hypertension	2.6	2.7	4.8	4.7
3. Hyperlipidemia	2.6	2.6	4.8	4.8
4. Diabetes (clinically complex cohort)	3.9	4.0	6.1	6.1

The Medicare Advantage study population with chronic conditions had a greater proportion of beneficiaries with clinical and social risk factors.

- Medicare Advantage beneficiaries had a 57.4% higher rate of serious mental illness[38] compared to FFS (8.5% versus 5.4% of FFS Medicare) (Table 5).
- Medicare Advantage beneficiaries had a 16.4% higher rate of alcohol/drug/substance abuse (7.1% versus 6.1% of FFS Medicare).
- Medicare Advantage beneficiaries had a higher proportion of social risk factors compared to FFS Medicare, including 15.0% more dual eligible/low-income beneficiaries than FFS Medicare (23.0% versus 20.0% of FFS Medicare) (Figure 4).
- Medicare Advantage had twice as many beneficiaries that were racial/ethnic minorities compared to the FFS Medicare study population (30.9% versus 15.2% of FFS Medicare) (Figure 5).
- Medicare Advantage had a 63.2% higher rate of beneficiaries who originally enrolled in Medicare due to disability (35.9% versus 22.0% of FFS Medicare) (Table 6).

[37] The CCI classifies 17 pre-defined comorbid conditions using ICD-9-CM/ICD-10-CM codes to provide a weighted score of disease severity that accounts for both the number and severity level of comorbid conditions as they relate to risk of mortality, with a higher score indicating higher burden of illness.

[38] Serious mental illness defined as bipolar disorder, major depressive disorder, and schizophrenia

Table 5: Percentage of Medicare Advantage and FFS Medicare Beneficiaries with Select High-Risk Clinical Characteristics in Study Populations

Condition	Medicare Advantage Beneficiaries	FFS Medicare Beneficiaries	Differential
Serious Mental Illness	8.5%	5.4%	+57.4%
Alcohol/drug/substance abuse	7.1%	6.1%	+16.4%
Learning Disability	1.3%	1.2%	+8.3%

Note: Differential percentages may vary due to rounding.

Figure 4: Percentage of Dual Eligible Beneficiaries in Medicare Advantage and FFS Medicare in Study Populations

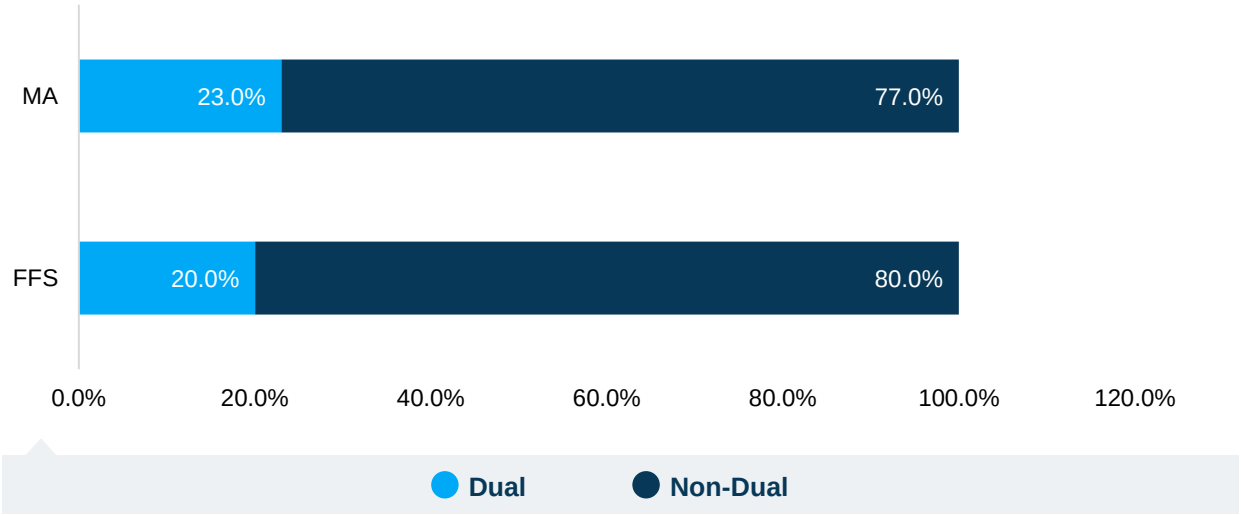
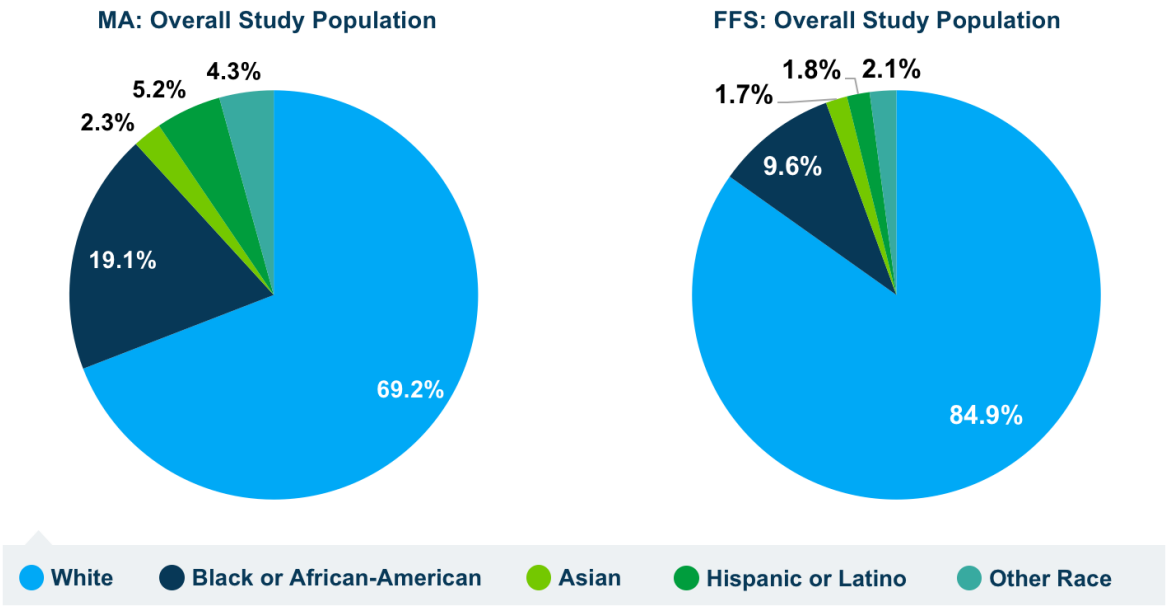


Figure 5: Race/Ethnicity Distributions in Medicare Advantage and FFS Medicare Study Populations



Notes: Medicare Advantage study population with known race/ethnicity: All Unique Patients: 629,061 (39.8%), Patients with All 3 Chronic Conditions: 301,845 (62.4%); FFS study population with known race/ethnicity: All Unique Patients: 1,200,528 (99.0%), Patients with All 3 Chronic Conditions: 334,949 (99.1%).

Table 6: Original Reason for Entitlement to Medicare in Medicare Advantage and FFS Medicare Study Populations

Original Reason for Entitlement*	Medicare Advantage Overall Study Population*	FFS Medicare Overall Study Population**	Differential
Age	64.1%	77.2%	-17.0%
Disability	35.9%	22.0%	+63.2%
Disability and/or ESRD	0.1%	0.9%	-88.9%

* Medicare Advantage population with known original reason for entitlement: 870,794
**FFS Medicare population with known original reason for entitlement: 1,212,698

Healthcare Utilization and Costs

The Medicare Advantage study population with chronic conditions had significantly fewer inpatient stays and emergency care services.

- Medicare Advantage beneficiaries had 23.1% fewer inpatient stays (249 versus 324 per 1,000 beneficiaries in FFS Medicare) and 32.7% fewer emergency room visits than FFS Medicare (511 versus 759 per 1,000 in FFS Medicare) (Table 7).
- Medicare Advantage beneficiaries had 10.0% longer lengths of stay on average (11 versus 10 days in FFS Medicare).
- Medicare Advantage and FFS Medicare beneficiaries had similar rates of physician office visits (7,765 versus 7,687 per 1,000 in FFS Medicare).

Table 7: Utilization in the Medicare Advantage and FFS Medicare Study Populations

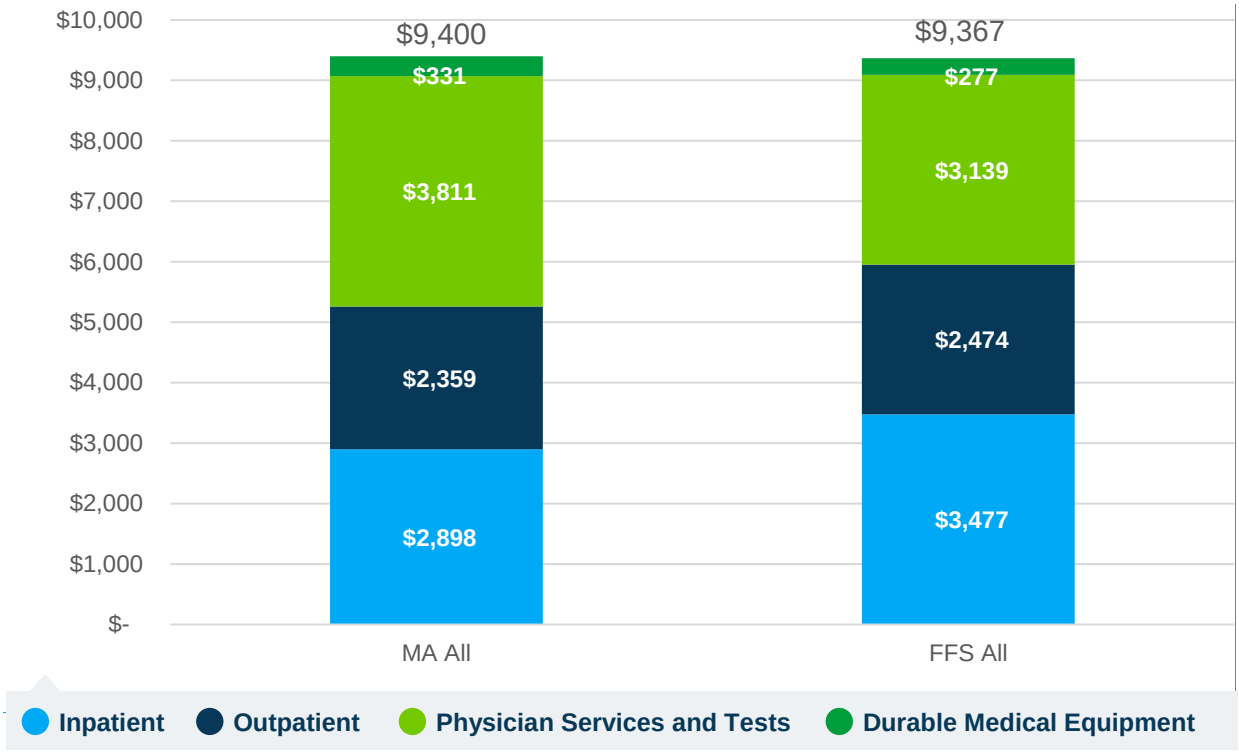
Utilization per 1,000 Beneficiaries	Medicare Advantage Beneficiaries	FFS Medicare Beneficiaries	Differential
Hospitalizations (Inpatient Stays)	249	324	-23.1%
Average Length of Stay	11	10	+10.0%
Emergency Room Visits	511	759	-32.7%
Office Visits	7,765	7,687	+1.0%

Note: Differential percentages may vary due to rounding.

Medicare Advantage spent more on preventive physician services and tests, while FFS Medicare spent more on inpatient stays and outpatient/emergency care services.

- Average annual costs per beneficiary were comparable in the Medicare Advantage and FFS Medicare study populations. Total average annual spending per beneficiary was $9,400 in Medicare Advantage and $9,367 in FFS Medicare (Figure 6).
- Spending patterns between Medicare Advantage and FFS Medicare populations varied. Medicare Advantage spent 21.4% more on preventive physician services and tests ($3,811 versus $3,139 in FFS Medicare), while FFS Medicare spent 16.7% more on inpatient stays ($3,477 versus $2,898 in Medicare Advantage) and 4.6% more on outpatient/emergency care services ($2,474 versus $2,359 in Medicare Advantage) (Figure 6).

Figure 6: Total Annual per Beneficiary Healthcare Costs in Medicare Advantage and FFS Medicare Study Populations by Expenditure Category



Note: The physician services and tests category includes office visits as well as ancillary physician services and laboratory tests.

Healthcare Quality

The Medicare Advantage study population with chronic conditions had similar access to health services compared to FFS Medicare, but lower rates of hospitalizations and similar rates of readmissions.

- Medicare Advantage had a 28.6% lower rate of potentially avoidable hospitalizations overall (17.0% versus 23.8% of FFS Medicare) and lower rates for both acute (41.0% lower) and chronic (18.0% lower) hospitalizations (Table 8).
- Medicare Advantage and FFS Medicare beneficiaries had similar rates of 30-day all-cause readmissions (9.4% versus 9.0% of FFS Medicare) even though Medicare Advantage beneficiaries had fewer hospital admissions overall (Table 8).
- Medicare Advantage and FFS Medicare beneficiaries had similar rates of access to care (99.4% and 98.9%, respectively) (Table 9).

Table 8: Rates of Potentially Avoidable Hospitalizations and Readmissions in Medicare Advantage and FFS Medicare Study Populations

Quality Measure	Medicare Advantage Beneficiaries	FFS Medicare Beneficiaries	Differential
Potentially Avoidable Hospitalizations: Chronic Rate	14.1%	17.2%	-18.0%
Potentially Avoidable Hospitalizations: Acute Rate	3.6%	6.1%	-41.0%
Potentially Avoidable Hospitalizations: Overall Rate	17.0%	23.8%	-28.6%
Readmissions Rate	9.4%	9.0%	+4.4%

Note: Differential percentages may vary due to rounding.

The Medicare Advantage study population with chronic conditions had similar access to preventive services compared to FFS Medicare, but higher rates of preventive screenings, including for cholesterol, blood sugar level, and breast cancer.

- Medicare Advantage beneficiaries were 5.1% more likely to have completed LDL testing, but HbA1c testing rates among patients with diabetes were similar in the 2 populations (90.1% versus 92.0% of FFS Medicare) (Table 9).
- Medicare Advantage beneficiaries had a 13.4% higher rate of preventive breast cancer screenings (76.3% versus 67.3% of FFS Medicare) (Table 9).
- Medicare Advantage beneficiaries with diabetes had a 73.3% lower rate of serious complications (1.6% versus 6.0% of FFS Medicare) and a 52.6% lower rate of any complications (8.1% versus 17.1% of FFS Medicare) compared to diabetics in FFS Medicare (Table 9).

Table 9: Rates of Preventive Screenings and Complications in Medicare Advantage and FFS Medicare Study Populations

Quality Measure	Medicare Advantage Beneficiaries	FFS Medicare Beneficiaries	Differential
Adults access to preventive /ambulatory health services	99.4%	98.9%	+0.5%
Cardiovascular Monitoring: LDL Testing	77.8%	74.0%	+5.1%
Comprehensive Diabetes Care: HbA1c Testing	90.1%	92.0%	-2.1%
Breast Cancer Screening	76.3%	67.3%	+13.4%
Diabetes Patients Who Have Lower Extremity Complication: Serious Complication	1.6%	6.0%	-73.3%
Diabetes Patients Who Have Lower Extremity Complication: Any Complication	8.1%	17.1%	-52.6%

Notes: The denominators in the Medicare FFS population were smaller due to fewer beneficiaries with diabetes who qualified for inclusion in the measure based on the technical specifications, but statistical significance tests showed the rates to be statistically different based on the patients who were included in the measure (all p-values <.001). Differential percentages may vary due to rounding.

Beneficiaries in the Clinically Complex Diabetes Cohort

Medicare Advantage outperformed FFS Medicare on caring for patients with diabetes, or the clinically complex diabetes cohort, 75% of whom have all 3 chronic conditions.

- Medicare Advantage beneficiaries in the clinically complex diabetes cohort had significantly lower rates of complications from diabetes, including serious complications (1.6% versus 6.0% of FFS Medicare) and any complications (8.2% versus 17.1% in FFS Medicare) (Table 10).

Table 10: Rates of Lower Extremity Complications in Medicare Advantage and FFS Medicare Beneficiaries in the Clinically Complex Diabetes Cohort

Quality Measure	Medicare Advantage Beneficiaries	FFS Medicare Beneficiaries	Differential
Serious Diabetes Complications	1.6%	6.0%	-73.3%
Any Diabetes Complication[39]	8.2%	17.1%	-52.0%

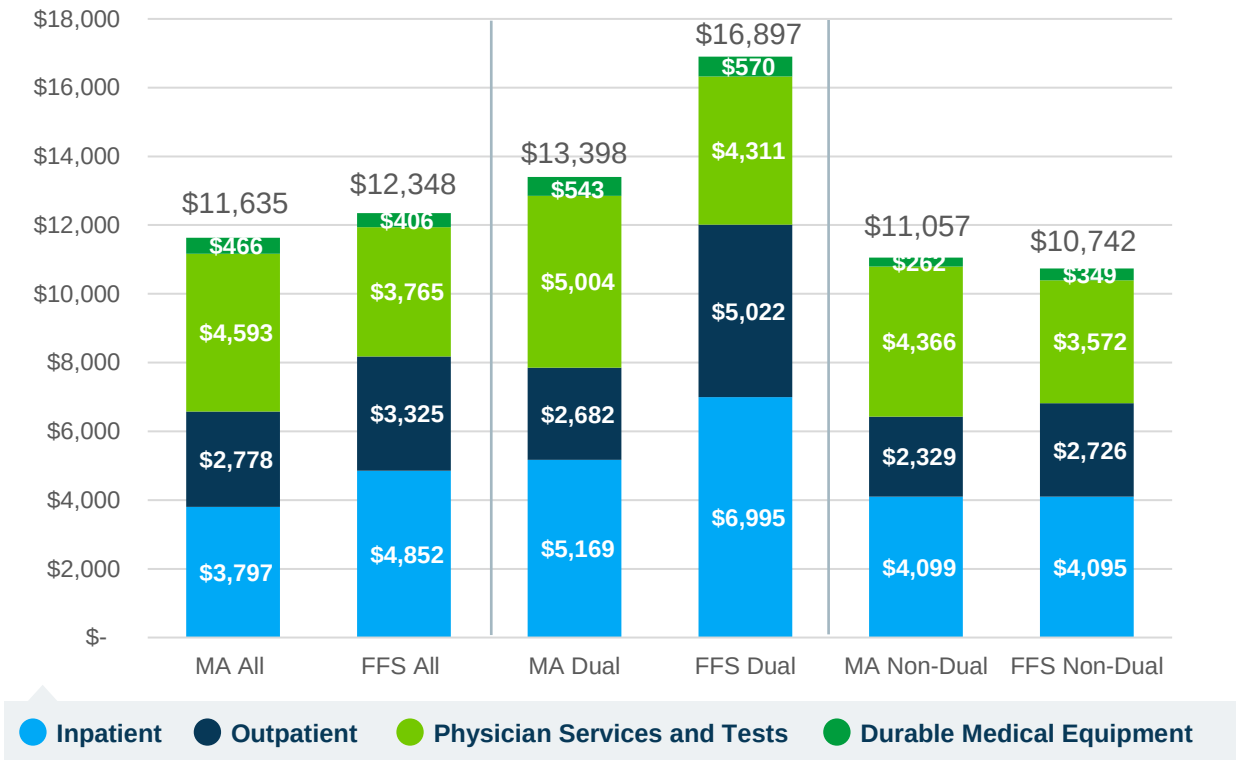
Notes: The denominators for the diabetes complications measures were smaller in the Medicare FFS population due to fewer beneficiaries with diabetes who qualified for inclusion in the measure based on the technical specifications, but statistical significance tests showed the rates to be statistically different based on the patients who were included in the measure (all p-values <.001). Differential percentages may vary due to rounding.

Medicare Advantage had lower average annual costs per beneficiary than FFS Medicare in the clinically complex diabetes cohort, including significantly lower costs among dual eligible beneficiaries.

- Medicare Advantage beneficiaries in the clinically complex diabetes cohort had 5.7% lower costs overall ($11,635 versus $12,438 of FFS Medicare), despite spending $828 more per member on physician services and tests (Figure 7), due to lower spending on hospital inpatient and outpatient costs.
- Medicare Advantage beneficiaries in the clinically complex diabetes cohort who are also dual eligible had considerably lower costs (20.7% lower) compared to similar beneficiaries in FFS Medicare ($13,398 versus $16,897 in FFS Medicare), also due to lower spending on inpatient and outpatient services. Non-dual eligible FFS Medicare diabetic beneficiaries had slightly lower overall spending ($315 per member per year) compared to non-dual eligible Medicare Advantage diabetic beneficiaries.

[39] Any complication includes: cellulitis, ulceration, osteomyelitis, gangrene, or amputation; serious complications includes more than 1 of these.

Figure 7: Healthcare Costs and Utilization for Medicare Advantage and FFS Medicare Beneficiaries in the Clinically Complex Diabetes Cohort



Dual Eligible Beneficiaries

Medicare Advantage outperformed FFS Medicare on utilization, cost, and quality in caring for dual eligible beneficiaries with chronic conditions.

Dual eligible beneficiaries in the Medicare Advantage overall study population saw their primary care providers more frequently and had significantly fewer hospitalizations and emergency room visits than dual eligible beneficiaries in FFS Medicare (Table 11). Dual eligible Medicare Advantage beneficiaries had:

- 11.7% more office visits compared to dual eligible FFS Medicare beneficiaries in the overall study population (7,907 versus 7,076 per 1,000 beneficiaries in FFS Medicare).
- 32.9% lower rates of hospitalizations compared to dual eligible FFS Medicare beneficiaries (346 versus 516 per 1,000 in FFS Medicare), but similar lengths of stay (13 days).
- 42.1% fewer emergency room visits compared to dual eligible FFS Medicare beneficiaries (822 versus 1,419 per 1,000 in FFS Medicare).

Table 11: Utilization Rates in Dual Eligible Medicare Advantage and FFS Medicare Beneficiaries

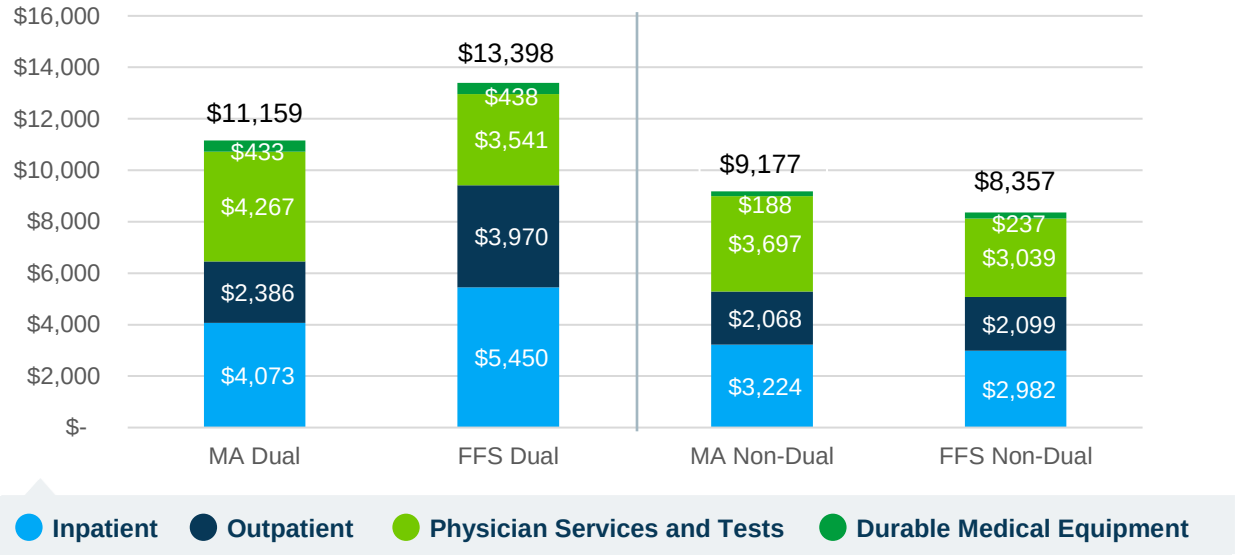
Utilization per 1,000 Beneficiaries	Medicare Advantage Dual Eligible Beneficiaries	FFS Medicare Dual Eligible Beneficiaries	Differential
Hospitalizations (Inpatient Stays)	346	516	-32.9%
Length of Stay (Average)	13	13	0.0%
Emergency Room Visits	822	1,419	-42.1%
Office Visits	7,907	7,076	+11.7%

Note: Differential percentages may vary due to rounding.

Dual eligible Medicare Advantage beneficiaries had significantly lower healthcare costs relative to dual eligible FFS Medicare beneficiaries.

- Total cost of care for dual eligible beneficiaries was 16.7% higher in FFS Medicare compared to Medicare Advantage ($13,398 versus $11,159 in Medicare Advantage), driven by higher spending on hospital inpatient and outpatient services in FFS Medicare (Figure 8). In contrast, Medicare Advantage spending was higher on physician services and tests in the dual eligible population compared to FFS Medicare.
- FFS Medicare costs were 9.8% lower than Medicare Advantage for non-dual eligible beneficiaries ($8,357 versus $9,177 in Medicare Advantage), primarily driven by lower FFS spending on physician services and tests than in Medicare Advantage (Figure 8).

Figure 8: Healthcare Costs for Dual and Non-Dual Eligible Beneficiaries in Medicare Advantage and FFS Medicare Study Populations



Dual eligible beneficiaries in the Medicare Advantage study population experienced significantly lower rates of complications and avoidable hospitalizations and received more preventive care services compared to dual eligible FFS Medicare beneficiaries.

- Dual eligible Medicare Advantage beneficiaries with diabetes had significantly lower rates of complications, including 49.0% fewer complications overall (9.9% versus 19.4% of FFS Medicare) and 71.0% fewer serious complications (2.0% versus 6.9% of FFS Medicare) than dual eligible FFS Medicare beneficiaries with diabetes. (Table 12).
- Dual eligible Medicare Advantage beneficiaries received more preventive care services than dual eligible FFS Medicare beneficiaries, including a 17.4% higher rate of LDL testing (81.5% versus 69.4% of FFS Medicare) (Table 12).
- Rates of HbA1c testing were similar for dual eligible beneficiaries in Medicare Advantage and FFS Medicare (91.8% and 91.5%, respectively) (Table 12).
- Only half of dual eligible FFS Medicare beneficiaries received preventive breast cancer screenings compared to 73.1% of dual eligible Medicare Advantage beneficiaries (Table 12).
- Dual eligible beneficiaries in the Medicare Advantage population had a 24.1% lower rate of potentially avoidable hospitalizations overall compared to dual eligible FFS Medicare beneficiaries (19.2% versus 25.3% of FFS Medicare), and had about half as many potentially avoidable acute hospitalizations (3.6% versus 7.0% of FFS Medicare) (Table 13).
- Dual eligible FFS Medicare beneficiaries had 15.1% lower rates of readmissions (8.6% versus 9.9% of Medicare Advantage) (Table 13).

Table 12: Rates of Preventive Screenings, Tests, and Complications in Dual Eligible Medicare Advantage and FFS Medicare Beneficiaries

Quality Measure	Medicare Advantage Dual Eligible Beneficiaries	FFS Medicare Dual Eligible Beneficiaries	Differential
Adults access to preventive /ambulatory health services	99.6%	98.4%	+1.2%
Cardiovascular Monitoring: LDL Testing	81.5%	69.4%	+17.4%
Comprehensive Diabetes Care: HbA1c Testing	91.8%	91.5%	+0.3%
Breast Cancer Screening	73.1%	50.0%	+46.2%
Diabetes Patients Who Have Lower Extremity Complication: Serious Complication	2.0%	6.9%	-71.0%
Diabetes Patients Who Have Lower Extremity Complication: Any Complication	9.9%	19.4%	-49.0%

Note: The denominators for the diabetes complications measures were smaller in the Medicare FFS population due to fewer beneficiaries with diabetes who qualified for inclusion in the measure based on the technical specifications, but statistical significance tests showed the rates to be statistically different based on the patients who were included in the measure (all p-values <.001). Differential percentages may vary due to rounding.

Table 13: Rates of Potentially Avoidable Hospitalizations and Readmissions in Dual Eligible Medicare Advantage and FFS Medicare Beneficiaries

Quality Measure	Medicare Advantage Dual Eligible Beneficiaries	FFS Medicare Dual Eligible Beneficiaries	Differential
Potentially Avoidable Hospitalizations: Chronic Rate	17.2%	17.3%	-0.6%
Potentially Avoidable Hospitalizations: Acute Rate	3.6%	7.0%	-48.6%
Potentially Avoidable Hospitalizations: Overall Rate	19.2%	25.3%	-24.1%
Readmissions Rate	9.9%	8.6%	+15.1%

Note: Differential percentages may vary due to rounding.

Discussion

This study compared demographic and clinical characteristics, utilization, healthcare costs, and quality outcomes in 2 representative study populations of Medicare Advantage (N=1,581,822) and FFS Medicare (N=1,212,698) beneficiaries with 1 or more of 3 highly prevalent and clinically-related chronic conditions: hypertension, hyperlipidemia, and diabetes.

The 2 Medicare populations have a similar prevalence of chronic conditions based on diagnosis groups derived from similarly sourced data documented by physicians on encounter claims. This analogous prevalence of chronic conditions in the 2 populations is an important new finding since Medicare Advantage encounter data have not been available to enable this comparison previously, and prior findings have indicated that FFS patients have a higher prevalence of chronic conditions. The 2 populations were also determined to be similar in clinical complexity based on the Charlson Comorbidity Index, a commonly used measure of severity of illness.

While the Medicare Advantage and FFS Medicare study populations were distributed similarly by age and gender, the Medicare Advantage population had a higher proportion with social and clinical risk factors, including more dual eligible/low-income beneficiaries, more beneficiaries who enrolled in Medicare under age 65 due to disability, and higher rates of serious mental illness and alcohol/drug/substance abuse. Additionally, Medicare Advantage had larger proportions of racial/ethnic minorities enrolled compared to FFS Medicare. All of these factors have been shown to be associated with greater disease burden, higher utilization, increased spending, and worse outcomes in previous research cited above. This context is important to consider in interpreting the findings of this study, since results were not adjusted to account for the higher prevalence of risk factors in the Medicare Advantage population, and thus may underestimate the performance of Medicare Advantage relative to FFS Medicare.

Despite having a higher percentage of beneficiaries with clinical and social risk factors, the Medicare Advantage study population had lower utilization of costly healthcare services, including significantly fewer inpatient hospital stays and emergency care services. While hospital lengths of stay were 10% longer in Medicare Advantage, readmission rates were similar between Medicare Advantage and FFS Medicare. Further investigation is needed to evaluate whether Medicare Advantage patients were sicker on admission resulting in slightly longer lengths of stay or whether the difference was due to different post-hospital care management (differential patterns of post-acute care utilization).

Total annual spending per beneficiary was similar in the 2 populations, but treatment and spending patterns were different. FFS Medicare beneficiary costs were driven by inpatient and emergent care costs compared to higher spending on preventive services and tests among Medicare Advantage beneficiaries. Given the social and clinical risk profile of the Medicare Advantage population studied, the finding that costs are the same or less indicates that the patterns of care observed in Medicare Advantage may result in more efficiencies relative to FFS. Further research to adjust results for clinical and social risk factors is needed, as previous research has shown that costs tend to be higher for these patients and outcomes tend to be worse.

Medicare Advantage also outperformed FFS Medicare on several key quality measures, including nearly 30% lower rates of potentially avoidable hospitalizations, higher rates of preventive screenings/tests, such as LDL cholesterol testing and breast cancer screening, and significantly lower rates of complications in patients with diabetes.

Evaluating utilization, costs, and quality for the clinically complex diabetes and dual eligible cohorts shows Medicare Advantage outperforms FFS Medicare in caring for these high-need beneficiaries, including fewer hospitalizations and emergency room visits, more preventive screening and tests, better performance on quality measure outcomes, and lower costs.

These results indicate that Medicare Advantage focuses on driving utilization of preventive services and interventions designed to better manage select chronic conditions. This focus, along with Medicare Advantage plans' care coordination efforts, may avert preventable complications, hospitalizations, and emergency care services and result in better health outcomes and lower overall cost to Medicare for the growing population of high-need, high-cost beneficiaries.

Limitations

Several factors may limit the generalizability of our findings. First, this was a retrospective observational analysis that was not designed to examine causal relationships. The beneficiary populations we studied were defined by beneficiaries' choice to enroll in Medicare Advantage or FFS Medicare. While Inovalon's MORE^2 Registry® is largely representative of the national Medicare Advantage beneficiary population, there is some regional imbalance with more beneficiaries in the Northeastern US and fewer in the West. Costs do not include Part D prescription drugs because the data were not available in the Medicare Standard Analytical Files for FFS Medicare, thus per beneficiary annual costs may differ with pharmacy-benefit drug costs taken into account. Using solely administrative data limits the breadth of the quality evaluation possible given many of the quality measures are based on satisfaction and health survey data or sample chart reviews. Finally, Avalere's findings were not risk adjusted for differences in clinical and social risk factors and thus may understate or overstate the performance of Medicare Advantage and/or FFS Medicare. Given these limitations, the need for multivariate analysis, risk adjustment, and further research on this topic is warranted.

Conclusion

This study provides new evidence regarding the value of Medicare Advantage relative to FFS Medicare and demonstrates that Medicare Advantage plans' focus on preventive services results in lower utilization of high-cost healthcare services, lower overall costs for high-need beneficiaries, and consistently better quality outcomes for similar groups of Medicare beneficiaries, including dual eligible and clinically complex beneficiaries. The findings provide new evidence that Medicare Advantage beneficiaries with chronic conditions experience better quality of care and quality of life than similar FFS Medicare beneficiaries, and Medicare Advantage plans achieve this at lower cost for the most high-need beneficiaries including those who are clinically complex, have more clinical and social risk factors, and/or have dual eligible status.

Methodology

Objectives

The objective of this analysis was to develop descriptive demographic, clinical, utilization, quality and cost metrics to profile and compare Medicare Advantage and FFS Medicare beneficiaries with 1 or more of 3 chronic conditions selected from the top-5 conditions based on prevalence in the Medicare population: hypertension, hyperlipidemia, diabetes. Avalere also analyzed separate cohorts consisting of clinically complex diabetes patients and dual eligible Medicare beneficiaries. The results were further stratified by key patient characteristics.

Study Design and Cohort Selection

A descriptive cross-sectional cohort design was used to analyze a sample of 1,581,822 Medicare Advantage beneficiaries extracted from Inovalon's proprietary MORE^2 Registry® and a sample of 1,212,698 FFS Medicare beneficiaries extracted from Medicare Standard Analytic Files. To be eligible for inclusion in the study, Medicare beneficiaries were required to be continuously enrolled in the same health plan with medical and pharmacy benefit coverage for the 12-month reporting period from January 1, 2015 to December 31, 2015 (with the standard allowable gap of no more than 45-days, consistent with Healthcare Effectiveness Data and Information Set (HEDIS) and CMS definitions). Patients were eligible for inclusion in a particular chronic condition category if they were diagnosed within the measurement year of 2015.

Data Analysis

Descriptive statistics were reported on the following factors separately for Medicare Advantage and FFS Medicare and further stratified by each of five cohorts (patients with each of 3 chronic conditions dual eligible/low income subsidy status (dual, non-dual), Original Reason for Entitlement (OREC: age ≥65 or disabled/ESRD): age group, gender, race/ethnicity, census region, Charlson Comorbidity Index scores, co-occurring chronic conditions, and healthcare services utilization (per 1,000 members per year) for hospitalizations, emergency room use, observation stays, length of stay, and office visits. Quality measures evaluated were breast cancer screening (BCS), potentially preventable hospitalizations (HPC total, chronic and acute), 30-day all cause readmissions (PCR), cardiovascular monitoring: LDL testing, comprehensive diabetes care: HbA1c testing, and measures of diabetes patients with lower extremity complications including cellulitis, ulceration, osteomyelitis, gangrene, amputation, serious complications and any complication.

Healthcare costs were calculated on a per-member per-month (PMPM) basis overall and within expenditure categories including inpatient, outpatient, physician services and tests, and durable medical equipment. Avalere used "standardized costs" derived by applying pricing algorithms based on Medicare allowed amounts for services. This accounts for differences in pricing across geographic areas, health plan and provider negotiated contracts and other price differentials. The approach applies consistent standardized costs to all medical encounters (e.g., hospitalization, ER visit, physician visit, lab test, outpatient procedure, etc.) and thus supports direct comparisons to FFS Medicare costs.

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