Characteristics, Healthcare Resource Utilization, Cost, and Quality Outcomes of Medicare Beneficiaries While Commercially Insured Before and After Transition to Medicare Advantage or Traditional Medicare Fee-for-Service

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Background

- Since 1999, Medicare beneficiaries can elect to receive Medicare coverage through a private insurer under the Medicare Advantage (MA) program as an alternative to the traditional Medicare Fee-for-Service (FFS) public program.
- MA plans consist primarily of health maintenance organizations (HMOs) and preferred provider organizations (PPOs). Given how the plans are paid — monthly capitated payments for each member — they have incentives to avoid unnecessary utilization, coordinate care, and promote better health. They also have flexibility to provide additional benefits that are not offered under traditional Medicare.
- Enrollment has grown significantly in the last two decades. In 2022, more than 28 million people were enrolled in a MA plan, accounting for nearly half (48%) of the eligible Medicare population and $427b (55%) of total federal Medicare spending.[1]
- Despite the increasing role of MA, little is known about who is selecting MA vs. FFS and differences in healthcare utilization, quality, and spending patterns before and after enrollment in MA vs. FFS.[2] While the Centers for Medicare & Medicaid Services (CMS) has for decades made data available for FFS enrollees, similar data for MA has not been available. Thus, researchers know remarkably little about how MA and FFS differ.

Objective

- Provide the first look at the demographic, clinical, and social risk characteristics of individuals who select MA vs. FFS while covered by private commercial insurance prior to turning age 65, and compare healthcare utilization, outcomes, and costs before and after enrolling in Medicare, while accounting for underlying differences in who enrolls.

Data Sources

- 100% Medicare FFS Parts A & B claims and 100% Medicare Prescription Drug Event Part D claims, 2015-2018.
- Inovalon MORE² Registry® medical and pharmacy claims for MA and commercial health plan enrollees, 2015-2018.
- Social determinants of health (SDOH) from Acxiom's Market Indices Data, an aggregation of American Community Survey and InfoBase® Geo files containing comprehensive individual and household databases drawn from public records, government information, self-reported activity, buying behavior, and financial data.

Methods

- Beneficiaries were continuously enrolled in a commercial health insurance plan for one year prior to joining Medicare (baseline) at age 65 (index date) between 2015-2018 and continuously enrolled in MA or FFS with medical and pharmacy coverage for at least one year post-enrollment.
- Patient characteristics were evaluated during baseline; healthcare resource utilization per-100-patients-per-year (P100PPY), and total costs were compared during baseline and during one year post-enrollment.
- To ensure the comparability of MA and FFS cohorts we used propensity score matching based on demographic and health characteristics from the time before rather than after Medicare enrollment, ensuring more statistical rigor than previous work (which would not be contaminated by differential selection or coding unlike post-Medicare characteristics, pre-Medicare characteristics are not confounded by the Medicare program type in which individuals enrolled).

Results

- Of 205,557 beneficiaries with commercial insurance coverage one year before turning age 65, 87.6% were enrolled in FFS and 12.4% in MA for at least one-year post-enrollment. (Table 1)
- FFS had fewer male (39.7% FFS vs. 41.5% MA) and more White patients (95.6% vs. 90.6%). (Table 1)
- Individuals who enrolled in MA plans were almost twice as likely to have been in a commercial HMO as those in FFS (45.8% MA vs. 27.8% FFS), while more selecting FFS were in a PPO (56.6% vs. 43.4%). (Table 1)
- MA enrollees had higher prevalence of social risk factors (e.g., more minorities, poorer neighborhoods, lower educational achievement, lower English proficiency, and more likely to live in an urban area). (Table 2)
- Prior to matching, beneficiaries selecting FFS had 25.8% higher costs compared to those enrolling in MA during baseline and 34.3% higher costs during post-enrollment. (Figure 1)
- After matching, beneficiaries selecting FFS had 12.5% higher costs during baseline and 24.0% higher costs during post-enrollment compared to those enrolling in MA. (Figure 1)
- After matching, FFS costs increased by 23.7% during the first year after joining Medicare from costs prior to turning 65 years old while covered by commercial insurance, while MA costs increased by only half that amount – 12.2% – during the first year after transitioning to MA. (Figure 1)

Limitations

- Claims data are used primarily for billing and reimbursement purposes, thus, data capturing medical conditions and outcomes may not be fully documented.
- Inovalon's MORE² Registry® includes a nationally representative sample of MA plan and commercial insurance plan claims data but may not be fully representative of all MA or all commercially insured patients at age 64.
- The study population was required to have a full year of coverage pre-65 and post-65 with enrollment in the same plan during both time periods, which may result in differences from the full population (e.g., excludes those who did not enroll within three months of turning 65 or switched from FFS to MA or vice versa during the one year period after initial enrollment).

Conclusion

- This study is the first to profile individuals selecting FFS versus MA and compare outcomes under commercial coverage to outcomes after enrolling in Medicare FFS or MA. MA enrolls more members with social risk factors including more female patients and racial/ethnic minorities with lower income, lower educational achievement, and lower English proficiency.
- After matching members who enroll in MA and FFS, FFS costs increased by 23.7% during the first year after joining Medicare from pre-65 costs while covered by commercial insurance, while MA costs increased by only half that amount – 12.2% – indicating much smaller growth in utilization when transitioning to MA.
- This approach, which controls for baseline characteristics and utilization, strongly demonstrates that MA is achieving the goal of lower costs through better care coordination and management. With the rapid growth of Medicare and the shift toward value-based care, it is essential for stakeholders to understand the profiles of patients who enroll in MA versus FFS and expected differences in outcomes.

Table 1. Baseline Beneficiary Demographic and Clinical Characteristics by Medicare Coverage Type (Pre-65 Unmatched Sample)

	Medicare FFS N = 180,087	Medicare Advantage N = 25,470
Demographic Characteristics One Year to Medicare Enrollment Date		
Age at Index, Mean (SD)[1]	65.0 (0.04)	65.00 (0.05)
Gender %		
Female	60.3	58.5
Male	39.7	41.5
Race/Ethnicity %		
White	95.6%	90.6%
Black	2.5%	4.8%
Hispanic	0.4%	1.9%
Asian	1.5%	2.6%
Census Region %		
Northeast	19.3%	27.5%
Midwest	29.6%	48.3%
South	26.4%	9.3%
West	24.7%	14.9%
Commercial Plan Type Prior to Medicare Eligibility % (Employer Sponsored Health Insurance)		
Health Maintenance Orginization (HMO)	27.8%	45.8%
Preferred Provider Orginization (PPO)	56.6%	43.4%
Point of Service (POS)	4.7%	2.7%
Exclusive Provider Orginization (EPO)	9.1%	5.2%
Other	1.7%	2.9%
Clinical Characteristics One Year Prior to Medicare Enrollment Date		
Charlson Comorbidity Index (CCI) Score: Mean (SD)	0.85 (1.57)	0.75 (1.40)
Hierarchical Condition Category (HCC)[2] Risk Score: Mean (SD)	0.56 (0.55)	0.52 (0.49)
Chronic Conditions by HCC		
Hypertension	46.9%	46.7%
Hyperlipidemia	46.1%	46.0%
Rheumatoid Arthritis / Osteoarthritis	21.9%	18.2%
Asthma	18.3%	16.9%
Diabetes	16.3%	17.0%

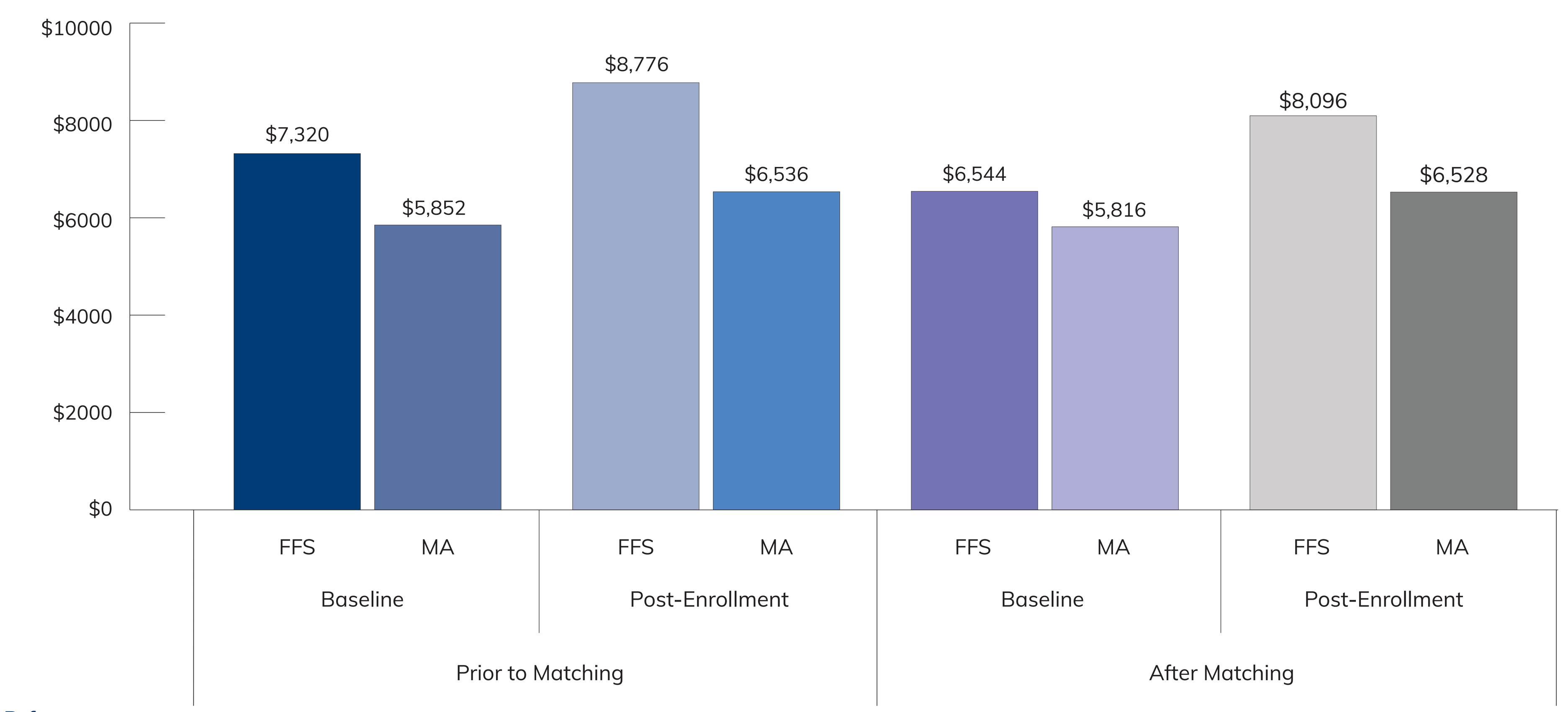
1. Standard deviation
2. HCC based on the CMS Chronic Conditions Data Warehouse

Table 2. Baseline Beneficiary Social Determinants of Health by Medicare Coverage Type (Pre-65 Unmatched Sample)

Social Determinants of Health (SDOH) One Year Prior to Medicare Index Date	Medicare FFS N = 180,087	Medicare Advantage N = 25,470
Annual Household Income, Mean (SD)	$85,085 ($33,333)	$76,720 ($30,727)
Annual Household Income Category		
< $30,000	4.4%	5.4%
$30,000 - $39,999	5.2%	6.5%
$40,000 - $49,000	7.7%	9.5%
$50,000 - $74,999	21.7%	27.7%
≥ $75,000	61.0%	51.0%
Neighborhood Below Federal Poverty Level (FPL)		
Mean % (SD)	8.8 (8.4)	9.6 (9.0)
<200% FPL	9.1%	10.7%
200%-300% FPL	17.2%	22.0%
>300% FPL	73.7%	67.3%
Neighborhood Sociodemographic (Mean %)		
Married	60.0	56.9
Education: Completed High School or Less	32.4	35.2
Own a Home	85.2	83.7
Speaking English Well or Not at All	2.0	2.6
No Vehicle	4.8	5.9
Area Deprivation Index[a]	37.7	44.4
Neighborhood Rurality		
Urban	66.3%	70.7%
Suburban	13.7%	14.5%
Large Rural Town	10.1%	6.9%
Small Town / Isolated Rural	9.9%	8.0%

[a] Area Deprivation Index, Neighborhood Atlas, Center for Health Disparities Research, University of Wisconsin School of Medicine and Public Health, accessed at: https://www.neighborhoodatlas.medicine.wisc.edu/

Figure 1. Healthcare Costs During Baseline and Post-Enrollment Before and After Propensity Matching: FFS vs. MA



References

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2 Medicare Payment Advisory Commission, "Chapter 13: Status Report on the Medicare Advantage Program," in Report to the Congress (MedPAC, 2017), 345–79.

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