

APPENDIX

Exhibit A1. Characteristics of enrollees in Medicare Advantage and Traditional Medicare

Characteristics	2007		2013	
	Medicare Advantage	Traditional Medicare	Medicare Advantage	Traditional Medicare
N	6,961,817	29,708,707	12,235,820	30,742,869
Mean Age, y	75.0	75.2	74.6	74.7
Female, %	58.1	57.3	57.3	55.6
Race/Ethnicity, %				
White	82.7	86.0	81.5	84.6
Black	9.8	7.9	10.0	7.9
Hispanic	3.4	2.0	3.1	2.0
Other	2.3	2.1	3.0	3.2
Full Medicaid coverage, %	8.0	11.8	8.4	11.0
Partial Medicaid coverage, %	5.1	4.0	5.5	3.6
Mean ZIP Code-level household Income, \$	53,991	53,628	53,759	55,720

SOURCE Authors' analysis of 2007 and 2013 Medicare Beneficiary Summary File.

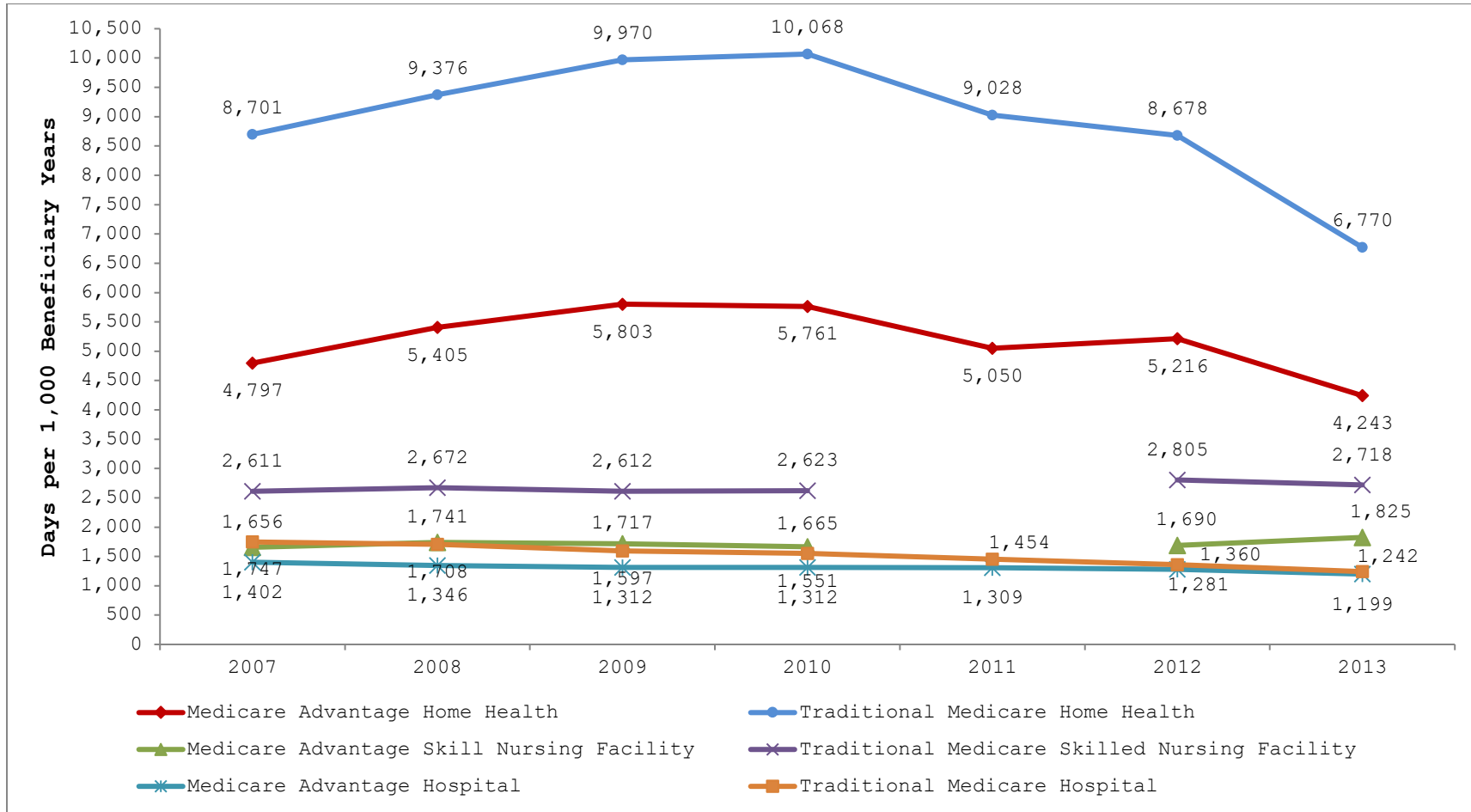
Exhibit A2. Characteristics of skilled nursing facility (SNF) care users in Medicare Advantage and Traditional Medicare, 2013

Characteristics	Beneficiaries with full Medicaid benefit ^a		Beneficiaries without full Medicaid benefit ^a		Total Population	
	Medicare Advantage	Traditional Medicare	Medicare Advantage	Traditional Medicare	Medicare Advantage	Traditional Medicare
N	163,059	748,678	497,522	1,383,379	660,581	2,132,057
Mean age, y	81.7	81.9	80.4	81.5	80.7	81.7
Female, %	71.8	71.5	62.3	62.2	64.6	65.4
Race/Ethnicity, %						
White	73.7	75.2	87.5	91.4	84.1	85.7
Black	17.3	16.1	8.8	6.3	10.9	9.8
Hispanic	4.4	3.7	1.4	0.6	2.1	1.7
Other	1.9	2.1	1.4	1.1	1.5	1.5
Mean ZIP code-level household income, \$	52,357	50,674	55,173	57,243	54,478	54,936
Mean activities of daily living score	17.7	17.7	16.5	16.5	16.8	16.9
Mean cognitive function scale	2.2	2.3	1.6	1.7	1.8	1.9

SOURCE Authors' analysis of 2013 Minimum Data Set and Medicare Beneficiary Summary File. **NOTES**

^aStratified analyses for beneficiaries with and without full Medicaid benefits.

Exhibit A3. Unadjusted trends in the use of home health care, skilled nursing facility, and hospital care for Medicare Advantage and Traditional Medicare enrollees



SOURCE Authors' analysis of 2007-2013 Outcome and Assessment Information Set (OASIS), Minimum Data Set (MDS), Medicare Healthcare Effectiveness & Data Information Set (HEDIS), Medicare claims data and Medicare Beneficiary Summary File (MBSF). **NOTES** We excluded 2011 data for SNF days/1,000, as the transition between MDS 2.0 and MDS 3.0 occurred in that calendar year.

Exhibit A4. Unadjusted Variation in Use of Home Health, Skilled Nursing Facility (SNF), and Hospital Care across Hospital Referral Regions (HRRs) in Medicare Advantage and Traditional Medicare (2013)

Measures	Medicare Advantage		Traditional Medicare	
	Ratio ^a	Absolute difference between HRRs ^a	Ratio ^a	Absolute difference between HRRs ^a
Home health care				
90 th to 10 th percentile comparison ^b	3.88	6,403	4.11	9,214
Interquartile comparison ^c	2.06	3,052	2.22	4,781
Skilled nursing facility care				
90 th to 10 th percentile comparison ^b	2.30	1,466	2.06	1,861
Interquartile comparison ^c	1.62	903	1.39	896
Hospital care				
90 th to 10 th percentile comparison ^b	1.91	742	1.77	676
Interquartile comparison ^c	1.38	380	1.35	367

SOURCE Authors' analysis of data for 2013 from the Outcome and Assessment Information Set, Minimum Data Set, Healthcare Effectiveness and Data Information Set, Medicare claims, and the Medicare Beneficiary Summary File. **NOTES** ^aDays per 1,000 beneficiary-years between HRRs with higher and lower utilization. ^bUtilization in the HRR at the ninetieth percentile, divided by utilization in the HRR at the tenth percentile. ^cUtilization in the HRR at the seventy-fifth percentile, divided by utilization in the HRR at the twenty-fifth percentile.

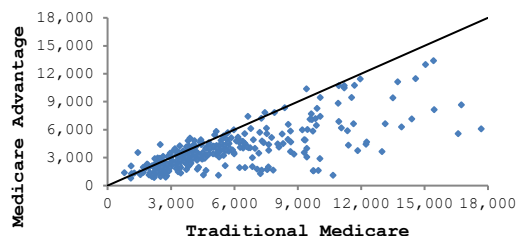
Exhibit A5. Geographic variation in use of home health, skilled nursing facility (SNF), and hospital care between Medicare Advantage and Traditional Medicare, excluding HRRs with less than 5,000 MA beneficiaries, 2013

Measures	Medicare Advantage	Traditional Medicare
Home Health Days per 1,000 beneficiary-years		
90th/10th Percentile Ratio	3.77	3.96
Interquartile Ratio	1.95	2.07
SNF Days per 1,000 beneficiary-years		
90th/10th Percentile Ratio	2.53	1.90
Interquartile Ratio	1.50	1.39
Hospital Days per 1,000 beneficiary-years		
90th/10th Percentile Ratio	2.13	1.72
Interquartile Ratio	1.42	1.34

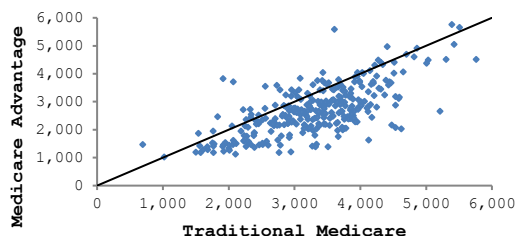
SOURCE Authors' analysis of 2013 Outcome and Assessment Information Set (OASIS), Minimum Data Set (MDS), Medicare Healthcare Effectiveness & Data Information Set (HEDIS), Medicare claims data and Medicare Beneficiary Summary File (MBSF). **NOTES** Two measures of geographic variation were calculated: the 90th/10th percentile ratio, which is the 90th percentile value divided by the 10th percentile value; and the interquartile ratio, which is the 75th percentile value divided by the 25th percentile value.

Exhibit A6. Use of home health, skilled nursing facility (SNF), and hospital care in Medicare Advantage and Traditional Medicare at the hospital referral region level, 2013

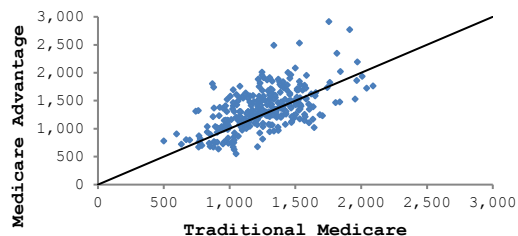
Panel A: Home Health Days/1000



Panel B: SNF Days/1000

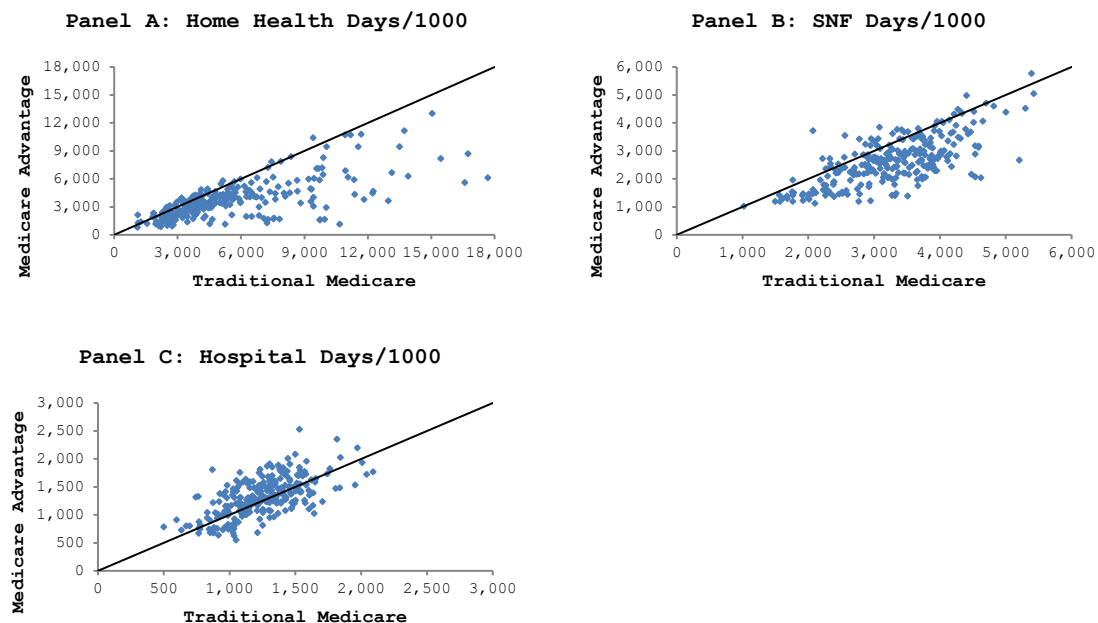


Panel C: Hospital Days/1000



SOURCE Authors' analysis of 2013 Outcome and Assessment Information Set (OASIS), Minimum Data Set (MDS), Medicare Healthcare Effectiveness & Data Information Set (HEDIS), Medicare claims data and Medicare Beneficiary Summary File (MBSF). **NOTES** Each point refers to one of 306 hospital referral regions (HRR) in the US. Estimates adjusted for age, gender, race or ethnic group (black, white, Hispanic, Asian, or other), ZIP Code-level income derived from national Census data, and dual eligibility for Medicaid (defined in the first month of Medicare eligibility of the measurement year). Diagonal line represents a line of equivalent utilization in traditional Medicare and Medicare Advantage. Therefore, points above the line indicate HRRs with greater utilization in Medicare Advantage and points below indicate HRRs with lower utilization in Medicare Advantage.

Exhibit A7. Correlations of the use of home health, skilled nursing facility (SNF), and hospital care between Medicare Advantage and Traditional Medicare at the hospital referral region (HRR) Level (excluding HRRs with less than 5,000 MA beneficiaries), 2013



SOURCE Authors' analysis of 2013 Outcome and Assessment Information Set (OASIS), Minimum Data Set (MDS), Medicare Healthcare Effectiveness & Data Information Set (HEDIS), Medicare claims data and Medicare Beneficiary Summary File (MBSF). **NOTES** Each point refers to one of 306 hospital referral regions (HRR) in the US. Estimates adjusted for age, gender, race or ethnic group (black, white, Hispanic, Asian, or other), ZIP Code-level income derived from national Census data, and dual eligibility for Medicaid (defined in the first month of Medicare eligibility of the measurement year). Diagonal line represents a line of equivalent utilization in traditional Medicare and Medicare Advantage. Therefore, points above the line indicate HRRs with greater utilization in Medicare Advantage and points below indicate HRRs with lower utilization in Medicare Advantage.