Home Health Chartbook 2019:
Prepared for the Alliance for Home Health Quality and Innovation

Avalere Health | An Inovalon Company
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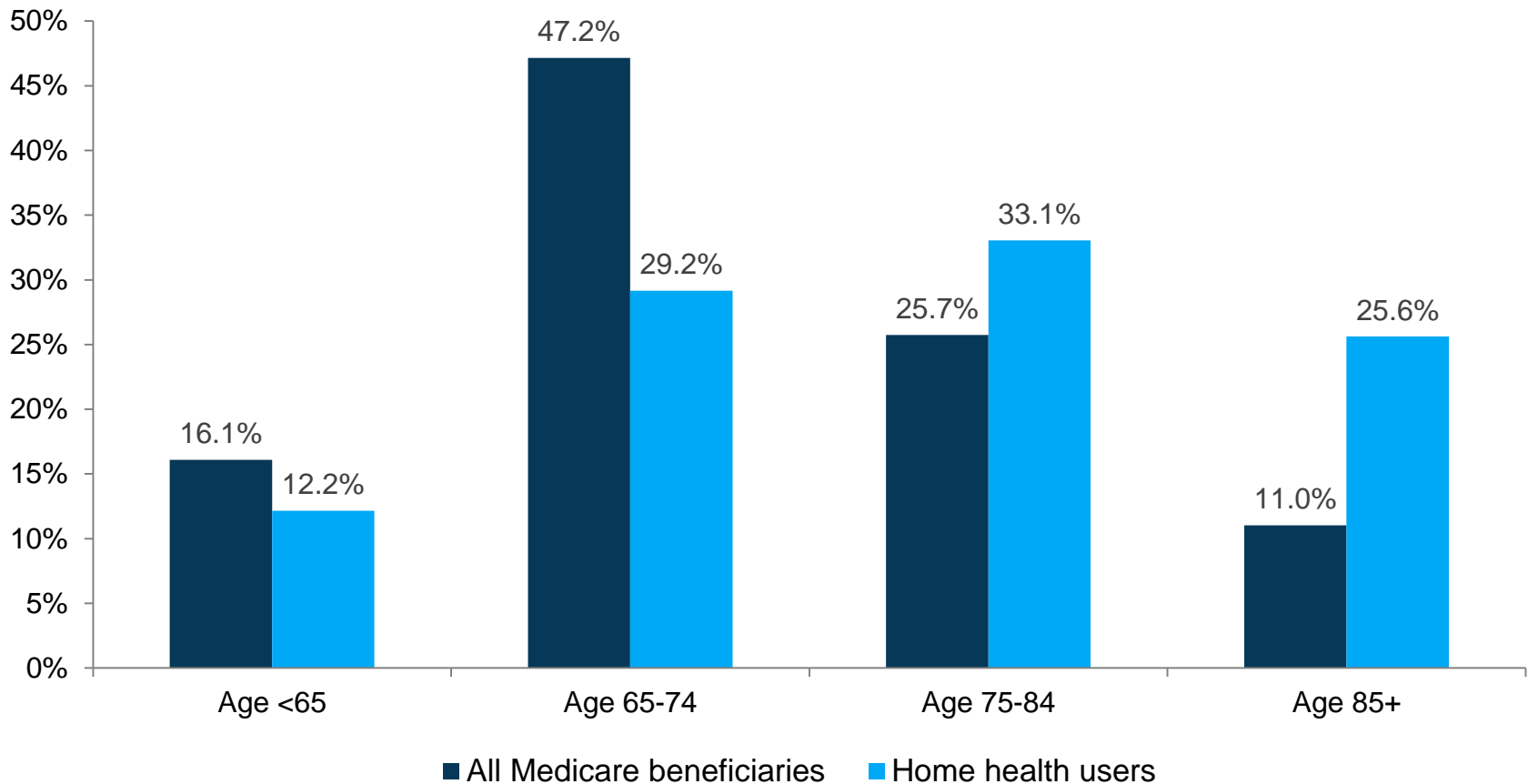
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Section 1: Demographics of Home Health Users

Demographics of Home Health Users

Chart 1.1: Age Distribution of Home Health Users and All Medicare Beneficiaries, 2016

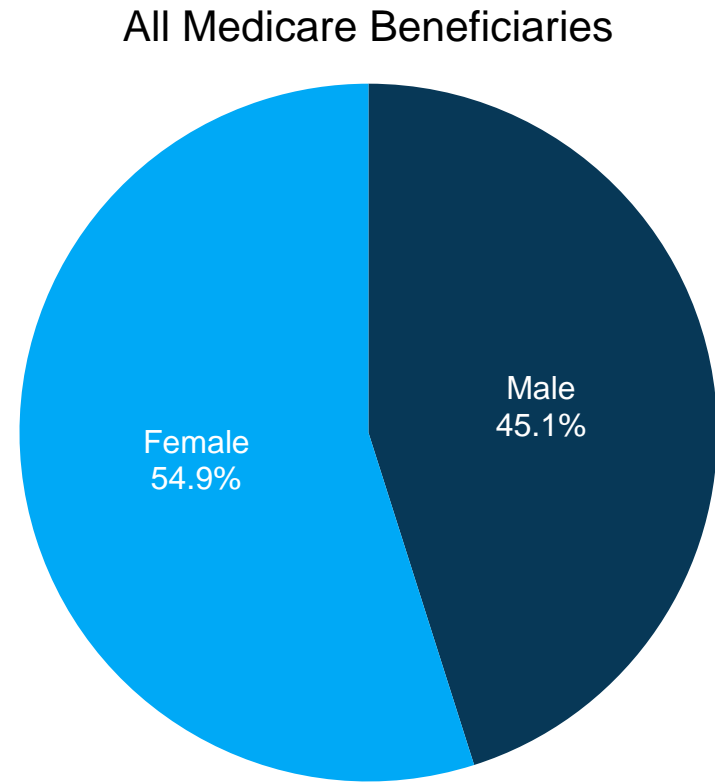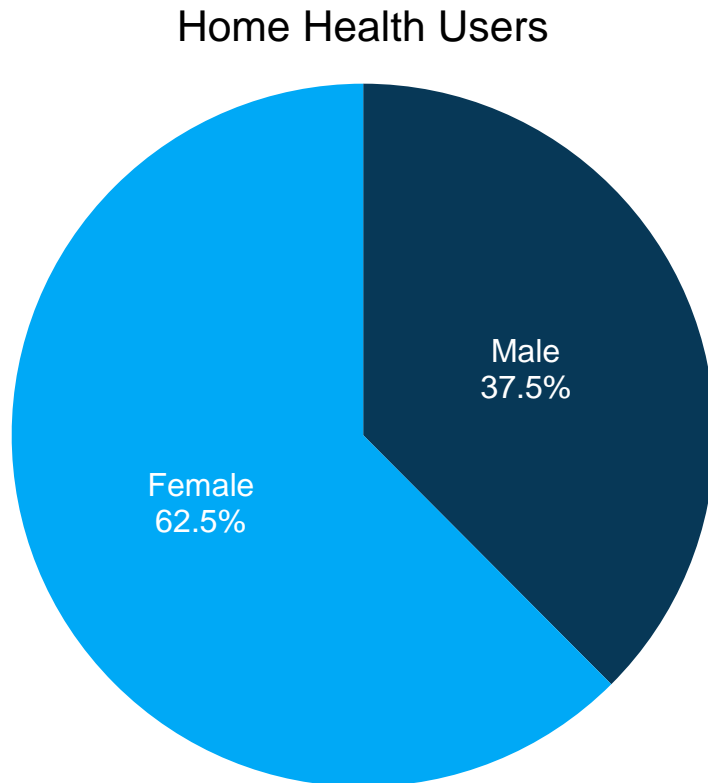Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.

Demographics of Home Health Users

Chart 1.2: Gender Distribution of Home Health Users and All Medicare Beneficiaries, 2016

Home Health Users

Male
37.5%

Female
62.5%

All Medicare Beneficiaries

Male
45.1%

Female
54.9%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.

Home Health Users in Fee for Service and Medicare Advantage

Chart 1.3: Distribution of Home Health Users in Fee-for-Service and Medicare Advantage, 2016

Fee-for-Service Beneficiaries

Home Health Users, 7.9%

Non Home Health Users 92.1%

Medicare Advantage Beneficiaries

Home Health Users 6.8%

Non Home Health Users 93.2%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.

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Demographics of Home Health Users

Chart 1.4: Marital Status of Home Health Users and All Medicare Beneficiaries, 2016

Home Health Users

- 39.1% (Married)
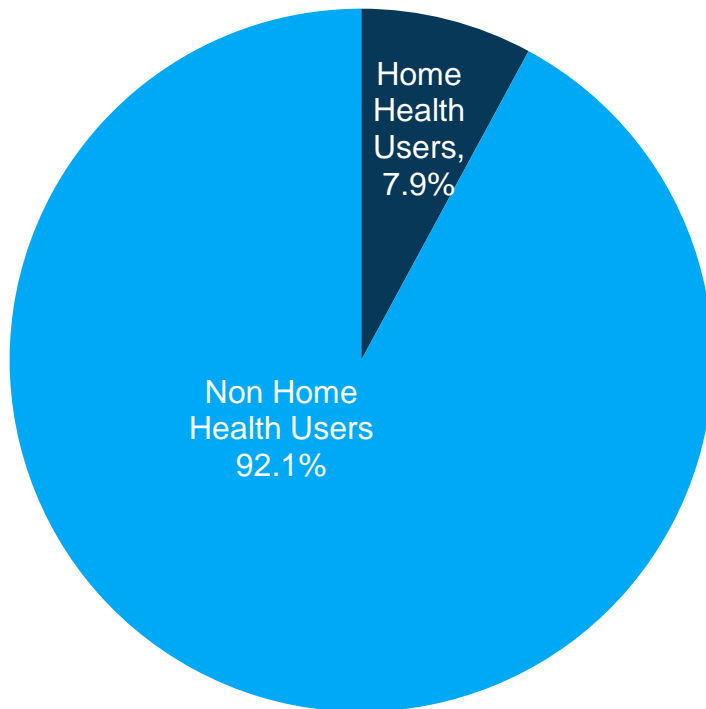- 33.9% (Widowed)
- 27.0% (Separated, Divorced, Never Married)

All Medicare Beneficiaries

- 52.2% (Married)
- 21.5% (Widowed)
- 26.4% (Separated, Divorced, Never Married)

■ Married   ■ Widowed   ■ Separated, Divorced, Never Married

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.

Demographics of Home Health Users

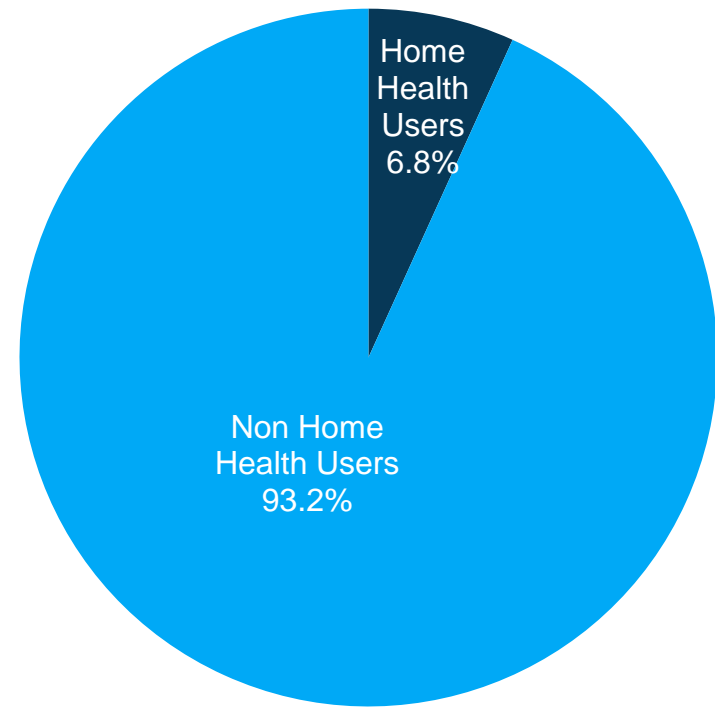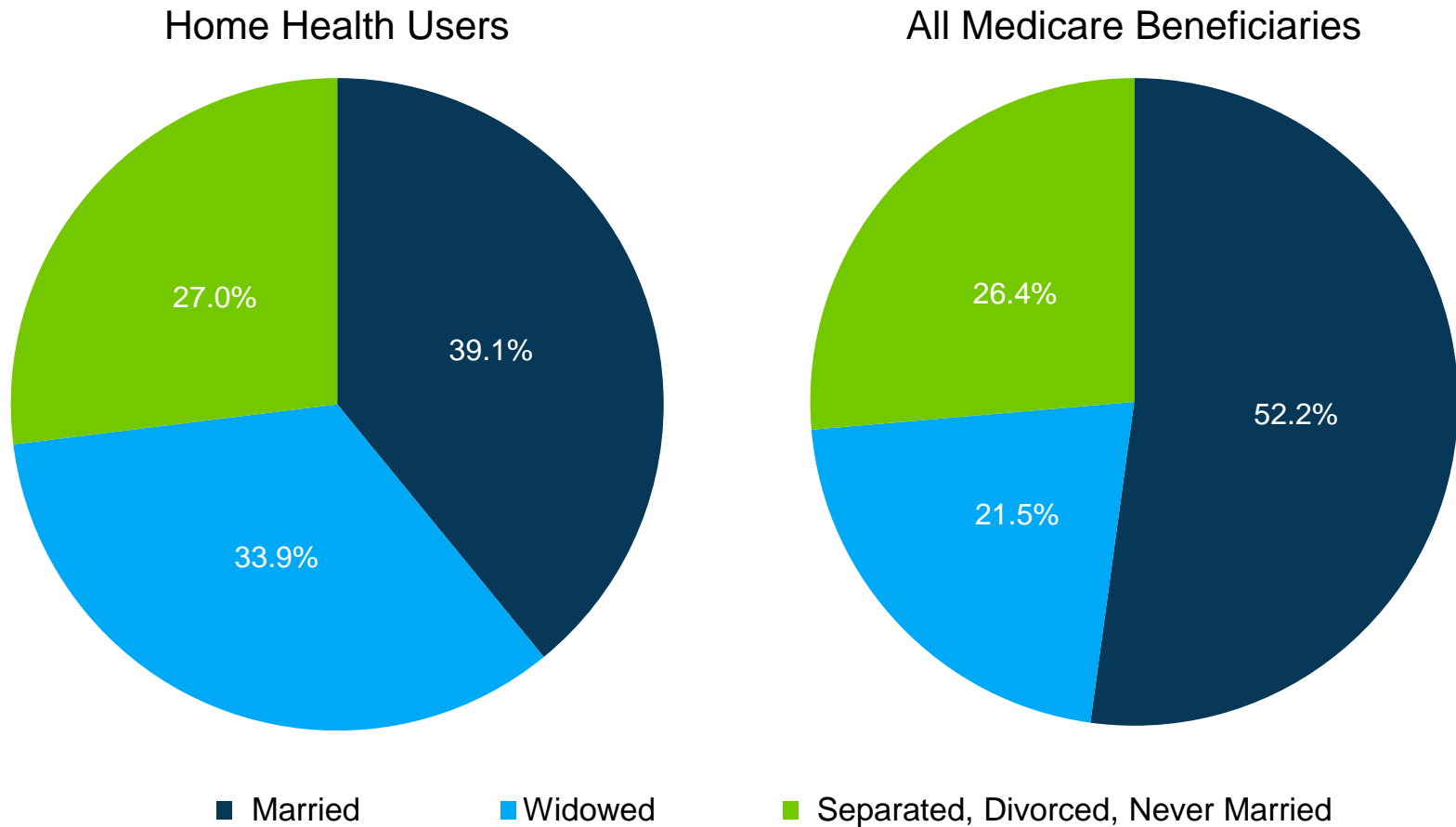Chart 1.5: Geographic Distribution of Home Health Users and All Medicare Beneficiaries, 2018

Home Health Users

Rural
9.1%

Urban
90.9%

All Medicare Beneficiaries

Rural
8.4%

Urban
91.6%
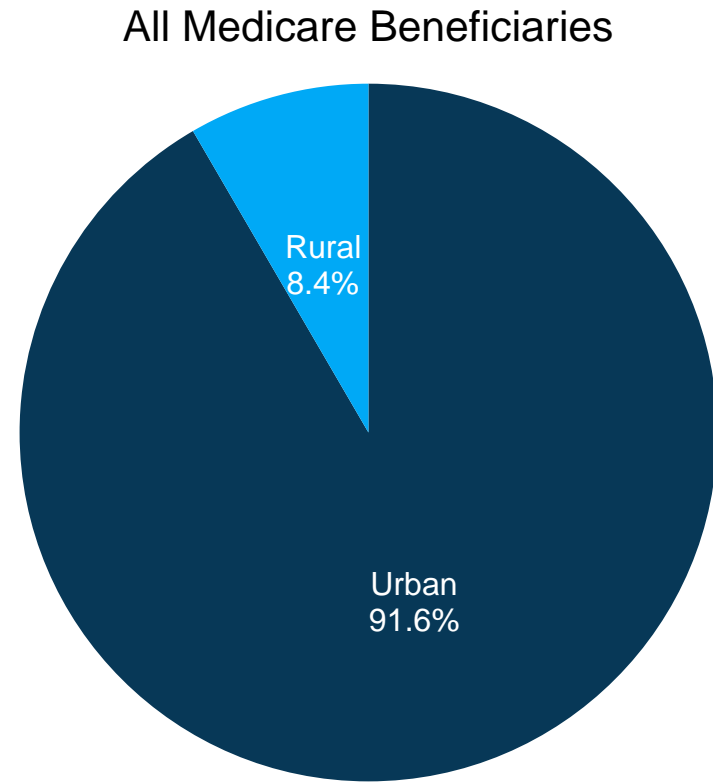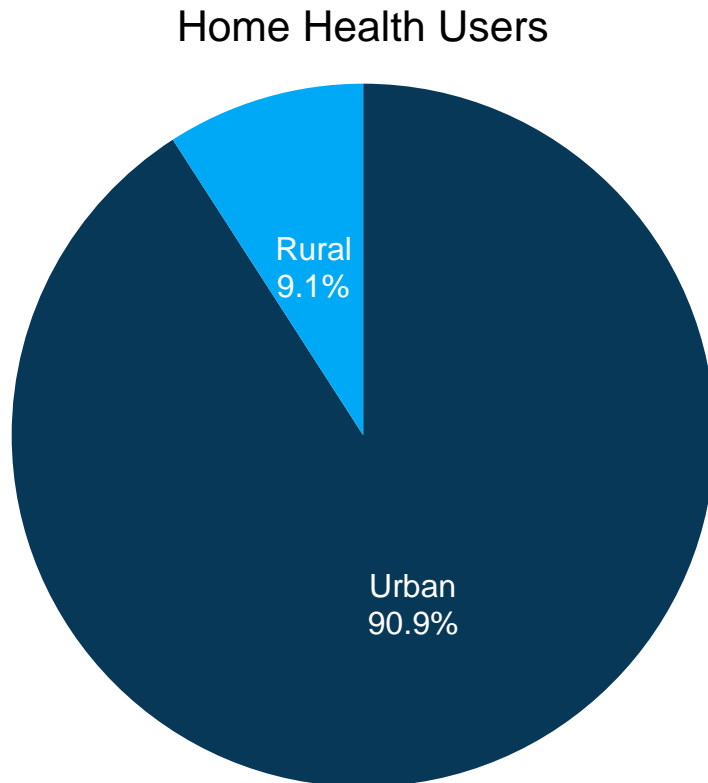
Demographics of Home Health Users

Chart 1.6: Race of Medicare Home Health Users and Skilled Nursing Facility Users, 2016
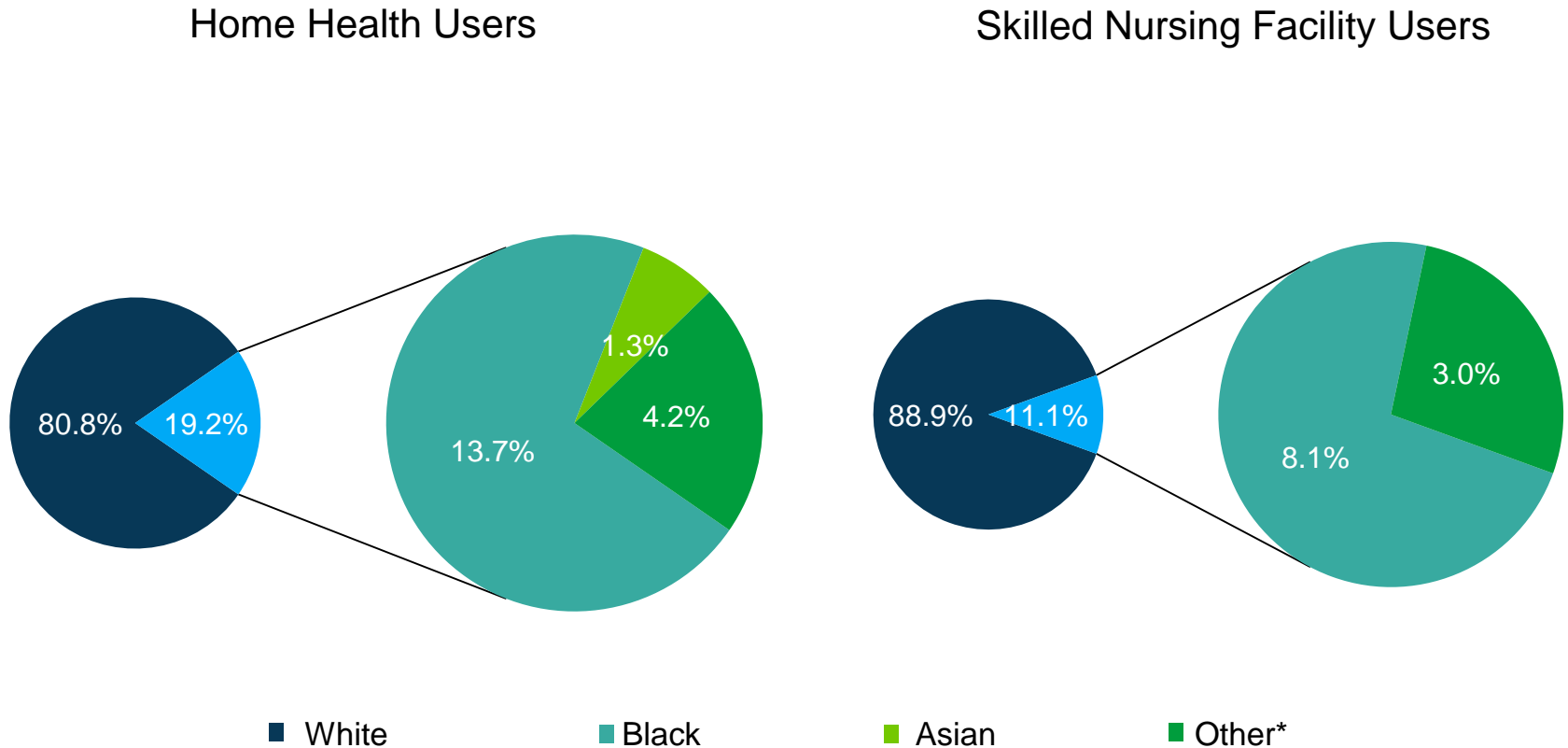
Home Health Users

Skilled Nursing Facility Users

Legend: White, Black, Asian, Other*

Demographics of Home Health Users

Chart 1.7: Income Distribution of Home Health Users, Skilled Nursing Facility Users, and All Medicare Beneficiaries, 2016

Legend: ■ All Medicare beneficiaries ■ Home health users ■ Skilled Nursing Facility users

Under $25,000 Per Year
- All Medicare beneficiaries: 40.5%
- Home health users: 56.4%
- Skilled Nursing Facility users: 49.4%

$25,000 Per Year Or More
- All Medicare beneficiaries: 59.5%
- Home health users: 43.6%
- Skilled Nursing Facility users: 50.6%
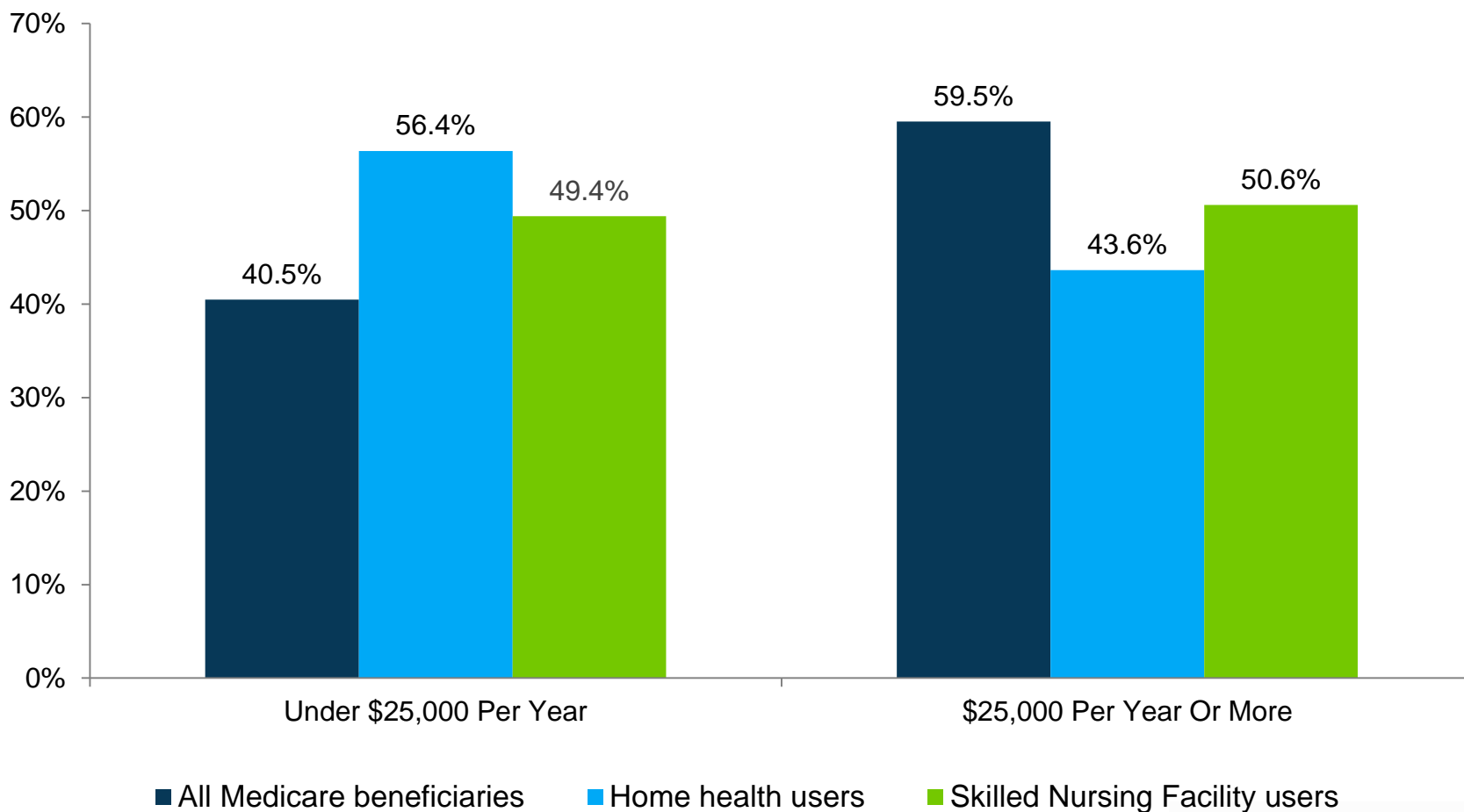
Demographics of Home Health Users

Chart 1.8: Percentage of All Medicare Beneficiaries and Home Health Users by Number of Chronic Conditions (CCs), 2016

Home Health Users

- 19.5% 0-2 CCs
- 16.0% 3 CCs
- 18.5% 4 CCs
- 46.0% 5 or more CCs

All Medicare Beneficiaries

- 41.2% 0-2 CCs
- 20.3% 3 CCs
- 16.0% 4 CCs
- 22.5% 5 or more CCs

Legend:
- 0-2 CCs
- 3 CCs
- 4 CCs
- 5 or more CCs
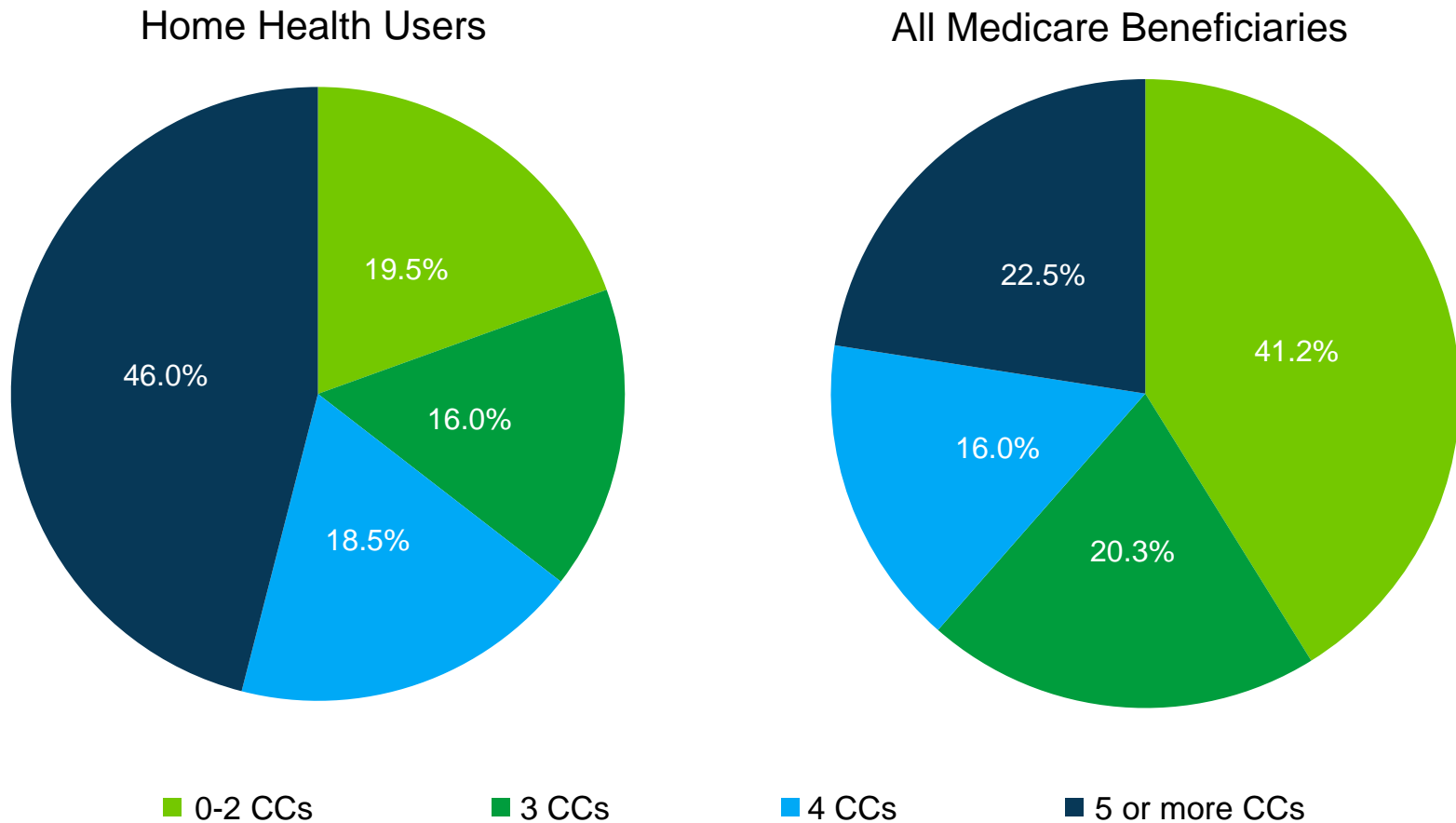
Demographics of Home Health Users

Table 1.9: Selected Characteristics of Medicare Home Health Users and All Medicare Beneficiaries, 2016

	All Medicare Home Health Users	All Medicare Beneficiaries
Age 85+	25.6%	11.0%
Live alone	37.8%	29.0%
Have 3 or more chronic conditions	80.5%	58.9%
Have 2 or more ADL limitations[*]	27.8%	10.4%
Report fair or poor health	46.2%	24.6%
Are in somewhat or much worse health than last year	38.4%	19.4%
Have incomes at or under 200% of the Federal Poverty Level (FPL)[**]	64.0%	46.8%
Have incomes under 100% of the Federal Poverty Level (FPL)[**]	27.5%	19.2%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.
*ADL = Activities of daily living, such as eating, dressing, and bathing. Limitations with at least 2 ADLs is considered a measure of moderate to severe disability and is often the eligibility threshold for a nursing home level of care.
**In 2016, 100 percent of FPL for a household of 1 was $11,880, a household of 2 was $16.020, a household of 3 was $20,160, and household of 4 was $24,300. 200 percent of FPL was double each amount.

Demographics of Home Health Users*

Table 1.10: Average Annual Living Expenses for Households with Incomes under 200 Percent of the Federal Poverty Level (FPL)** with at Least One Individual 65 Years or Older, 2017

Living Expense	2016			2017		
	One-Person Elderly Household	Two-Person Elderly Household	All Elderly Household Sizes	One-Person Elderly Household	Two-Person Elderly Household	All Elderly Household Sizes
Housing	$7,014	$8,261	$7,847	$6,787	$9,178	$8,209
Food	$2,451	$4,505	$3,619	$2,546	$4,665	$3,806
Transportation	$1,705	$3,795	$2,822	$2,169	$4,489	$3,400
Health Care (out-of-pocket costs)	$2,187	$3,847	$2,887	$2,336	$4,375	$3,277
Total	**$13,358**	**$20,408**	**$17,175**	**$13,838**	**$22,707**	**$18,692**

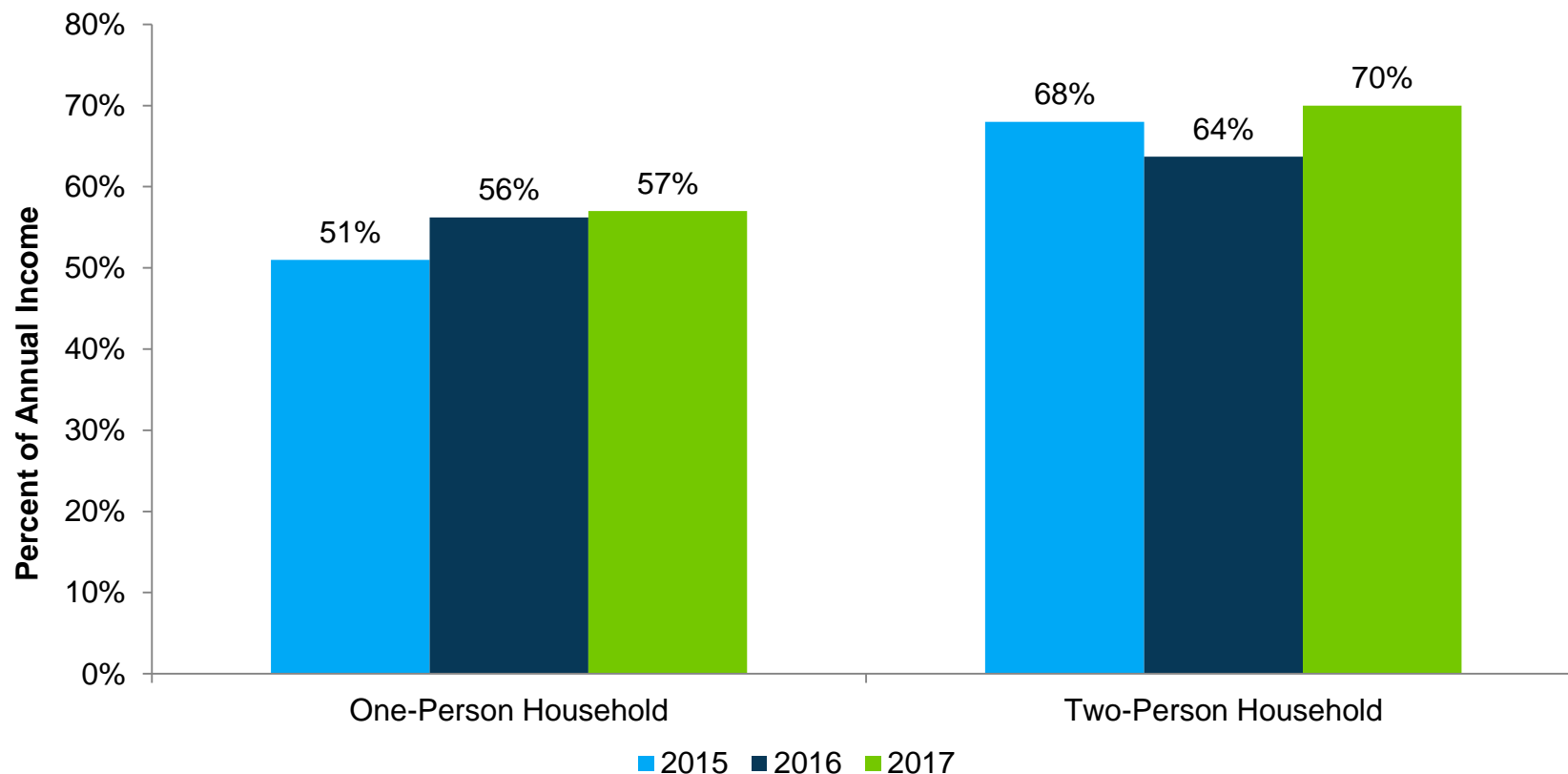Source: Avalere analysis of the 2017 Bureau of Labor Statistics Consumer Expenditure Survey. The analysis includes households with one or more individuals age 65 or older and annual incomes below 200 percent of the Federal Poverty Level.
*This analysis includes, but is not limited to, home health users.
**In 2017, 200 percent of the Federal Poverty Level was $24,120 for a one-person household and $32,480 for a two-person household.

Demographics of Home Health Users*

Chart 1.11: Average Annual Living Expenses, as a Percentage of Income, for One- And Two-Person Households at 200 percent of the Federal Poverty Level (FPL)** with at Least One Individual 65 Years or Older, 2017

*This analysis includes, but is not limited to, home health users.
**In 2017, 200 percent of the Federal Poverty Level was $24,120 for a one-person household and $32,480 for a two-person household.

Demographics of Home Health Users by Race and Ethnicity

Chart 1.12: Selected Characteristics of All Medicare Home Health Users by Race and Ethnicity, 2016

Legend: ■ Black Medicare HH Users ■ Hispanic Medicare HH Users ■ All Medicare HH Users

85+: Black 20.2%, Hispanic 18.7%, All 25.6%
Live Alone: Black 42.5%, Hispanic 29.5%, All 37.8%
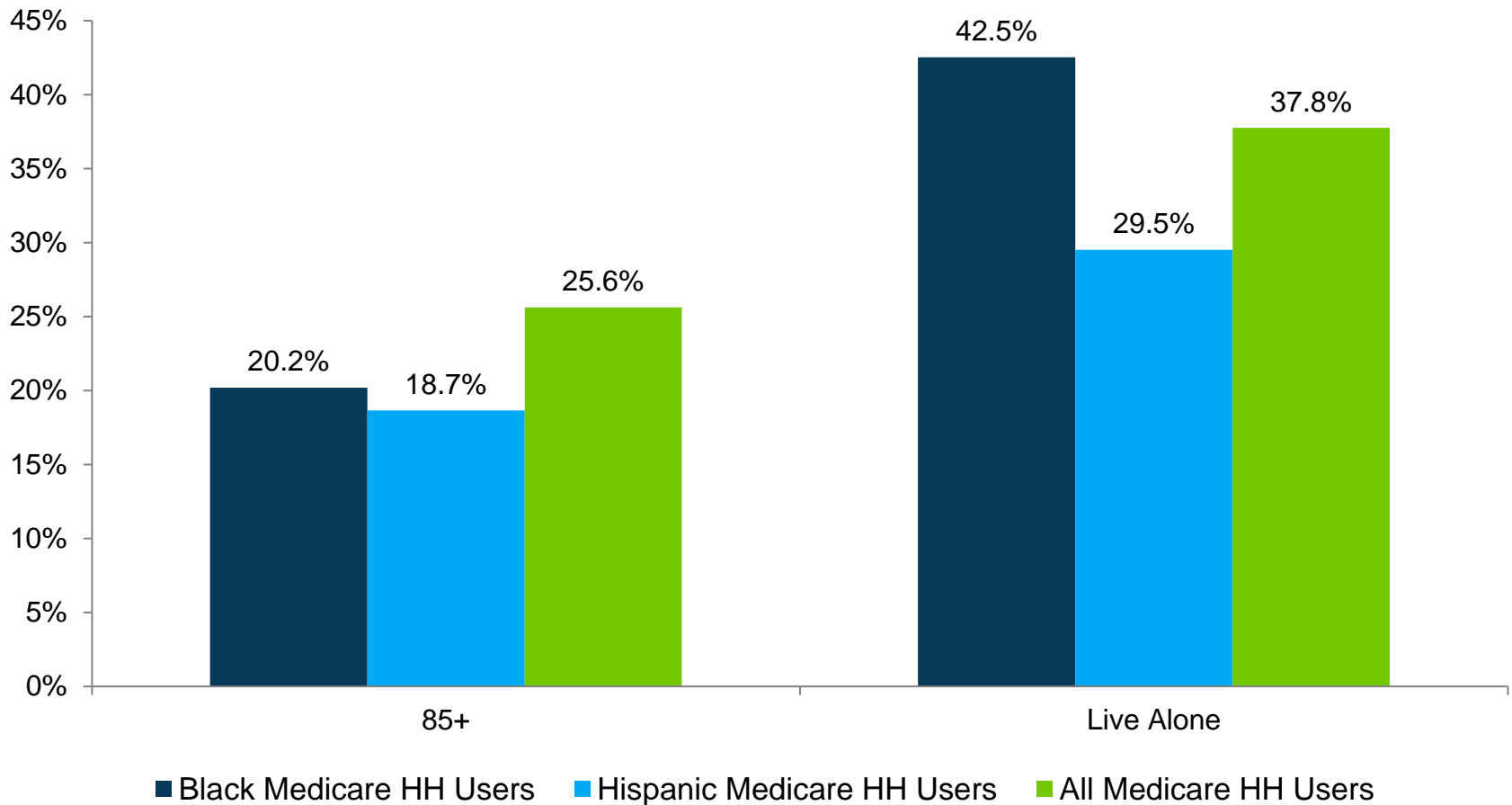
Demographics of Home Health Users by Race and Ethnicity

Chart 1.13: Health Status of Home Health Users by Race and Ethnicity, 2016

Have 3 or more chronic conditions: 79.7% (Black), 79.6% (Hispanic), 80.5% (All)

Have 2 or more ADL limitations*: 26.8% (Black), 34.9% (Hispanic), 27.8% (All)

Report fair or poor health: 50.8% (Black), 61.1% (Hispanic), 46.2% (All)

In somewhat or much worse health than last year: 34.9% (Black), 38.6% (Hispanic), 38.4% (All)

Legend: ■ Black Medicare HH Users ■ Hispanic Medicare HH Users ■ All Medicare HH Users

Demographics of Home Health Users by Race and Ethnicity

Chart 1.14: Income by Federal Poverty Level (FPL) of Home Health Users by Race and Ethnicity, 2016

Bar chart with two groups:

Income Under 200% FPL*
- Black Medicare HH Users: 84.4%
- Hispanic Medicare HH Users: 88.1%
- All Medicare Home Health Users: 64.0%

Income Under 100% FPL*
- Black Medicare HH Users: 42.2%
- Hispanic Medicare HH Users: 58.1%
- All Medicare Home Health Users: 27.5%

Legend:
- Black Medicare HH Users
- Hispanic Medicare HH Users
- All Medicare Home Health Users

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.
**In 2016, 100 percent of FPL for a household of 1 was $11,880, a household of 2 was $16.020, a household of 3 was $20,160, and household of 4 was $24,300. 200 percent of FPL was double each amount.

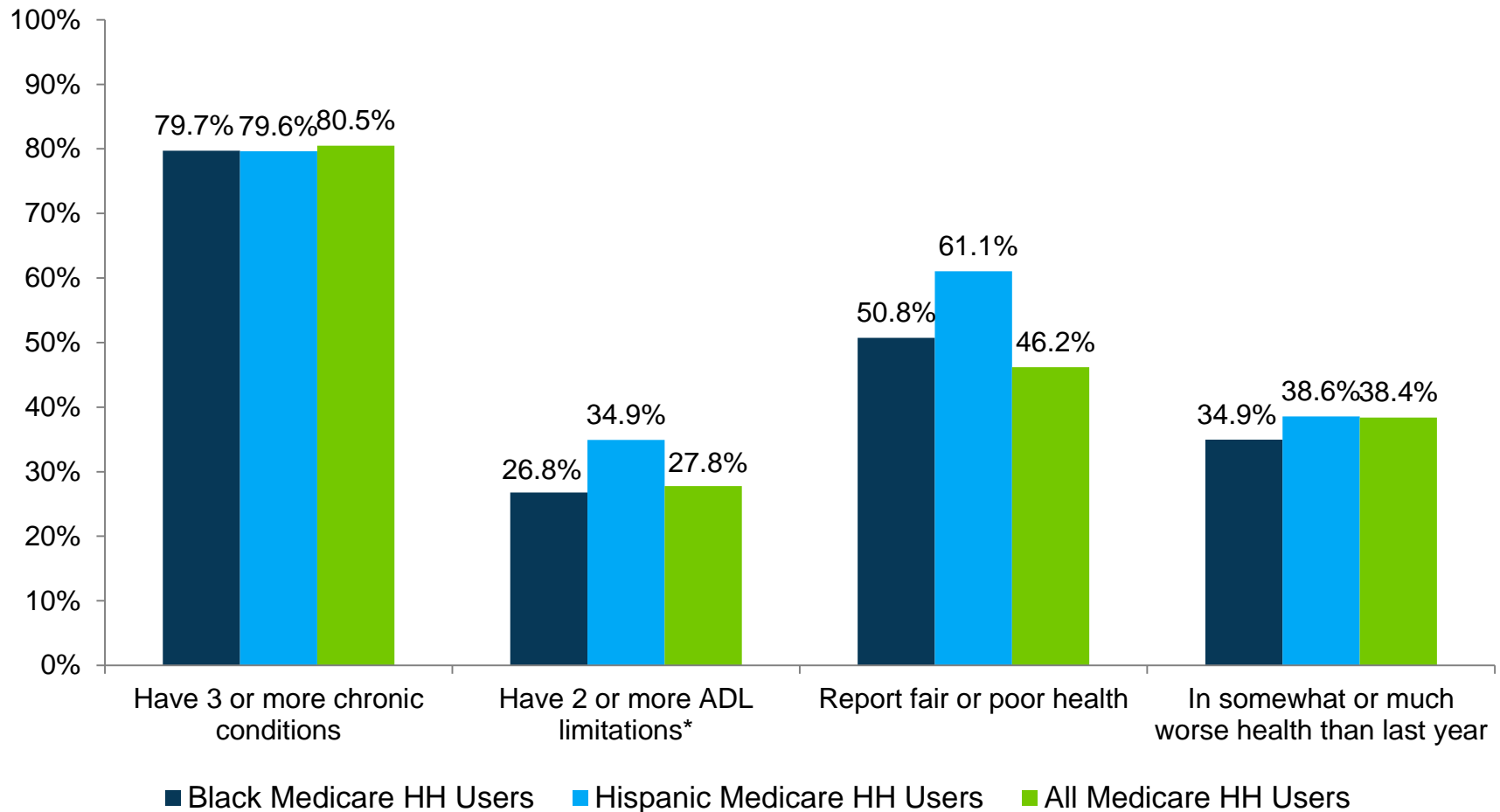# Demographics of Home Health Users by Race and Ethnicity

Chart 1.15: Income Distribution of Home Health Users by Race and Ethnicity, 2016

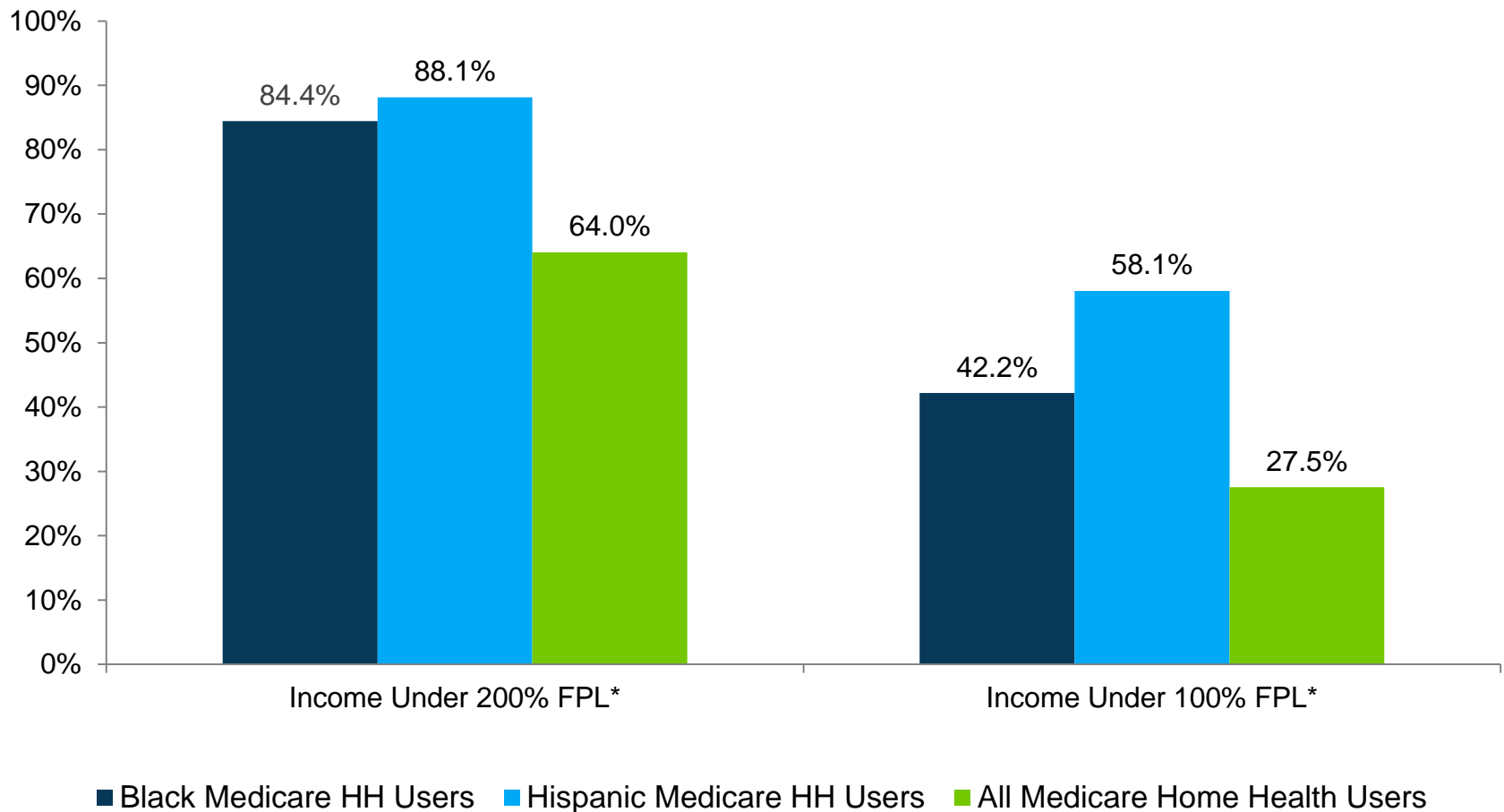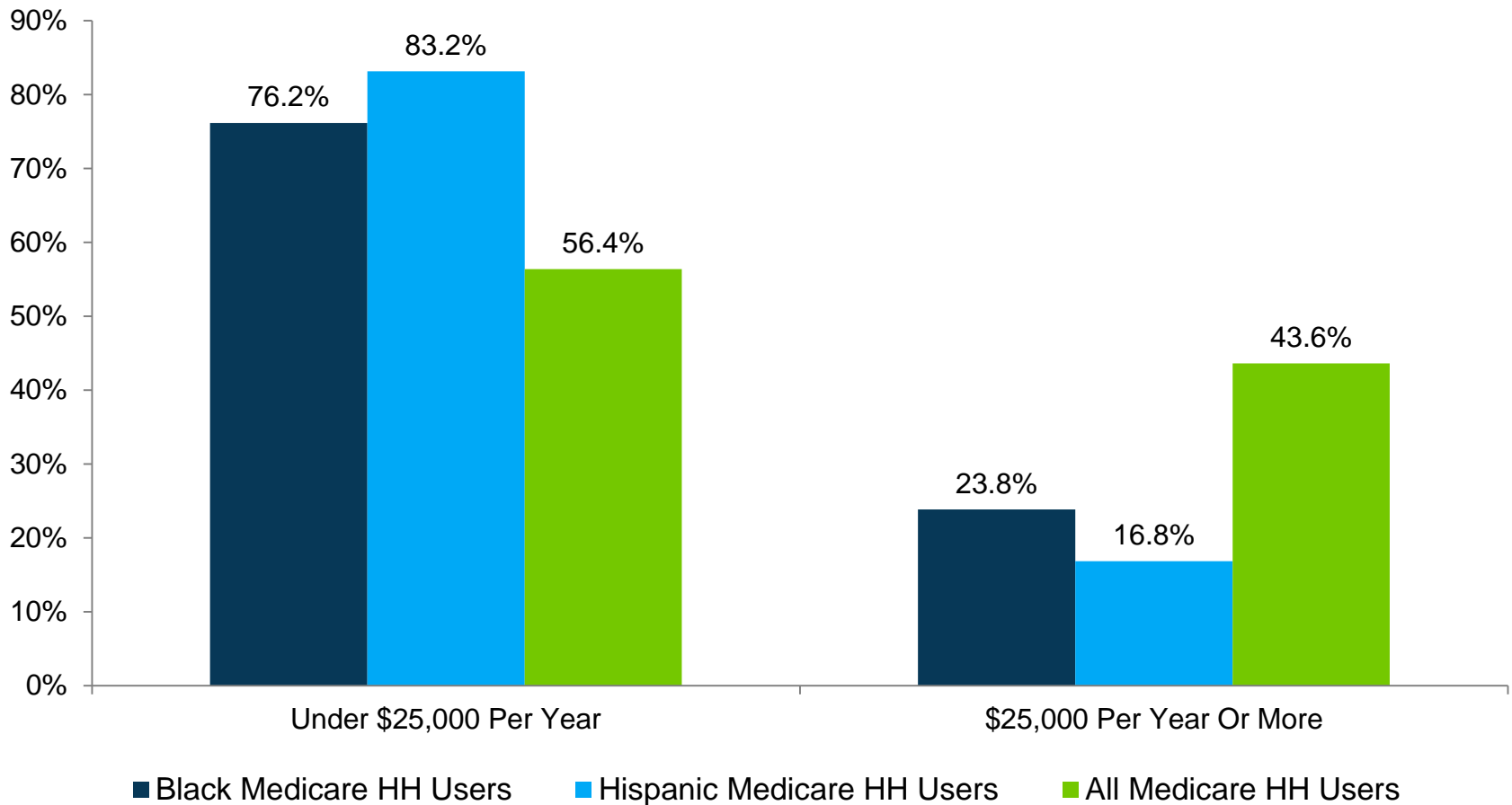Legend:
- Black Medicare HH Users
- Hispanic Medicare HH Users
- All Medicare HH Users

Under $25,000 Per Year
- Black Medicare HH Users: 76.2%
- Hispanic Medicare HH Users: 83.2%
- All Medicare HH Users: 56.4%

$25,000 Per Year Or More
- Black Medicare HH Users: 23.8%
- Hispanic Medicare HH Users: 16.8%
- All Medicare HH Users: 43.6%

Demographics of Home Health Users by Sex

Chart 1.16: Age Distribution of Home Health Users by Sex, 2016

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.
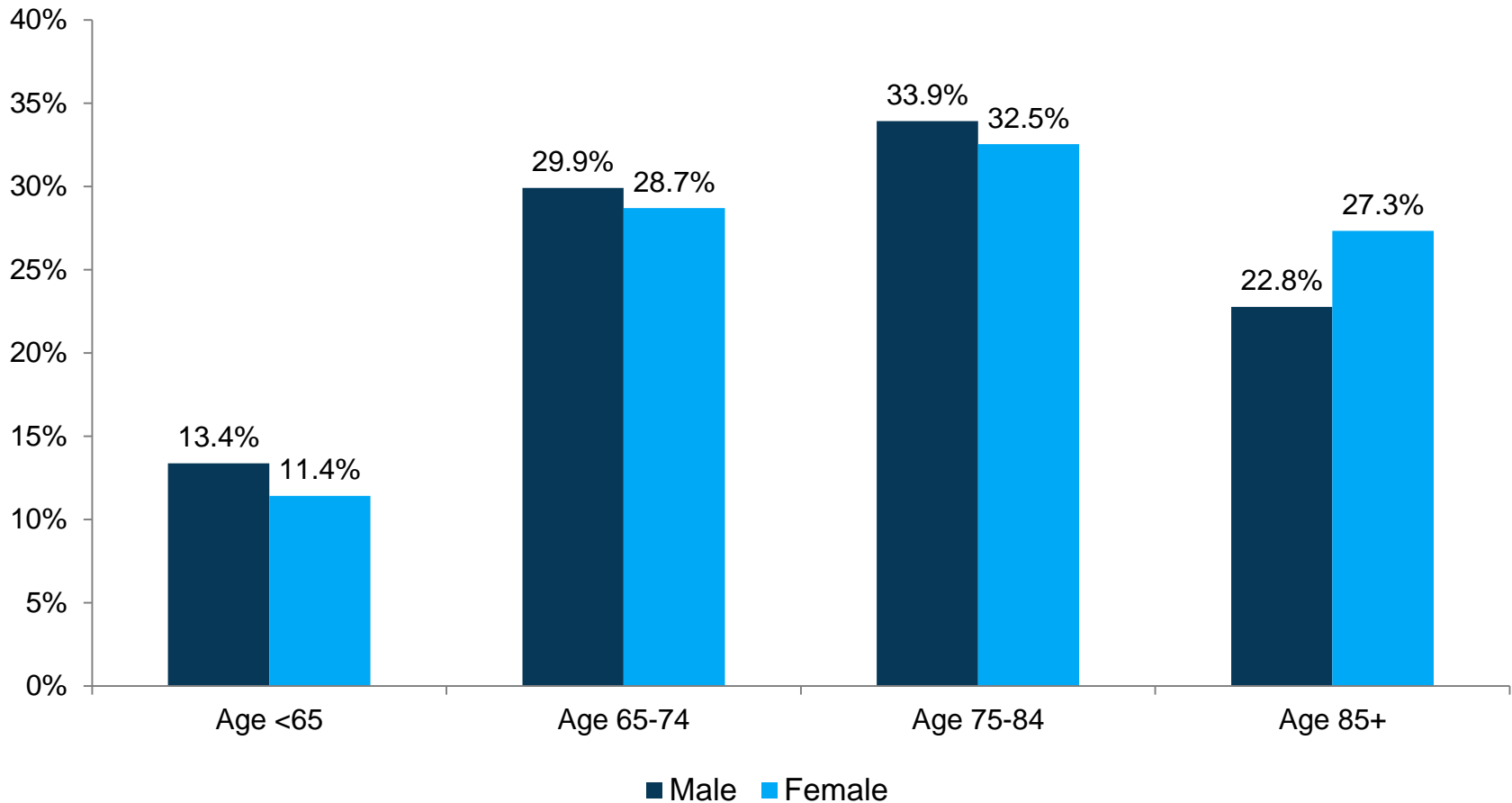
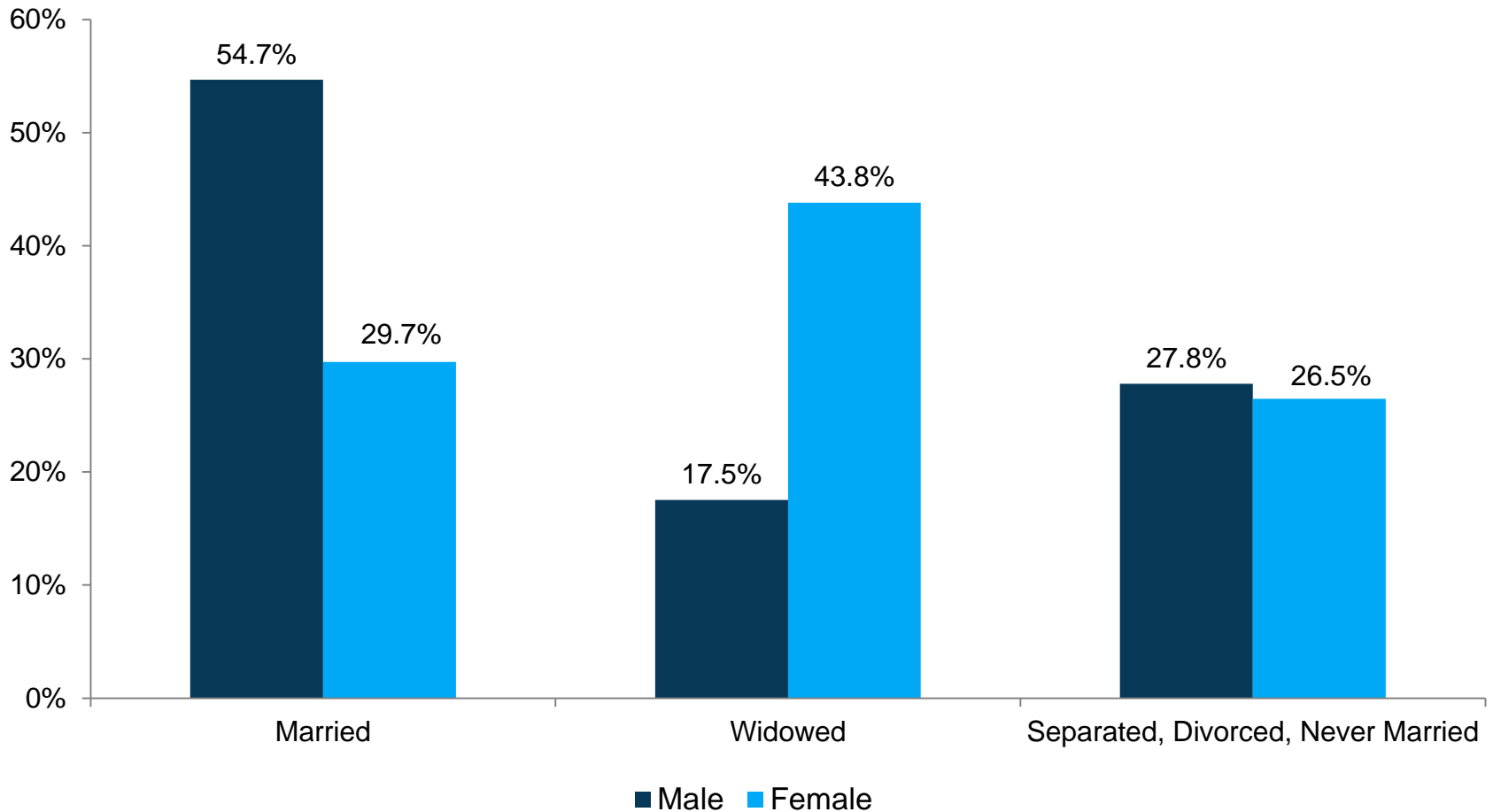# Demographics of Home Health Users by Sex

Chart 1.17: Marital Status of Home Health Users by Sex, 2016

Demographics of Home Health Users by Sex

Chart 1.18: Income Distribution of Home Health Users by Sex, 2016

Legend: ■ Male ■ Female

X-axis categories:
- Under $25,000 Per Year: Male 47.2%, Female 61.9%
- $25,000 Per Year Or More: Male 52.8%, Female 38.1%
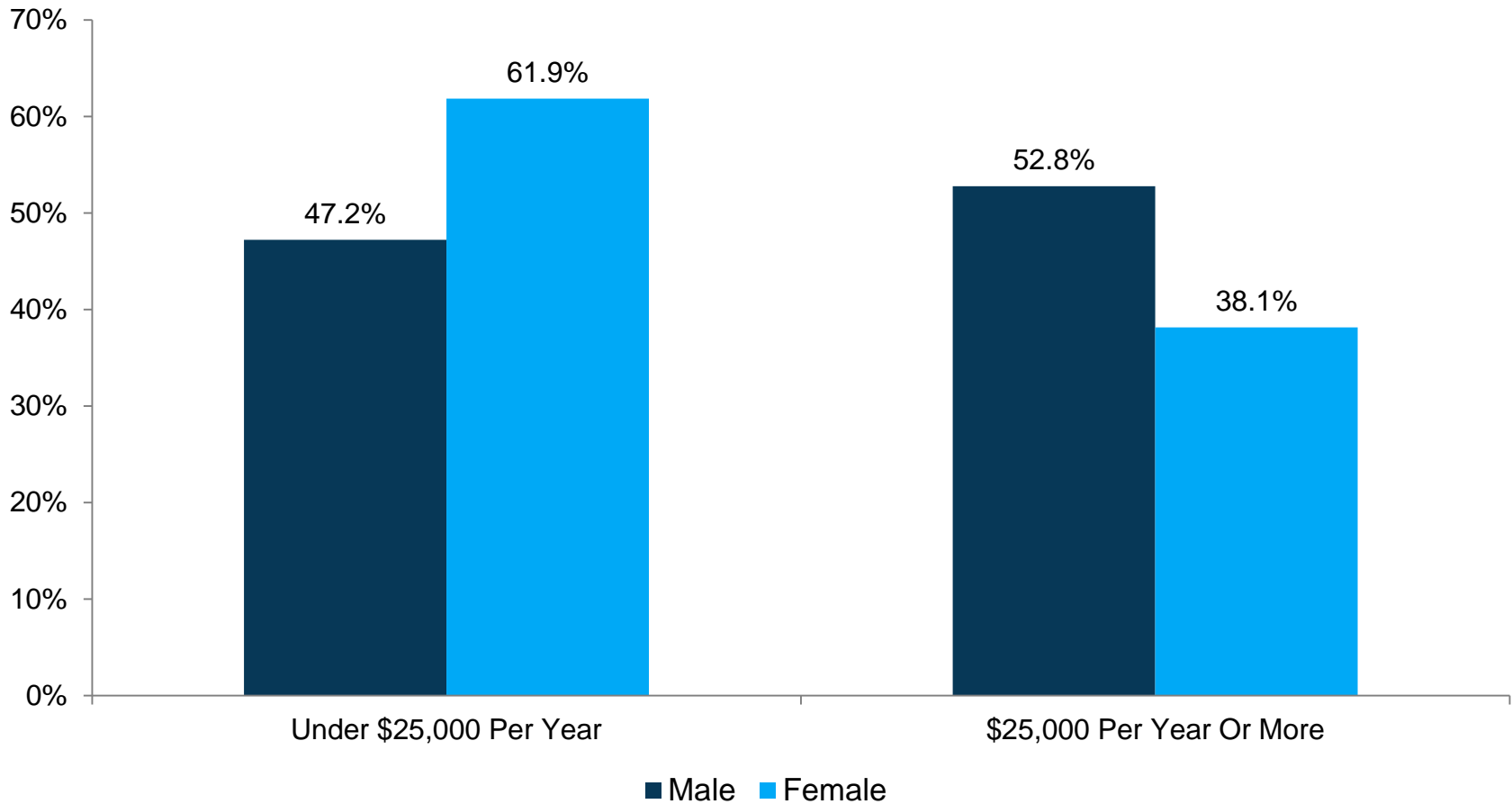
Demographics of Home Health Users by Dual Eligible Status

Chart 1.19: Percentage of Home Health Users by Dual Eligible Status and Number of Chronic Conditions (CCs), 2016

Dual Eligibles

- 0-2 CCs: 20.3%
- 3 CCs: 15.6%
- 4 CCs: 15.5%
- 5 or more CCs: 48.6%

Non-Dual Eligibles

- 0-2 CCs: 19.1%
- 3 CCs: 16.2%
- 4 CCs: 19.9%
- 5 or more CCs: 44.8%

Legend: ■ 0-2 CCs   ■ 3 CCs   ■ 4 CCs   ■ 5 or more CCs

Demographics of Home Health Users Compared to All Medicare Beneficiaries

Chart 1.20: Percentage of Home Health Users to All Medicare Beneficiaries by Number of Chronic Conditions (CCs), 2016

Home Health Users

All Medicare Beneficiaries

Legend:
- 0-2 CCs
- 3 CCs
- 4 CCs
- 5 or more CCs

Home Health Users:
- 0-2 CCs: 19.5%
- 3 CCs: 16.0%
- 4 CCs: 18.5%
- 5 or more CCs: 46.0%

All Medicare Beneficiaries:
- 0-2 CCs: 41.2%
- 3 CCs: 20.3%
- 4 CCs: 16.0%
- 5 or more CCs: 22.5%
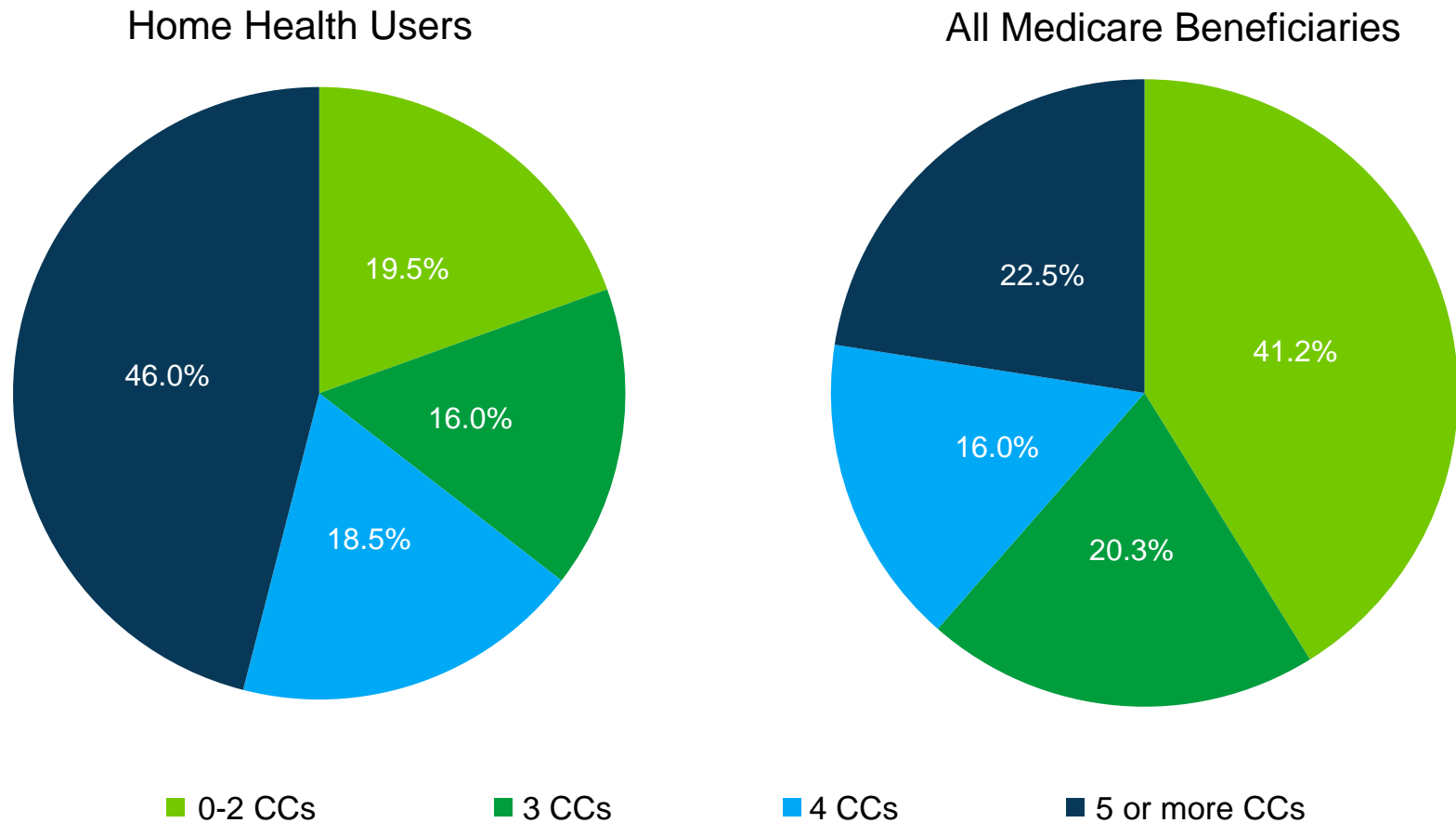
Demographics of Home Health Users by Dual Eligible Status

Chart 1.21: Percentage of Home Health Users by Dual Eligible Status and Number of Activities of Daily Living (ADLs) with Which They Require Assistance, 2016
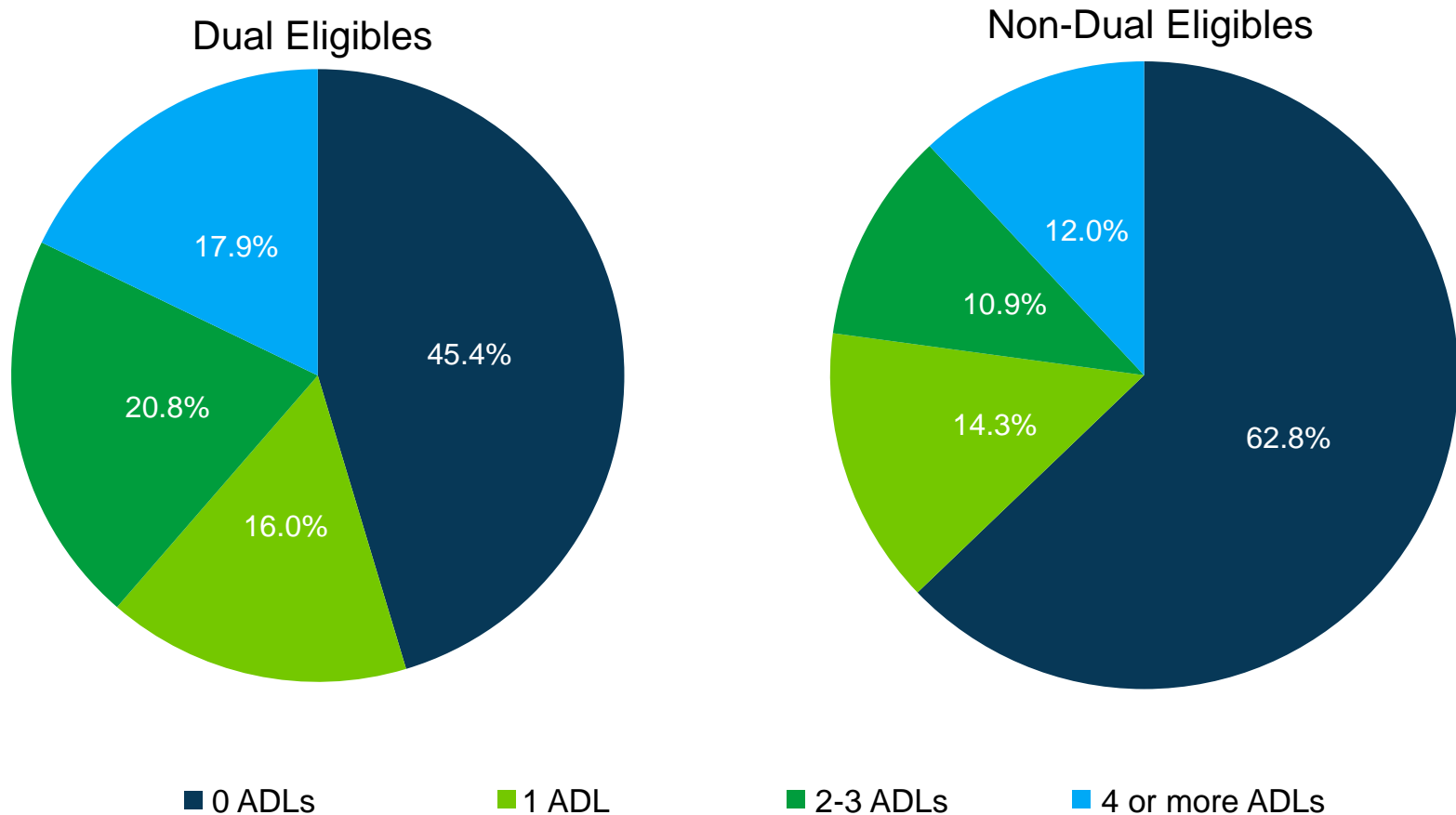
Dual Eligibles

- 45.4% (0 ADLs)
- 16.0% (1 ADL)
- 20.8% (2-3 ADLs)
- 17.9% (4 or more ADLs)

Non-Dual Eligibles

- 62.8% (0 ADLs)
- 14.3% (1 ADL)
- 10.9% (2-3 ADLs)
- 12.0% (4 or more ADLs)

Legend: ■ 0 ADLs ■ 1 ADL ■ 2-3 ADLs ■ 4 or more ADLs

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.
Note: Dual eligibles are defined as individuals with any state buy-in at any point during the year. Beneficiaries were classified as requiring assistance with an ADL (bathing, walking, transferring, dressing, toileting, and eating) if they reported needing at least stand-by assistance with that ADL.
Totals may not sum to 100 percent due to rounding.

Demographics of Home Health Users by Severe Mental Illness (SMI)*

Chart 1.22: Selected Characteristics of All Medicare Home Health Users and Medicare Home Health Users with SMI, 2016

Legend:
- Medicare Home Health Users with SMI
- All Medicare Home Health Users

85+: 18.7% (Medicare Home Health Users with SMI), 25.6% (All Medicare Home Health Users)
Live alone: 37.8% (Medicare Home Health Users with SMI), 37.8% (All Medicare Home Health Users)

Demographics of Home Health Users by Severe Mental Illness (SMI)*

Chart 1.23: Selected Characteristics of All Medicare Home Health Users and Medicare Home Health Users with SMI, 2016

Legend:
- Medicare Home Health Users with SMI
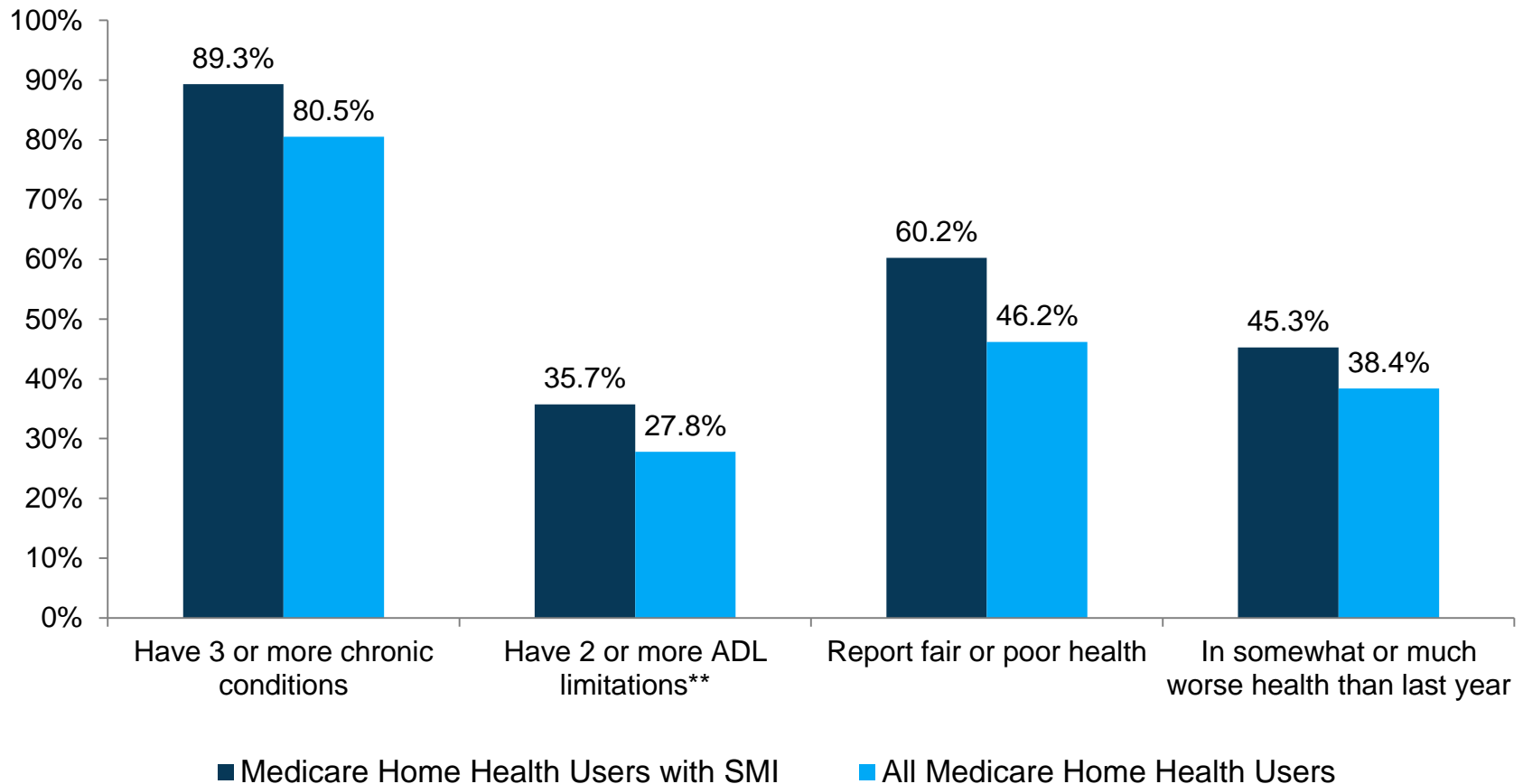- All Medicare Home Health Users

Have 3 or more chronic conditions: 89.3% / 80.5%
Have 2 or more ADL limitations**: 35.7% / 27.8%
Report fair or poor health: 60.2% / 46.2%
In somewhat or much worse health than last year: 45.3% / 38.4%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.
*Severe mental illness (SMI) is defined as having depression or another mental disorder, including bipolar disorder, schizophrenia, and other psychoses.
**ADL = Activities of daily living, such as eating, dressing, and bathing. Limitations with at least 2 ADLs is considered a measure of moderate to severe disability and is often the eligibility threshold for a nursing home level of care.

Demographics of Home Health Users by Severe Mental Illness (SMI)*

Chart 1.24: Selected Characteristics of Medicare Home Health Users with SMI and All Medicare Home Health Users, 2016

Legend:
- ■ Medicare Home Health Users with SMI
- ■ All Medicare Home Health Users

Income Under 200% FPL**: 71.5% (SMI), 64.0% (All)
Income Under 100% FPL**: 32.8% (SMI), 27.5% (All)

Demographics of Home Health Users by Severe Mental Illness (SMI)*

Chart 1.25: Percentage of Medicare Home Health Users with SMI Compared to the Percentage of Medicare Beneficiaries with SMI, 2016

Home Health Users

SMI
39.2%

No SMI
60.8%
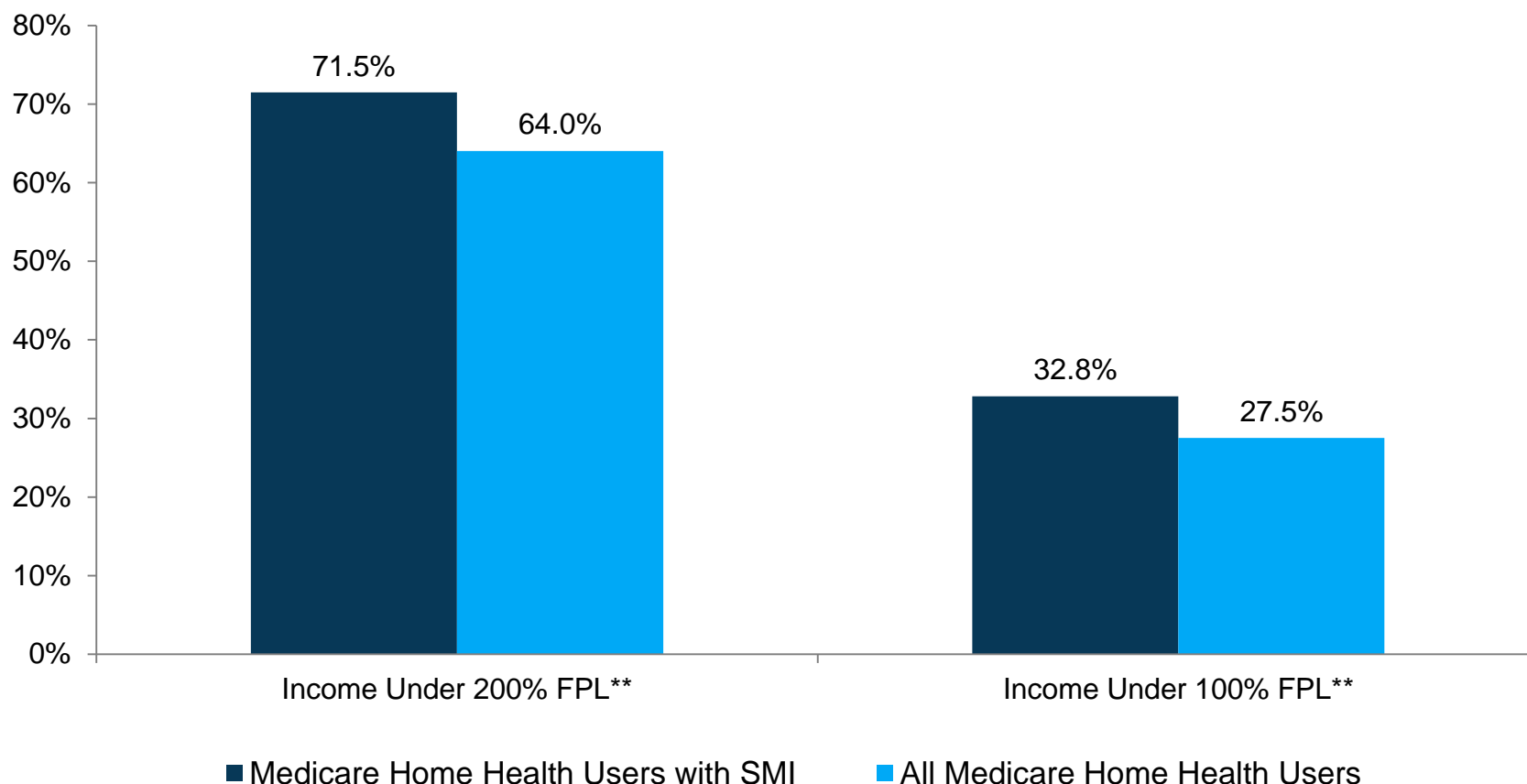
All Medicare Beneficiaries

SMI
29.7%

No SMI
70.3%

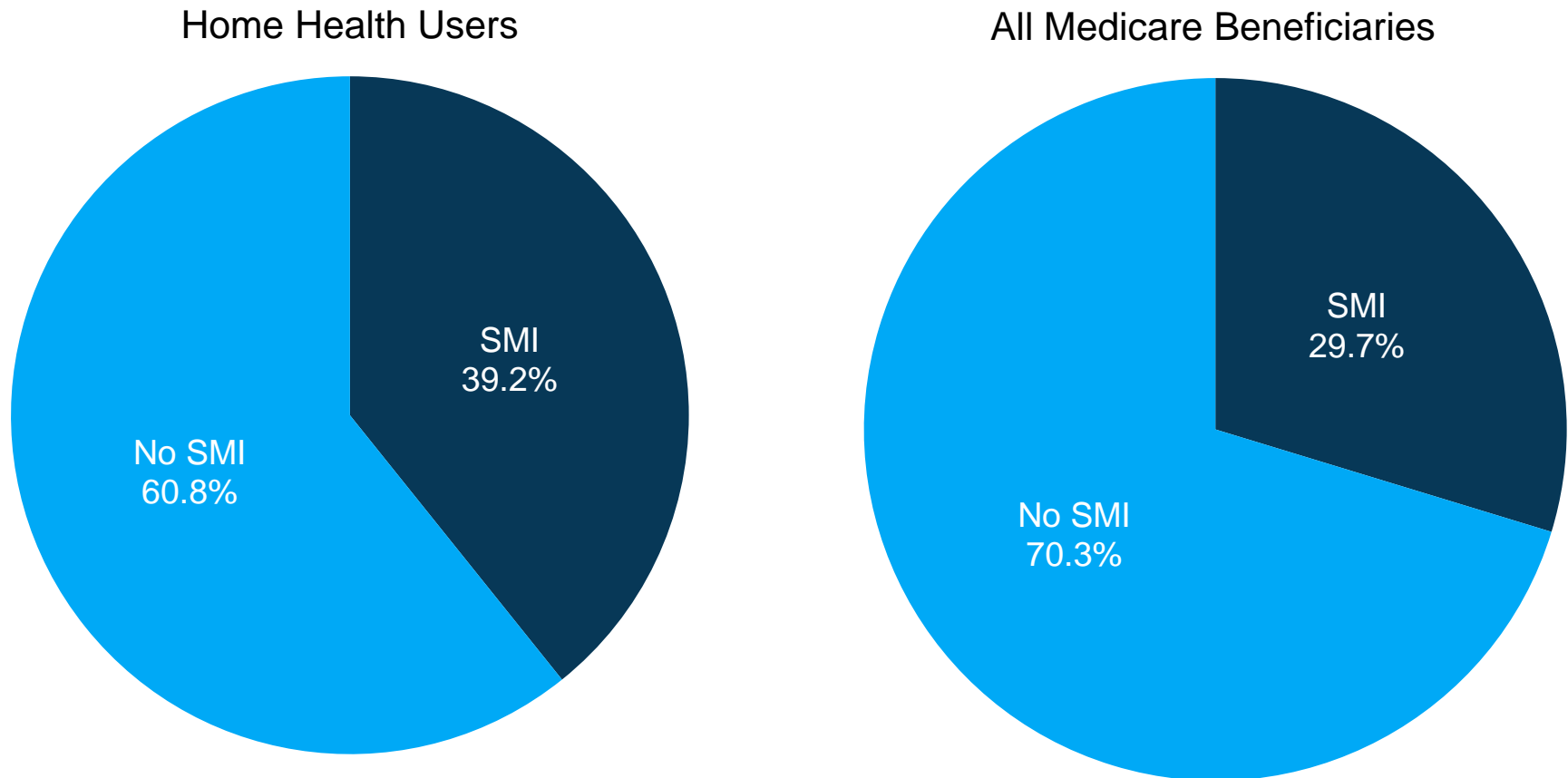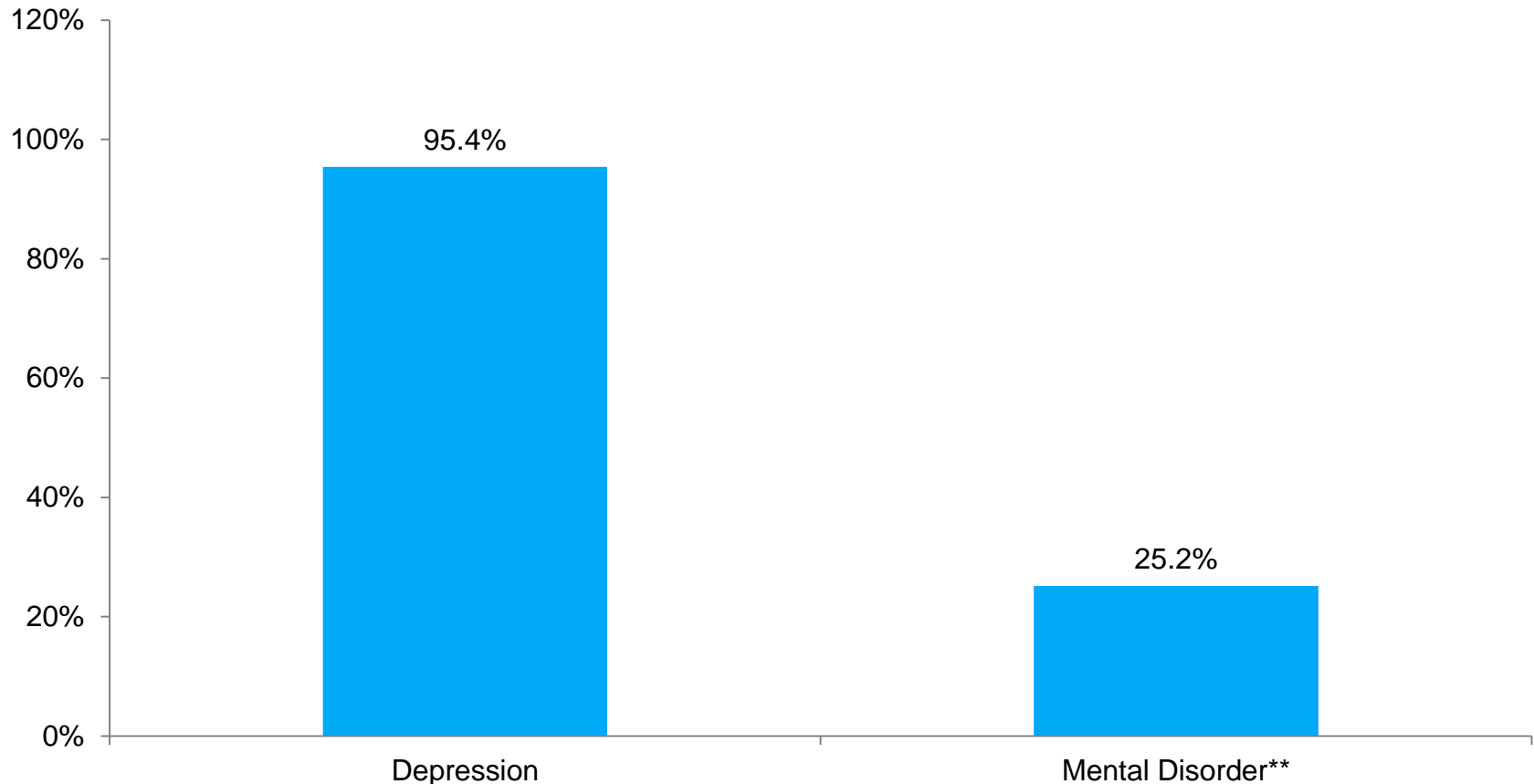Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2016.
*Severe mental illness (SMI) is defined as having depression or other mental disorder, including bipolar disorder, schizophrenia, and other psychoses.

Demographics of Home Health Users by Severe Mental Illness (SMI)*

Chart 1.26: Breakdown of Medicare Home Health Users with SMI by Type of SMI, 2016

Demographic Trend of Home Health Users

Table 1.27: Selected characteristics of Medicare Home Health Users, 2011 – 2016

	2011	2012	2013	2015	2016
Have 3 or more chronic conditions	83.2%	85.9%	85.1%	85.9%	80.5%
Have 2 or more ADL limitations*	28.7%	34.2%	31.9%	32.9%	27.8%
Have incomes under 200% of the Federal Poverty Level (FPL)**	64.5%	67.9%	67.2%	62.5%	64.0%
Have incomes under 100% of the Federal Poverty Level (FPL)**	34.8%	32.6%	31.2%	28.7%	27.5%
Are dual eligibles***	29.9%	29.9%	31.7%	38.1%	31.3%
Have SMI****	26.3%	27.0%	27.2%	44.0%	39.2%

Note: CMS did not release a 2014 Medicare Current Beneficiary Survey
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care files, 2011 – 2016.
*ADL = Activities of daily living, such as eating, dressing, and bathing. Limitations with at least 2 ADLs is considered a measure of moderate to severe disability and is often the eligibility threshold for a nursing home level of care.
**100 percent of FPL for a household of 1 was $10,890 in 2011, $11,170 in 2012, $11,490 in 2013, $11,770 in 2015, and $11,880 in 2016 . 200 percent of FPL was double each amount.
***Dual eligibles are defined as individuals with any state buy-in at any point during the year. Beneficiaries were classified as requiring assistance with an ADL (bathing, walking, transferring, dressing, toileting, and eating) if they reported needing at least stand-by assistance with that ADL.
****Severe mental illness (SMI) is defined as having depression or other mental disorder, including bipolar disorder, schizophrenia, and other psychoses.

Section 2: Clinical Profile of Home Health Users

Clinical Profile of Home Health Users

Table 2.1: Top 20 Most Common Diagnosis Related Groups (MS-DRGs) for Beneficiaries Discharged from Hospital to Part A Home Health Episodes, 2018

MS-DRG	Number of Home Health Part A Claims, 2018	Percent of Total Home Health Part A Claims, 2018
Septicemia Or Severe Sepsis W/O MV >96 Hours W MCC	102,067	6.13%
Major Hip And Knee Joint Replacement Or Reattachment Of Lower Extremity W/O MCC	95,238	5.72%
Heart Failure & Shock W MCC	74,689	4.49%
Hip & Femur Procedures Except Major Joint W CC	34,321	2.06%
Simple Pneumonia & Pleurisy W MCC	32,431	1.95%
Intracranial Hemorrhage Or Cerebral Infarction W Cc Or Tpa In 24 Hrs	27,956	1.68%
Septicemia Or Severe Sepsis W/O MV >96 Hours W/O MCC	27,588	1.66%
Pulmonary Edema & Respiratory Failure	23,973	1.44%
Chronic Obstructive Pulmonary Disease W MCC	23,867	1.43%
Kidney & Urinary Tract Infections W/O MCC	22,703	1.36%
Renal Failure W Cc	21,977	1.32%
Infectious & Parasitic Diseases W O.R. Procedure W MCC	21,362	1.28%
Simple Pneumonia & Pleurisy W CC	20,972	1.26%
Cellulitis W/O MCC	18,791	1.13%
Renal Failure W MCC	18,488	1.11%
Heart Failure & Shock W CC	17,093	1.03%
Major Small & Large Bowel Procedures W Cc	16,726	1.01%
Kidney & Urinary Tract Infections W MCC	16,662	1.00%
Intracranial Hemorrhage Or Cerebral Infarction W MCC	16,550	0.99%
Acute Myocardial Infarction, Discharged Alive W MCC	15,682	0.94%
Total for Top 20 MS-DRGs	**649,136**	**39.02%**

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2018.
Data for beneficiaries with a Part A home health episode and a prior short-term acute care hospital stay in 2018.
Note: CC is complication or comorbidity. MCC is major complication or comorbidity.

Clinical Profile of Home Health Users

Table 2.2: Top 20 Primary International Classification of Diseases, Version 10 (ICD-10) Diagnoses for All Home Health Claims, 2018

ICD-10 Diagnosis	Number of Medicare Home Health Claims, 2018	Percent of Total Medicare Home Health Claims, 2018
Type 2 diabetes mellitus	447,716	6.85%
Orthopedic aftercare	416,146	6.37%
Other chronic obstructive pulmonary disease	295,146	4.52%
Encounter for other postprocedural aftercare	281,962	4.32%
Hypertensive heart disease	238,151	3.65%
Pressure ulcer	232,284	3.56%
Essential (primary) hypertension	223,536	3.42%
Sequelae of cerebrovascular disease	210,163	3.22%
Other disorders of muscle	182,104	2.79%
Hypertensive heart and chronic kidney disease	163,677	2.51%
Abnormalities of gait and mobility	126,063	1.93%
Fracture of femur	122,365	1.87%
Atrial fibrillation and flutter	109,829	1.68%
Chronic ischemic heart disease	108,204	1.66%
Dorsalgia	98,408	1.51%
Parkinson's disease	97,907	1.50%
Other disorders of veins	95,993	1.47%
Other disorders of urinary system	90,363	1.38%
Heart failure	87,438	1.34%
Osteoarthritis of knee	79,374	1.22%
Total for Top 20 Primary ICD-10 Diagnoses	**3,706,829**	**56.75%**

Source: Avalere Health analysis of Medicare Standard Analytic Files, 2018.

Clinical Profile of Home Health Users

Table 2.3: Percent of Medicare Home Health Users with 3 or More Chronic Conditions Compared to All Medicare Beneficiaries, by State, 2018

State	Percent of HH Users with 3+ CCs	Percent of Medicare Beneficiaries with 3+ CCs	State	Percent of HH Users with 3+ CCs	Percent of Medicare Beneficiaries with 3+ CCs
Alabama	91.33%	22.05%	Montana	90.69%	31.07%
Alaska	87.64%	25.69%	Nebraska	91.14%	31.31%
Arizona	87.29%	15.49%	Nevada	85.19%	15.15%
Arkansas	90.85%	27.16%	New Hampshire	91.37%	34.83%
California	87.78%	15.71%	New Jersey	89.17%	20.65%
Colorado	85.64%	17.37%	New Mexico	88.14%	21.92%
Connecticut	89.67%	20.79%	New York	89.83%	17.45%
Delaware	90.11%	31.06%	North Carolina	90.59%	23.14%
D.C	87.77%	23.13%	North Dakota	94.52%	44.71%
Florida	87.07%	17.32%	Ohio	92.52%	23.59%
Georgia	90.43%	19.96%	Oklahoma	91.76%	31.87%
Hawaii	85.68%	10.93%	Oregon	89.27%	17.05%
Idaho	87.56%	24.84%	Pennsylvania	90.43%	21.15%
Illinois	92.55%	29.26%	Rhode Island	88.48%	18.54%
Indiana	92.84%	26.91%	South Carolina	89.63%	24.25%
Iowa	92.62%	33.06%	South Dakota	93.41%	40.47%
Kansas	91.17%	31.07%	Tennessee	91.19%	18.99%
Kentucky	91.74%	28.45%	Texas	90.47%	19.89%
Louisiana	90.96%	26.51%	Utah	82.59%	16.99%
Maine	92.91%	30.30%	Vermont	89.41%	37.78%
Maryland	90.09%	25.16%	Virginia	89.71%	26.62%
Massachusetts	90.34%	27.18%	Washington	89.14%	20.74%
Michigan	92.05%	26.06%	West Virginia	94.10%	34.76%
Minnesota	90.59%	26.71%	Wisconsin	92.63%	22.92%
Mississippi	90.89%	31.81%	Wyoming	87.77%	28.15%
Missouri	91.77%	27.25%			

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2018.
Note: Having a chronic condition is defined as having a Medicare claim with a chronic condition listed in 2017. Medicare beneficiaries without any claims in 2018 are categorized as having no chronic conditions in 2018. Chronic conditions are defined by the Centers for Medicare and Medicaid Services' Chronic Conditions Data Warehouse.

Section 3: Post-Acute Care Market Overview

Post-Acute Care Market Overview

Chart 3.1: Total Medicare Post-acute Care Expenditures, Billions of Dollars, 2002-2017
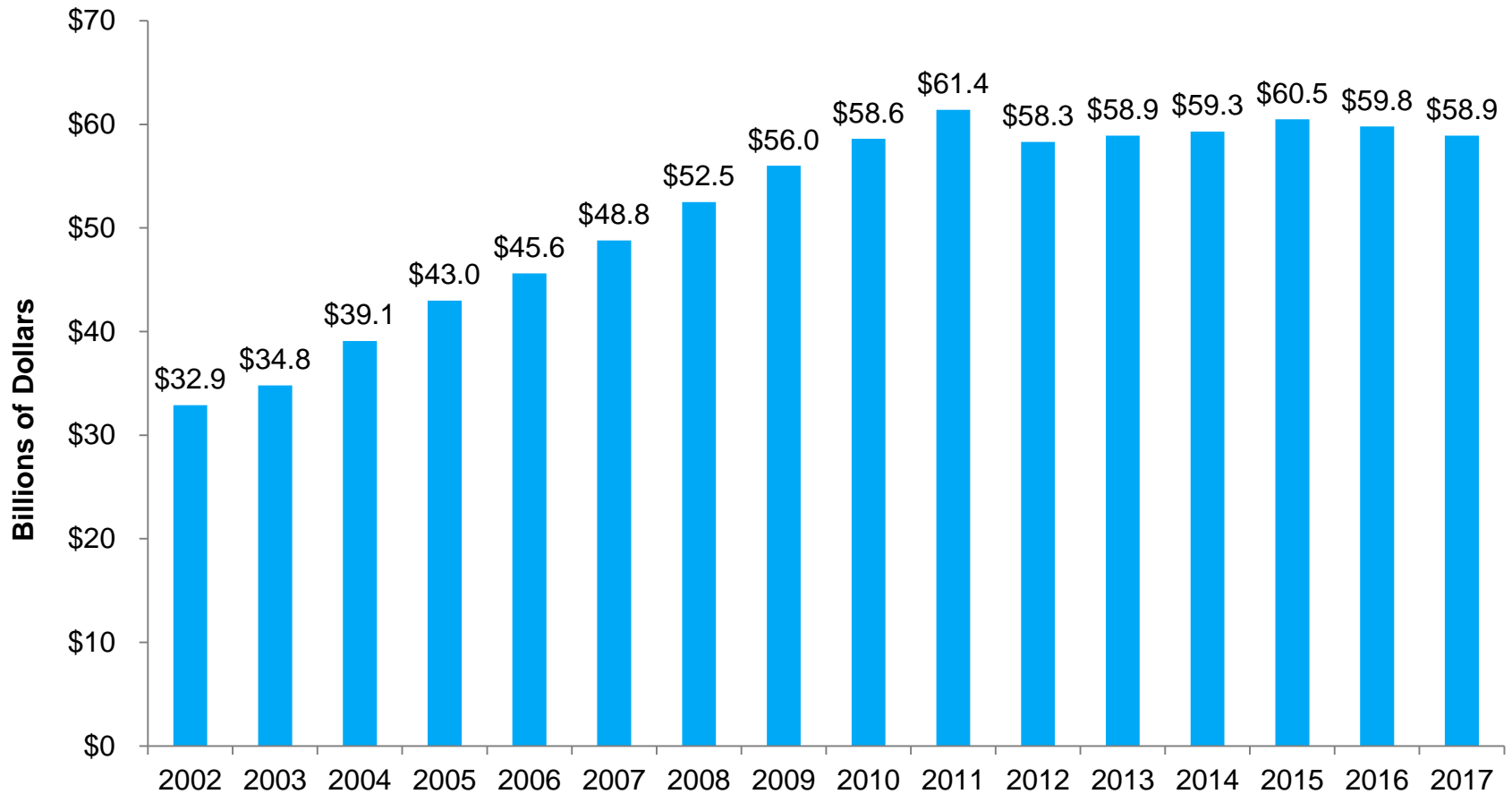
Post-Acute Care Market Overview

Chart 3.2: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries, 2018

Death 302,095 (3%)

Other 337,741 (4%)

Community 5,386,779 (57%)

Formal Post-Acute Care Settings 3,440,691 325 (36%)

HHA 1,211,985 (13%)

SNF 1,824,782 (19%)

LTACH 83,892 (1%)

IRF 320,032 (3%)

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2018.
Hospital: Short-Term Acute Care Hospital (STACH).
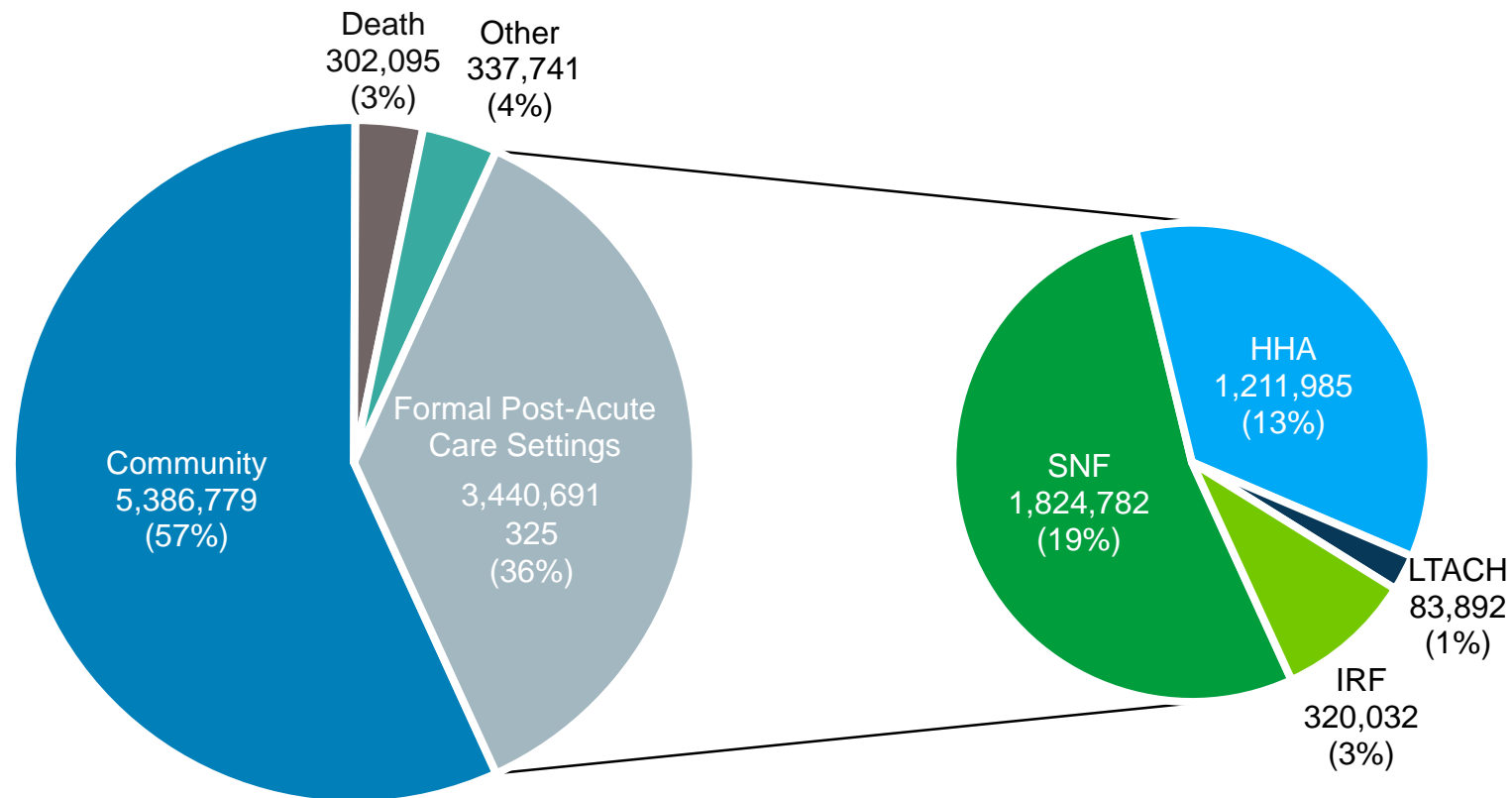Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF),
home health agencies (HHA), inpatient rehabilitation facilities (IRF), and long-term acute care hospitals (LTACH).
Other: Hospice, a different Inpatient Hospital, or other Inpatient Hospitals such as Inpatient Psychiatric Facilities.

Post-Acute Care Market Overview

Chart 3.3: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries, 2012 – 2018

Total: 10,074,353   9,793,460   9,799,234   9,786,437   9,696,236   9,467,306

Discharges (in Thousands)

2013

- 120 (1%)
- 331 (3%)
- 347 (3%)
- 321 (3%)
- 1,420 (13%)
- 2,008 (19%)
- 5,936 (56%)

2014

- 112 (1%)
- 332 (3%)
- 329 (3%)
- 320 (3%)
- 1,342 (14%)
- 1,964 (19%)
- 5,395 (57%)

2015

- 116 (1%)
- 335 (3%)
- 340 (3%)
- 318 (3%)
- 1,392 (14%)
- 1,979 (20%)
- 5,593 (55%)

2016

- 104 (1%)
- 343 (3%)
- 319 (3%)
- 323 (3%)
- 1,347 (14%)
- 1,945 (20%)
- 5,406 (56%)

2017

- 94 (1%)
- 340 (4%)
- 311 (3%)
- 317 (3%)
- 1,263 (14%)
- 1,888 (20%)
- 5,482 (55%)

2018

- 84 (1%)
- 337 (4%)
- 302 (3%)
- 320 (3%)
- 1,212 (13%)
- 1,825 (19%)
- 5,387 (56%)

■ LTACH ■ Other ■ Death ■ IRF ■ HHA ■ SNF ■ Community

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2012-2018.
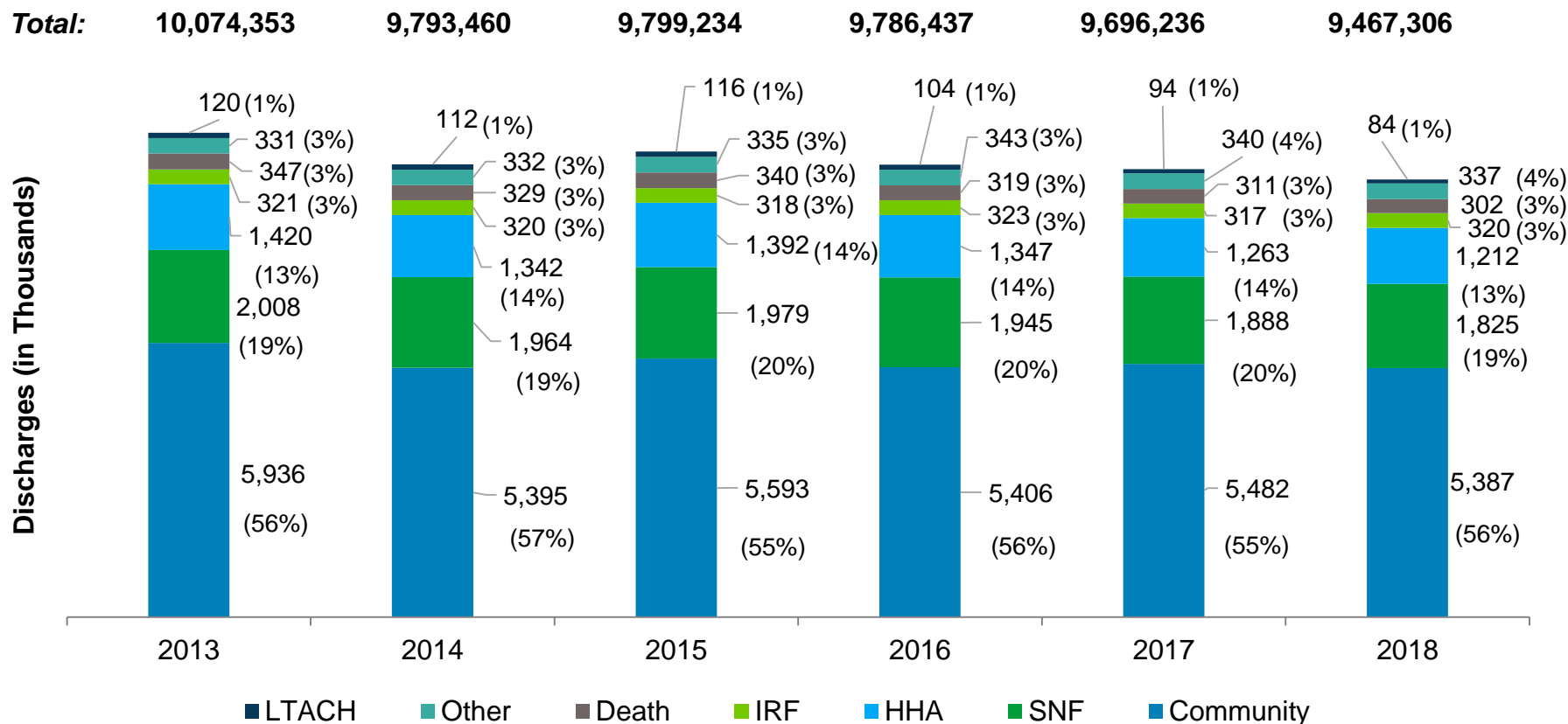Hospital: Short-Term Acute Care Hospital (STACH).
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.
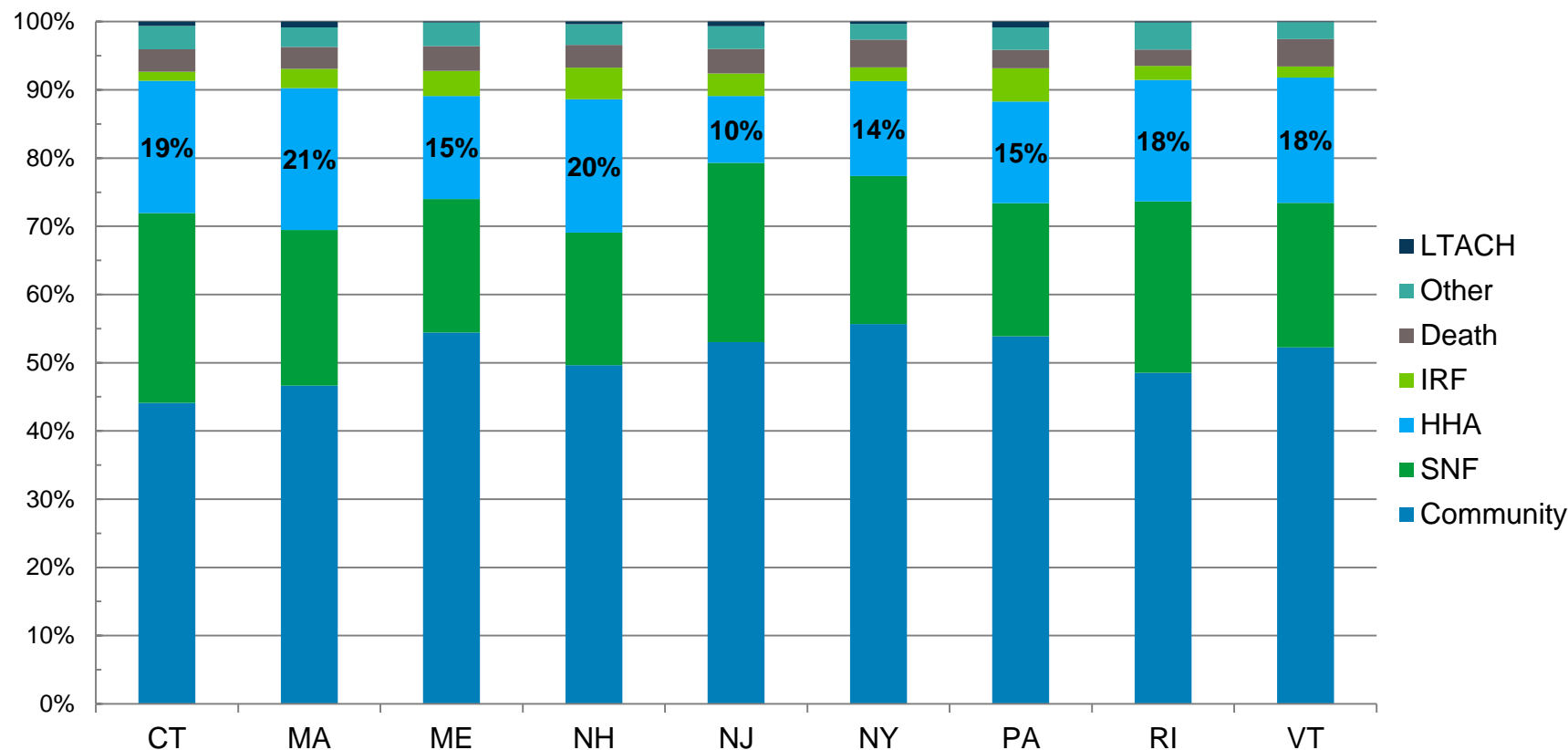Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF),
home health agencies (HHA), inpatient rehabilitation facilities (IRF), and long-term acute care hospitals (LTACH).
Other: Hospice, a different Inpatient Hospital, or other Inpatient Hospitals such as Inpatient Psychiatric Facilities.
Percentages may not sum to 100 percent due to rounding.

Post-Acute Care Market Overview

Chart 3.4: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries in 2018, for States in Northeastern Region

Legend:
- LTACH
- Other
- Death
- IRF
- HHA
- SNF
- Community

Data labels (HHA values):
- CT: 19%
- MA: 21%
- ME: 15%
- NH: 20%
- NJ: 10%
- NY: 14%
- PA: 15%
- RI: 18%
- VT: 18%

Post-Acute Care Market Overview

Chart 3.5: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries in 2018, for States in Midwestern Region

Post-Acute Care Market Overview

Chart 3.6: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries in 2018, for States in Southern Region
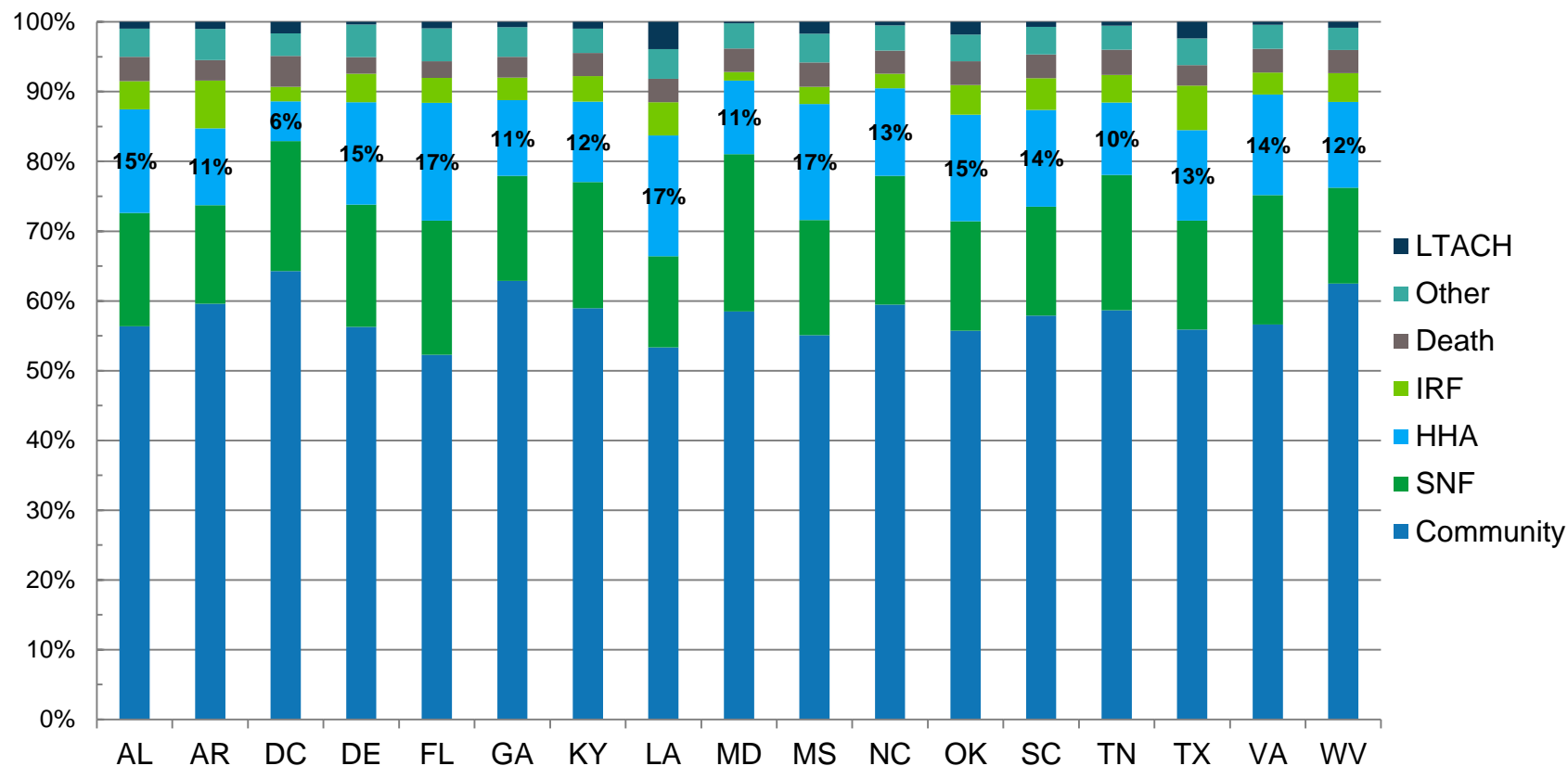
Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2018.
Note: U.S. Census Bureau defines which states are in the Southern Region; includes AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV.
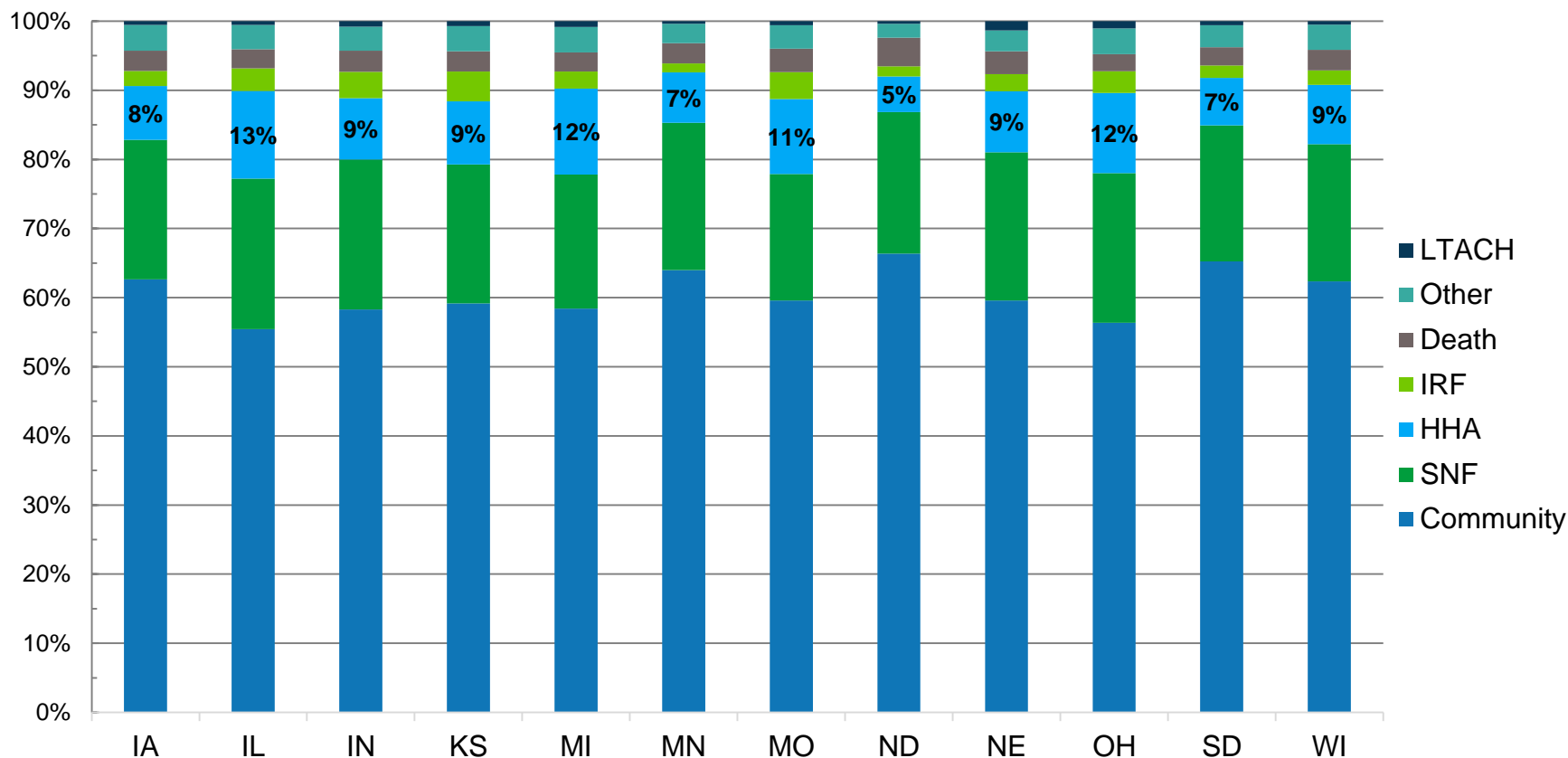Hospital: Short-Term Acute Care Hospital (STACH).
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF), home health agencies (HHA), inpatient rehabilitation facilities (IRF), and long-term acute care hospitals (LTACH).
Other: Hospice, a different Inpatient Hospital, or other Inpatient Hospitals such as Inpatient Psychiatric Facilities.

Post-Acute Care Market Overview

Chart 3.7: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries in 2018, for States in Western Region

Post-Acute Care Market Overview

Chart 3.8: Distribution of Care Settings Prior to Home Health Episodes, 2018
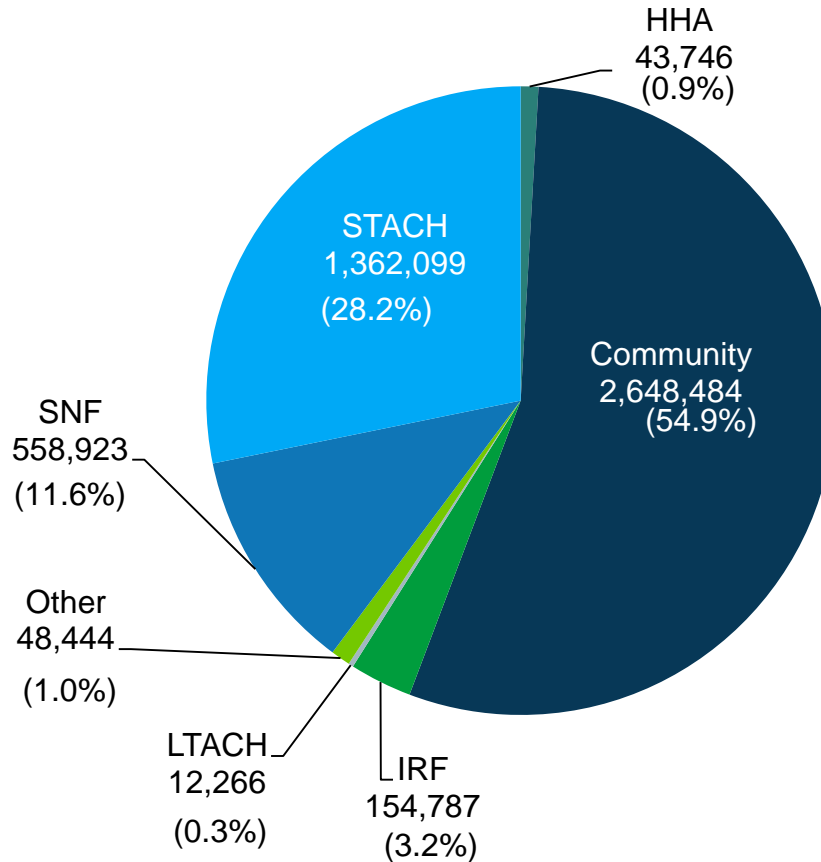
Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2018.
Note: Analysis includes care setting in three days prior to home health episode.
SNF: Skilled nursing facility, HHA: Home health agency, IRF: Inpatient rehabilitation facility, LTACH: Long-term acute care hospital, Hospital: Short-term acute care hospital (STACH).
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.
Other: Hospice, another inpatient hospital, or other inpatient hospitals such as inpatient psychiatric facilities.

Section 4: Organizational Trends in Home Health

Organizational Trends in Home Health

Chart 4.1: Number of Medicare-Certified Free-Standing Home Health Agencies (HHAs), 1994-2017
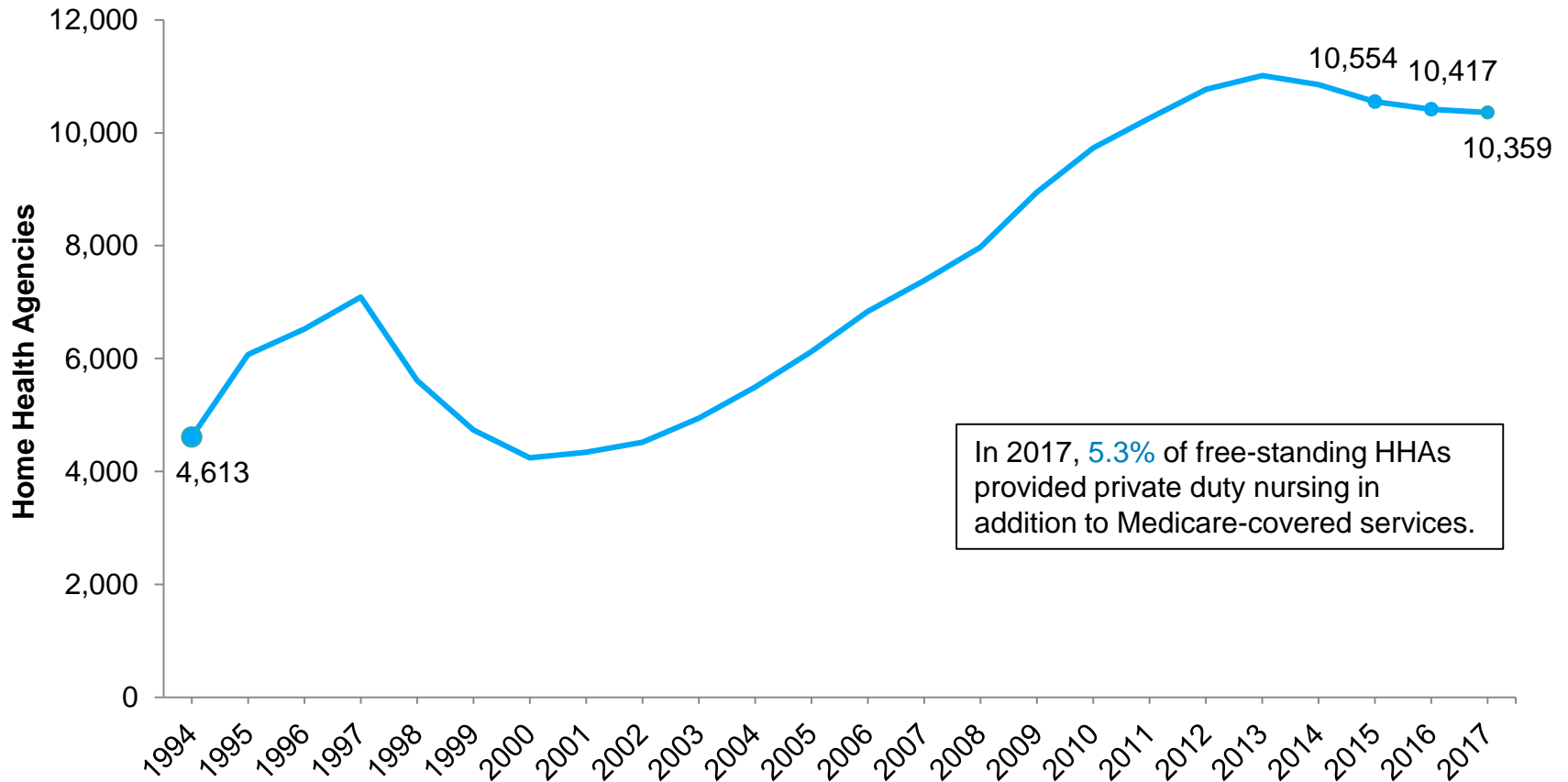
In 2017, 5.3% of free-standing HHAs provided private duty nursing in addition to Medicare-covered services.

Organizational Trends in Home Health

Chart 4.2: Number of Medicare Part A and Part B Home Health Episodes, in Millions, 2006-2018

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2018.
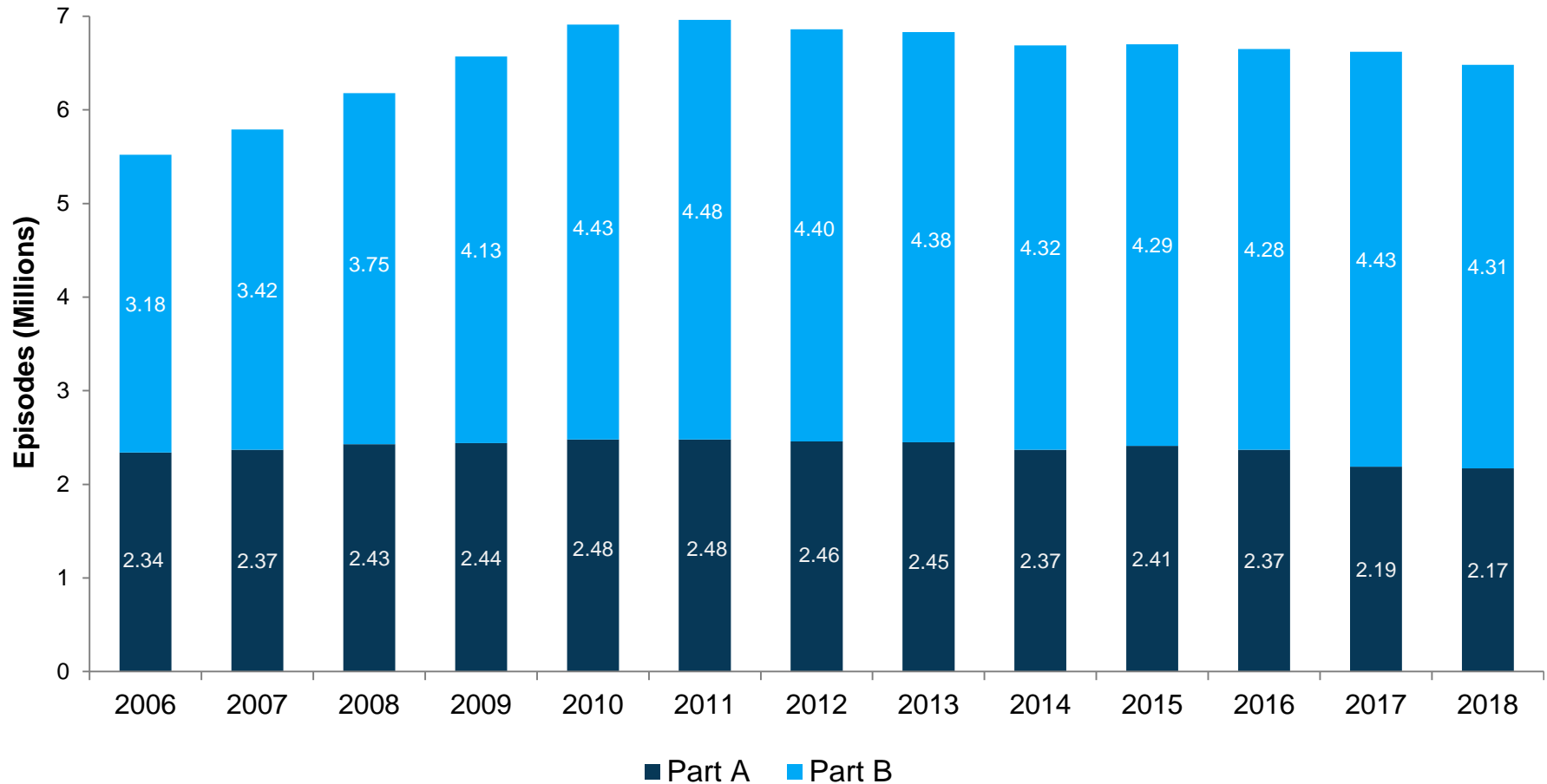
Organizational Trends in Home Health

Chart 4.3: Number of Medicare Part A and Part B Beneficiaries with a Home Health Episode, in Millions, 2006-2018

Organizational Trends in Home Health

Table 4.4: Number of Medicare Beneficiaries with a Home Health Episode, by State, 2018

State	Number of Beneficiaries	State	Number of Beneficiaries	State	Number of Beneficiaries
Alabama	66,194	Kentucky	57,036	North Dakota	3,755
Alaska	2,731	Louisiana	62,525	Ohio	118,163
Arizona	46,615	Maine	19,068	Oklahoma	68,413
Arkansas	37,816	Maryland	71,512	Oregon	24,247
California	336,754	Massachusetts	112,399	Pennsylvania	139,822
Colorado	37,299	Michigan	122,174	Rhode Island	12,098
Connecticut	47,802	Minnesota	43,126	South Carolina	63,370
Delaware	14,451	Mississippi	56,575	South Dakota	5,776
District of Columbia	5,703	Missouri	59,453	Tennessee	70,759
Florida	305,612	Montana	6,541	Texas	284,099
Georgia	83,088	Nebraska	16,333	Utah	23,008
Hawaii	3,521	Nevada	30,084	Vermont	11,442
Idaho	15,764	New Hampshire	22,266	Virginia	102,969
Illinois	155,856	New Jersey	93,441	Washington	47,193
Indiana	60,806	New Mexico	17,684	West Virginia	25,730
Iowa	24,589	New York	167,291	Wisconsin	38,132
Kansas	29,416	North Carolina	106,107	Wyoming	4,322
				Total U.S.*	**3,388,929**

Organizational Trends in Home Health

Chart 4.5: Number of Home Health Episodes per Medicare Home Health User by Part A, Part B, and all Claims, 2006-2018

Organizational Trends in Home Health

Chart 4.6: Number of Home Health Visits per Episode by Part A, Part B, and all Claims, 2006-2018

Section 5: Economic Contribution of Home Health Agencies

Economic Contribution of Home Health Agencies

Table 5.1: Impact of Home Health on Employment, by State, 2018

State	Estimated Number of HH Employees[1]	Multiplier for Employment[2]	Estimated Jobs Created by HH Industry[3]	State	Estimated Number of HH Employees[1]	Multiplier for Employment[2]	Estimated Jobs Created by HH Industry[3]
Alabama	12,964	1.6133	20,915	Montana	2,771	1.382	3,830
Alaska	2,311	1.3022	3,009	Nebraska	3,302	1.5176	5,011
Arizona	24,347	1.5277	37,195	Nevada	5,375	1.5549	8,358
Arkansas	6,949	1.415	9,833	New Hampshire	3,973	1.5142	6,016
California	90,228	1.5449	139,393	New Jersey	49,028	1.481	72,610
Colorado	19,930	1.6091	32,069	New Mexico	13,671	1.3949	19,070
Connecticut	15,110	1.4439	21,817	New York	233,379	1.3427	313,358
Delaware	4,350	1.4549	6,329	North Carolina	44,137	1.5146	66,850
D.C.	8,010	1.1413	9,142	North Dakota	716	1.4084	1,008
Florida	77,202	1.6571	127,931	Ohio	64,074	1.5251	97,719
Georgia	26,496	1.6347	43,313	Oklahoma	12,820	1.4855	19,044
Hawaii	4,791	1.4168	6,788	Oregon	5,799	1.5314	8,881
Idaho	9,097	1.4065	12,795	Pennsylvania	66,119	1.5782	104,349
Illinois	43,951	1.4964	65,768	Rhode Island	4,863	1.4386	6,996
Indiana	21,722	1.5385	33,419	South Carolina	16,669	1.5156	25,264
Iowa	6,904	1.5076	10,408	South Dakota	1,915	1.3502	2,586
Kansas	7,651	1.558	11,920	Tennessee	20,675	1.6609	34,339
Kentucky	9,162	1.5774	14,452	Texas	264,488	1.5413	407,655
Louisiana	21,270	1.4937	31,771	Utah	8,175	1.6562	13,539
Maine	4,424	1.4926	6,603	Vermont	2,480	1.4357	3,561
Maryland	22,363	1.4788	33,070	Virginia	32,373	1.4323	46,368
Massachusetts	47,352	1.516	71,786	Washington	11,825	1.5235	18,015
Michigan	39,314	1.5247	59,942	West Virginia	7,013	1.391	9,755
Minnesota	25,777	1.4475	37,312	Wisconsin	13,621	1.4678	19,993
Mississippi	7,267	1.5261	11,090	Wyoming	628	1.3499	848
Missouri	20,744	1.5184	31,498	**Total U.S.**	**1,469,575**		**2,204,593**

1 Quarterly Census of Employment and Wages (QCEW) collected by the U.S. Bureau of Labor Statistics, 2018.
2 U.S. Bureau of Economic Analysis multipliers, 2016.
3 Avalere calculation.
Note: The QCEW collects employment data monthly. All states report employment figures on privately owned home health agencies, including for-profit and non-profit organizations. Alabama, Arkansas, Illinois, Iowa, Minnesota, Missouri, North Carolina, Ohio and Virginia submit employment figures for their government-owned facilities, which are included in this analysis. The QWEC does not include jobs for HHA contractors, but the multiplier is intended to account for such jobs.

Economic Contribution of Home Health Agencies

Table 5.2: Impact of Home Health on Labor Income, by State, 2018

State	Estimated Home Health Total Wages[1]	Multiplier for Earnings[2]	Estimated Impact of HH Payroll on Labor Income[3]	State	Estimated Home Health Total Wages	Multiplier for Earnings	Estimated Impact of HH Payroll on Labor Income
Alabama	$592,590,921	1.5384	$911,641,873	Montana	$73,119,711	1.4322	$104,722,050
Alaska	$48,172,824	1.4084	$67,846,605	Nebraska	$111,654,564	1.5236	$170,116,894
Arizona	$735,682,652	1.6448	$1,210,050,826	Nevada	$256,237,125	1.5067	$386,072,476
Arkansas	$246,554,914	1.4689	$362,164,513	New Hampshire	$173,297,271	1.5394	$266,773,819
California	$3,575,857,083	1.6633	$5,947,723,086	New Jersey	$1,528,538,634	1.6587	$2,535,387,032
Colorado	$732,526,804	1.7052	$1,249,104,706	New Mexico	$278,790,123	1.4427	$402,210,510
Connecticut	$704,594,803	1.5268	$1,075,775,345	New York	$6,769,607,852	1.5208	$10,295,219,621
Delaware	$165,028,308	1.4439	$238,284,374	North Carolina	$1,248,616,625	1.6623	$2,075,575,416
D.C.	$217,924,349	1.1996	$261,422,049	North Dakota	$31,393,065	1.4146	$44,408,630
Florida	$3,016,636,078	1.6528	$4,985,896,110	Ohio	$1,866,283,743	1.6638	$3,105,122,892
Georgia	$905,986,841	1.73	$1,567,357,235	Oklahoma	$416,390,361	1.561	$649,985,354
Hawaii	$147,596,721	1.526	$225,232,596	Oregon	$225,130,172	1.5441	$347,623,499
Idaho	$210,178,250	1.4603	$306,923,298	Pennsylvania	$2,565,048,640	1.6423	$4,212,579,381
Illinois	$1,348,562,410	1.7474	$2,356,477,955	Rhode Island	$172,534,047	1.4975	$258,369,735
Indiana	$701,697,665	1.5956	$1,119,628,794	South Carolina	$513,987,863	1.6008	$822,791,771
Iowa	$276,630,177	1.4661	$405,567,502	South Dakota	$62,262,124	1.4218	$88,524,288
Kansas	$270,189,419	1.5325	$414,065,285	Tennessee	$844,787,685	1.6936	$1,430,732,423
Kentucky	$446,408,998	1.5398	$687,380,575	Texas	$5,499,403,334	1.7698	$9,732,844,021
Louisiana	$655,767,744	1.5282	$1,002,144,266	Utah	$296,702,517	1.6703	$495,582,214
Maine	$161,377,110	1.5328	$247,358,834	Vermont	$93,057,928	1.4426	$134,245,367
Maryland	$841,794,809	1.5588	$1,312,189,748	Virginia	$974,975,149	1.5655	$1,526,323,596
Massachusetts	$1,834,502,479	1.5816	$2,901,449,121	Washington	$492,989,383	1.5584	$768,274,654
Michigan	$1,391,829,161	1.6205	$2,255,459,155	West Virginia	$230,687,641	1.4074	$324,669,786
Minnesota	$774,012,725	1.6367	$1,266,826,627	Wisconsin	$477,513,855	1.5589	$744,396,349
Mississippi	$324,637,211	1.4635	$475,106,558	Wyoming	$23,250,110	1.3395	$31,143,522
Missouri	$636,187,592	1.6088	$1,023,498,598	**Total U.S.**	**$46,189,187,570**		**$74,830,270,937**

1 Quarterly Census of Employment and Wages (QCEW) collected by the U.S. Bureau of Labor Statistics, 2018.
2 U.S. Bureau of Economic Analysis multipliers, 2016.
3 Avalere calculation.
Note: The QCEW collects wage data quarterly. All states report employment figures on privately owned home health agencies, including for-profit and non-profit organizations. Alabama, Arkansas, Illinois, Iowa, Minnesota, Missouri, North Carolina, Ohio and Virginia submit wage data for their government-owned facilities, which are included in this analysis. The QWEC does not include wage data for HHA contractors, but the multiplier is intended to account for such wages.

Economic Contribution of Home Health Agencies

Table 5.3: Impact of Home Health on Output, by State, 2017

State	Estimated Home Health Expenditures[1]	Multiplier for Output[2]	Estimated Impact of HH Spending on Output[3]	State	Estimated Home Health Expenditures	Multiplier for Output	Estimated Impact of HH Spending on Output
Alabama	$485,107,959	1.9928	$966,723,141	Montana	$ 1,104,937,246	1.7731	$1,959,164,231
Alaska	$1,918,125,192	1.7564	$3,368,995,087	Nebraska	$ 129,628,894	1.9341	$250,715,244
Arizona	$399,764,294	2.1772	$870,366,821	Nevada	$ 233,056,711	1.9368	$451,384,238
Arkansas	$643,592,143	1.8605	$1,197,403,182	New Hampshire	$ 211,255,725	1.9345	$408,674,200
California	$2,797,662,800	2.2408	$6,269,002,802	New Jersey	$ 572,410,372	2.2457	$1,285,461,972
Colorado	$440,943,648	2.3091	$1,018,182,978	New Mexico	$ 682,909,023	1.7917	$1,223,568,097
Connecticut	$701,740,642	1.9868	$1,394,218,308	New York	$ 1,713,499,936	2.0273	$3,473,778,420
Delaware	$169,763,778	1.8359	$311,669,320	North Carolina	$ 819,468,908	2.2287	$1,826,350,355
D.C.	$142,697,622	1.2938	$184,622,183	North Dakota	$ 13,713,692	1.7581	$24,110,042
Florida	$2,420,567,584	2.1875	$5,294,991,590	Ohio	$ 2,823,020,346	2.2265	$6,285,454,800
Georgia	$611,065,571	2.3532	$1,437,959,502	Oklahoma	$ 528,373,248	2.0043	$1,059,018,501
Hawaii	$41,335,000	1.9856	$82,074,776	Oregon	$ 232,218,417	1.993	$462,811,305
Idaho	$673,896,040	1.8104	$1,220,021,391	Pennsylvania	$ 1,800,017,445	2.1999	$3,959,858,377
Illinois	$1,424,746,211	2.4154	$3,441,331,998	Rhode Island	$ 138,679,502	1.906	$264,323,131
Indiana	$486,313,022	2.1085	$1,025,391,007	South Carolina	$ 333,786,945	2.124	$708,963,471
Iowa	$278,553,008	1.851	$515,601,618	South Dakota	$ 29,055,962	1.7562	$51,028,080
Kansas	$246,122,065	2.0122	$495,246,819	Tennessee	$ 786,448,406	2.2906	$1,801,438,719
Kentucky	$353,243,008	1.9999	$706,450,692	Texas	$ 3,403,815,579	2.4534	$8,350,921,142
Louisiana	$ 483,130,137	1.939	$936,789,336	Utah	$ 288,230,145	2.243	$646,500,215
Maine	$189,699,766	1.9486	$369,648,964	Vermont	$ 168,806,500	1.7774	$300,036,673
Maryland	$ 730,379,593	2.039	$1,489,243,990	Virginia	$ 718,291,144	2.0631	$1,481,906,459
Massachusetts	$1,365,173,845	2.0781	$2,836,967,767	Washington	$ 368,403,979	2.0397	$751,433,596
Michigan	$1,452,243,511	2.1279	$3,090,228,967	West Virginia	$ 195,208,202	1.7191	$335,582,420
Minnesota	$495,325,506	2.1675	$1,073,618,034	Wisconsin	$ 361,715,433	2.0018	$724,081,954
Mississippi	$328,169,147	1.852	$607,769,260	Wyoming	$ 32,066,233	1.6279	$52,200,621
Missouri	$520,433,180	2.119	$1,102,797,908	**Total U.S.**	**$ 37,488,812,265**		**$79,446,083,704**

1 CMS Medicare Cost Reports for Home Health Agencies, 2018.
2 U.S. Bureau of Economic Analysis multipliers, 2016.
3 Avalere calculation.
Note: All Medicare-certified home health agencies are required to submit an annual cost report, which includes cost and charges by cost center in total and for Medicare.
Cost report data do not include expenditures from HHA contractors, but the multiplier is intended to account for such figures.

Economic Contribution of Home Health Agencies

Chart 5.4: Impact of Home Health on Jobs, Nationally, 2003 - 2017

Bar chart titled "Total HH Jobs" with y-axis "Jobs (In Thousands)":
- 2003: 724
- 2004: 771
- 2005: 819
- 2006: 867
- 2007: 915
- 2008: 958
- 2009: 1,028
- 2010: 1,083
- 2011: 1,140
- 2012: 1,187
- 2013: 1,224
- 2014: 1,257
- 2015: 1,316
- 2016: 1,358
- 2017: 1,407
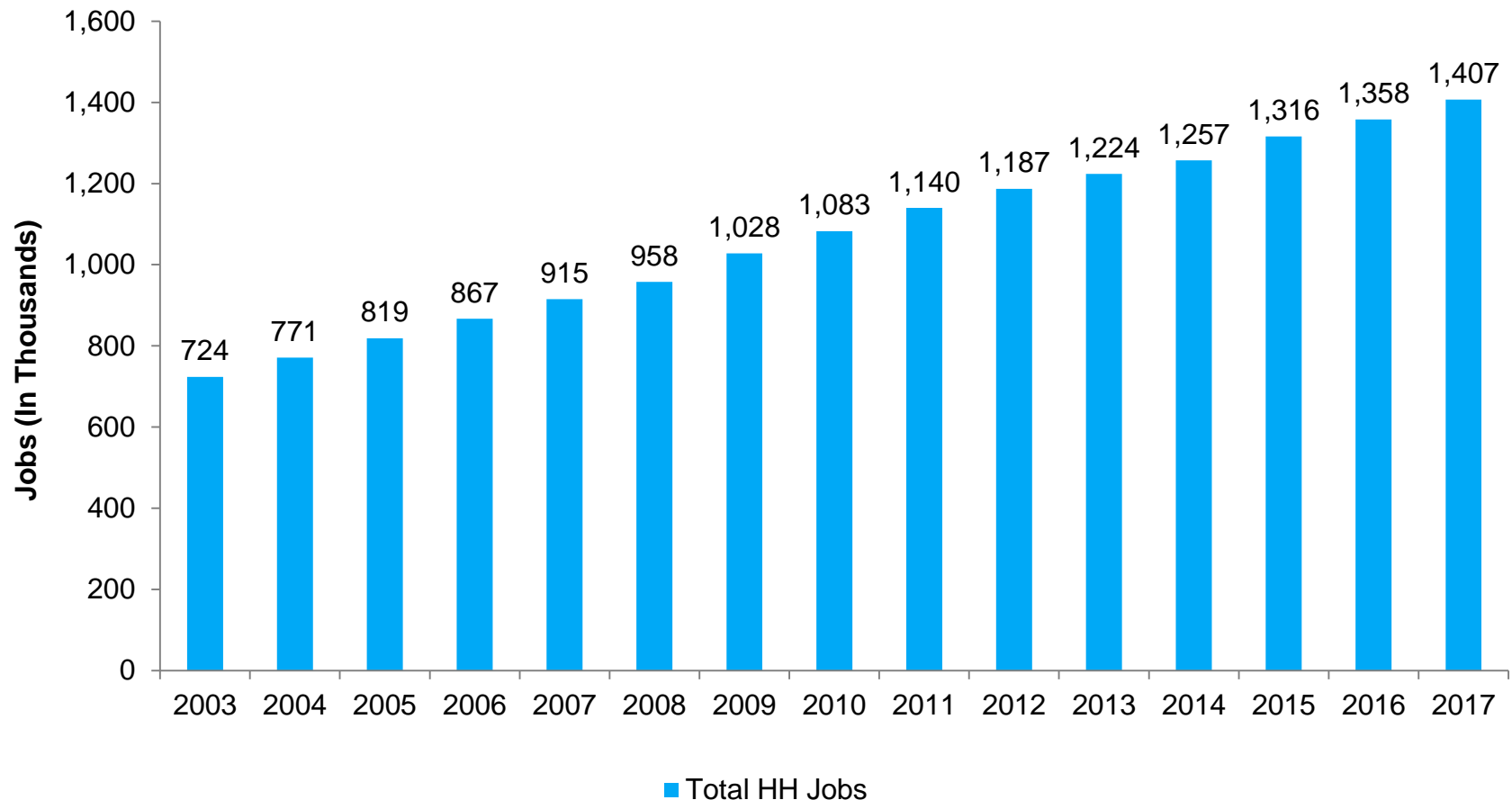
Source: Quarterly Census of Employment and Wages (QCEW) collected by the U.S. Bureau of Labor Statistics. Private, NAICS 6216 Home health care services, 2017 Annual Averages, All establishment sizes.

Note: This chart reports employment data for privately-owned facilities only, including for-profit and non-profit organizations, and does not include employment from government-owned facilities. Output is not adjusted by U.S. Bureau of Economic Analysis multipliers. 2014 employment data in Chart 6.4 differs from data in Table 6.1 because Chart 6.4 does not include employment from government-owned facilities, which are included in Table 6.1.

Section 6: Outcomes

Outcomes: Readmissions Among Post-Acute Care Users

Table 6.1: 30-day Readmission Rates for Top 20 Most Common MS-DRGs Discharged from Hospital to Selected Post-Acute Care (PAC) Settings, by Setting, 2018

MS-DRG	% of Home Health Users Readmitted Within 30 Days	% of SNF Users Readmitted Within 30 Days
Other Kidney & Urinary Tract Diagnoses W MCC	26.11%	22.81%
Renal Failure W MCC	24.63%	22.06%
Heart Failure & Shock W MCC	24.12%	24.67%
Pulmonary Edema & Respiratory Failure	23.36%	23.38%
Respiratory Infections & Inflammations W MCC	23.12%	21.78%
Renal Failure W CC	22.38%	18.85%
Chronic Obstructive Pulmonary Disease W MCC	21.63%	22.69%
Heart Failure & Shock W CC	20.91%	19.57%
Infectious & Parasitic Diseases W O.R. Procedure W MCC	20.33%	26.61%
Kidney & Urinary Tract Infections W MCC	20.33%	15.71%
Septicemia Or Severe Sepsis W/O MV >96 Hours W MCC	20.21%	21.75%
Intracranial Hemorrhage Or Cerebral Infarction W MCC	18.46%	19.94%
Simple Pneumonia & Pleurisy W Mcc	17.87%	19.14%
Kidney & Urinary Tract Infections W/O MCC	17.84%	13.35%
Septicemia Or Severe Sepsis W/O MV >96 Hours W/O MCC	15.99%	15.97%
Simple Pneumonia & Pleurisy W CC	14.98%	14.57%
Cellulitis W/O MCC	14.81%	13.12%
Intracranial Hemorrhage Or Cerebral Infarction W CC Or TPA In 24 Hrs	12.97%	13.28%
Hip & Femur Procedures Except Major Joint W CC	7.09%	10.56%
Major Hip And Knee Joint Replacement Or Reattachment Of Lower Extremity W/O MCC	4.05%	7.63%
Average Rate Across All MS-DRGs**	**17.50%**	**17.50%**

**Includes all MS-DRGs, including those not listed
*Analysis includes Medicare Part A claims only.
Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2018.
Note: CC is complication or comorbidity. MCC is major complication or comorbidity.
SNF: Skilled Nursing Facilities

Outcomes: Major Joint Readmissions Among Post-Acute Care Users

Chart 6.2: 30-day Readmission Rates for MS-DRG 469 Discharged from Hospital to Selected PAC Settings, by Care Setting, 2009 - 2018

Outcomes: Major Joint Readmissions Among Post-Acute Care Users

Chart 6.3: 30-day Readmission Rates for MS-DRG 470 Discharged from Hospital to Selected PAC Settings, by Care Setting, 2009 - 2018

Legend: Home Health Agencies, Inpatient Rehabilitation Facilities, Skilled Nursing Facilities

Outcomes: Quality of Home Health Care

Table 6.4: National Averages for How Often Home Health Team Met Quality Measures Related to Patient Care, 2011 - 2018

Measure	2011	2012	2013	2014	2015	2016	2017	2018
Checked patients for pain	98%	99%	99%	99%	99%	99%	N/A	N/A
Checked patients for the risk of developing pressure sores	98%	98%	99%	99%	99%	99%	N/A	N/A
Treated heart failure symptoms	98%	98%	98%	98%	98%	98%	N/A	N/A
Treated patients' pain	97%	98%	98%	98%	99%	99%	N/A	N/A
Checked patients for depression	97%	97%	98%	98%	98%	98%	98%	98%
Checked patients' risk of falling	95%	94%	98%	98%	98%	99%	100%	100%
Included treatments to prevent pressure sores in the plan of care	95%	96%	97%	98%	98%	98%	N/A	N/A
Took doctor-ordered action to prevent pressure sores	94%	95%	96%	97%	97%	98%	N/A	N/A
For diabetic patients, got doctor's orders, gave and educated about foot care	91%	93%	94%	95%	95%	96%	97%	98%
Taught patients (or their family caregivers) about their drugs	89%	92%	93%	93%	94%	96%	98%	98%
Began care in timely manner	90%	92%	92%	92%	92%	92%	93%	94%
Determined whether patients received a flu shot for the current flu season	67%	69%	72%	73%	71%	69%	76%	78%
Determined whether patients received a pneumococcal vaccine	65%	68%	71%	73%	72%	73%	80%	81%

N/A indicates measures removed from CMS Home Health Quality Reporting Program beginning in 2017
Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

Outcomes: Quality of Home Health Care

Table 6.5: State Averages for How Often Home Health Team Met Quality Measures Related to Patient Care in 2018 by State (AK-KY)

State	Checked patients for depression	Checked patients' risk of falling	For diabetic patients, got doctor's orders, gave and educated about foot care	Taught patients (or their family caregivers) about their drugs	Began care in timely manner	Determined whether patients received a flu shot for the current flu season	Determined whether patients received a pneumococcal vaccine (pneumonia shot)
AK	92.2%	99.6%	94.7%	95.4%	84.4%	64.3%	75.8%
AL	97.4%	99.7%	98.5%	99.0%	95.8%	78.4%	80.2%
AR	98.4%	99.8%	97.9%	98.4%	96.1%	79.3%	83.2%
AZ	97.4%	99.7%	98.0%	98.4%	96.1%	78.3%	82.5%
CA	97.6%	99.5%	97.3%	98.0%	92.1%	80.2%	82.9%
CO	98.2%	99.6%	97.2%	97.8%	94.8%	83.5%	87.3%
CT	97.3%	99.4%	96.4%	97.9%	95.8%	76.5%	80.0%
DC	95.2%	98.8%	96.8%	92.7%	89.7%	79.3%	77.6%
DE	97.5%	99.1%	97.6%	99.2%	93.6%	80.1%	81.3%
FL	97.5%	99.6%	97.0%	98.1%	96.3%	74.6%	75.7%
GA	96.9%	99.5%	97.7%	98.7%	93.4%	78.6%	79.6%
HI	97.0%	99.2%	98.6%	98.9%	92.2%	81.1%	84.9%
IA	98.6%	99.7%	96.6%	97.9%	95.2%	80.6%	86.9%
ID	98.9%	99.8%	98.6%	98.6%	97.0%	80.4%	83.5%
IL	97.9%	99.5%	98.1%	98.3%	94.1%	71.2%	75.1%
IN	97.8%	99.6%	97.0%	98.3%	93.0%	76.8%	81.1%
KS	98.4%	99.6%	97.5%	98.1%	95.6%	83.2%	88.5%
KY	98.5%	99.7%	97.9%	98.3%	96.0%	78.9%	83.1%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

Outcomes: Quality of Home Health Care

Table 6.6: State Averages for How Often Home Health Team Met Quality Measures Related to Patient Care in 2018 by State (LA-NY)

State	Checked patients for depression	Checked patients' risk of falling	For diabetic patients, got doctor's orders, gave and educated about foot care	Taught patients (or their family caregivers) about their drugs	Began care in timely manner	Determined whether patients received a flu shot for the current flu season	Determined whether patients received a pneumococcal vaccine (pneumonia shot)
LA	97.7%	99.6%	97.9%	98.4%	96.7%	75.6%	78.9%
MA	97.9%	99.5%	97.2%	98.6%	94.0%	76.8%	80.3%
MD	97.0%	99.7%	98.6%	99.0%	94.5%	83.6%	83.0%
ME	97.9%	99.8%	97.7%	98.8%	92.6%	79.6%	86.6%
MI	97.9%	99.7%	97.5%	97.9%	90.7%	78.6%	81.1%
MN	97.1%	99.1%	96.8%	97.0%	91.5%	82.6%	91.1%
MO	98.9%	99.7%	97.8%	98.5%	94.5%	80.4%	85.1%
MS	98.2%	99.5%	98.1%	98.8%	96.9%	77.8%	81.4%
MT	97.5%	99.5%	95.8%	96.9%	88.4%	77.4%	86.8%
NC	96.8%	99.7%	97.8%	98.2%	94.0%	82.6%	85.6%
ND	99.4%	99.9%	99.2%	99.6%	94.4%	83.7%	93.2%
NE	97.1%	99.4%	97.6%	98.0%	95.7%	85.5%	90.1%
NH	98.0%	99.8%	96.1%	99.0%	96.5%	82.7%	90.3%
NJ	97.8%	99.3%	98.1%	99.1%	89.8%	76.6%	79.4%
NM	96.2%	99.0%	97.1%	96.3%	89.7%	76.5%	81.7%
NV	97.3%	99.5%	97.7%	98.0%	92.4%	69.6%	73.1%
NY	97.5%	99.6%	98.3%	97.7%	95.1%	78.2%	73.1%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

Outcomes: Quality of Home Health Care

Table 6.7: State Averages for How Often Home Health Team Met Quality Measures Related to Patient Care in 2018 by State (OH-WY)

State	Checked patients for depression	Checked patients' risk of falling	For diabetic patients, got doctor's orders, gave and educated about foot care	Taught patients (or their family caregivers) about their drugs	Began care in timely manner	Determined whether patients received a flu shot for the current flu season	Determined whether patients received a pneumococcal vaccine (pneumonia shot)
OH	98.0%	99.4%	97.8%	97.3%	94.2%	78.2%	83.2%
OK	98.2%	99.6%	98.0%	98.2%	94.2%	80.6%	83.8%
OR	96.2%	99.4%	97.2%	97.8%	85.2%	80.4%	88.1%
PA	98.1%	99.5%	97.6%	98.2%	94.4%	80.1%	84.1%
RI	97.4%	99.5%	96.4%	97.8%	96.9%	82.7%	86.2%
SC	96.9%	99.6%	98.1%	98.5%	94.3%	82.7%	85.9%
SD	99.0%	99.7%	94.9%	97.9%	95.6%	82.5%	89.9%
TN	97.1%	99.6%	98.1%	98.5%	95.2%	81.1%	83.7%
TX	97.8%	99.6%	97.4%	97.5%	94.1%	76.3%	80.5%
UT	98.5%	99.6%	95.3%	98.3%	96.3%	87.3%	88.5%
VA	98.0%	99.7%	97.0%	98.0%	94.1%	81.9%	85.6%
VT	99.1%	99.7%	97.7%	98.7%	94.6%	78.5%	86.2%
WA	97.3%	99.6%	97.4%	98.5%	92.1%	82.1%	87.5%
WI	98.3%	99.7%	98.4%	98.4%	95.9%	83.1%	91.2%
WV	98.6%	99.7%	98.7%	98.7%	95.8%	78.3%	83.7%
WY	95.9%	99.2%	90.7%	94.1%	92.6%	76.1%	83.5%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

Outcomes: Quality of Home Health Care

Table 6.8: National Averages for Patient Outcomes while in Home Health Care, 2011 – 2018

Measure	2011	2012	2013	2014	2015	2016	2017	2018
Wounds improved or healed after operation	88%	89%	89%	89%	89%	90%	91%	91%
Got better at bathing	65%	66%	67%	68%	69%	71%	74%	77%
Had less pain when moving around	66%	67%	68%	68%	68%	70%	74%	78%
Breathing improved	63%	64%	65%	65%	66%	70%	73%	77%
Got better at walking or moving around	56%	59%	61%	63%	64%	66%	71%	75%
Got better at getting in and out of bed	54%	55%	57%	59%	59%	62%	68%	74%
Got better at taking drugs correctly by mouth	47%	49%	51%	53%	53%	56%	61%	66%
Had to be admitted to hospital	27%*	17%	16%	16%	16%	16%	16%	16%
Needed any urgent, unplanned care in the hospital emergency room – without being admitted to the hospital	N/A	12%	12%	12%	12%	12%	13%	13%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
*In 2011, CMS calculated hospital admissions using OASIS data that captured every time a home health patient went to the hospital, regardless of length of stay in home health, and that accounted for all payer sources. Beginning in 2012, CMS calculated hospital admissions based on claims that only included Medicare fee-for-service beneficiaries and that adjusted for repeat hospital admissions by the same beneficiary during an episode.

Outcomes: Quality of Home Health Care

Table 6.9: State Averages for Patient Outcomes while in Home Health Care in 2018 by State (AK-KY)

State	Wounds improved or healed after operation	Got better at bathing	Had less pain when moving around	Breathing improved	Got better at walking or moving around	Got better at getting in and out of bed	Got better at taking drugs correctly by mouth	Had to be admitted to hospital	Urgent, unplanned care in ER – w/o being admitted to the hospital
AK	85.8%	66.5%	61.3%	65.7%	65.3%	68.5%	51.3%	13.8%	16.0%
AL	92.5%	83.4%	84.8%	81.7%	80.2%	76.9%	71.4%	17.4%	12.7%
AR	93.6%	82.9%	80.3%	79.6%	78.7%	77.7%	70.4%	17.0%	14.6%
AZ	88.7%	78.0%	76.8%	79.2%	72.5%	73.2%	65.2%	14.8%	14.4%
CA	92.5%	76.3%	80.1%	76.9%	73.2%	71.5%	63.2%	14.4%	12.1%
CO	92.9%	80.7%	77.4%	81.6%	75.1%	74.6%	65.3%	14.5%	14.8%
CT	91.6%	71.4%	73.9%	74.3%	71.4%	68.8%	62.1%	16.4%	13.9%
DC	94.6%	77.1%	77.2%	88.6%	75.7%	76.2%	75.2%	15.1%	14.3%
DE	86.3%	76.1%	79.4%	79.2%	73.4%	72.7%	63.8%	15.8%	13.3%
FL	94.0%	82.0%	82.3%	79.5%	77.5%	76.8%	69.4%	15.4%	11.5%
GA	91.5%	78.7%	80.3%	80.5%	76.6%	75.5%	65.8%	16.7%	14.1%
HI	83.5%	72.0%	72.5%	77.7%	68.0%	69.7%	56.3%	14.5%	16.6%
IA	87.9%	77.2%	75.7%	75.4%	74.7%	73.3%	66.0%	16.0%	14.1%
ID	94.5%	80.9%	77.3%	81.9%	76.9%	77.3%	68.6%	14.4%	15.1%
IL	89.0%	75.5%	79.3%	76.1%	73.1%	71.8%	66.2%	15.7%	12.3%
IN	90.8%	74.9%	75.9%	75.5%	73.4%	73.3%	65.1%	15.8%	13.8%
KS	91.4%	79.8%	77.7%	77.2%	75.6%	75.1%	66.8%	16.8%	13.7%
KY	92.2%	79.3%	79.6%	80.3%	78.0%	76.1%	69.2%	16.8%	13.6%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

Outcomes: Quality of Home Health Care

Table 6.10: State Averages for Patient Outcomes while in Home Health Care in 2018 by State (LA-NY)

State	Wounds improved or healed after operation	Got better at bathing	Had less pain when moving around	Breathing improved	Got better at walking or moving around	Got better at getting in and out of bed	Got better at taking drugs correctly by mouth	Had to be admitted to hospital	Urgent, unplanned care in ER – w/o being admitted to the hospital
LA	91.5%	80.0%	79.0%	74.8%	75.4%	73.9%	69.0%	16.1%	14.5%
MA	92.3%	76.8%	78.6%	76.5%	75.8%	76.3%	67.4%	16.9%	12.6%
MD	92.3%	79.8%	80.9%	83.1%	77.8%	77.8%	69.8%	15.3%	13.0%
ME	90.2%	75.0%	77.4%	72.8%	74.0%	75.3%	62.8%	15.5%	16.3%
MI	89.7%	77.0%	76.9%	75.6%	73.8%	72.9%	65.7%	15.9%	12.5%
MN	88.2%	71.6%	71.3%	70.9%	70.7%	68.9%	59.4%	16.2%	12.4%
MO	91.2%	78.0%	75.0%	77.2%	75.7%	75.9%	66.0%	16.1%	13.3%
MS	93.1%	83.3%	83.3%	81.0%	80.3%	77.5%	72.5%	16.8%	14.4%
MT	90.1%	72.3%	69.1%	71.3%	69.9%	71.7%	59.4%	16.0%	13.3%
NC	91.3%	77.5%	79.1%	79.9%	75.7%	75.0%	65.3%	15.6%	14.3%
ND	91.7%	78.7%	77.3%	77.5%	75.6%	75.0%	66.0%	14.7%	12.5%
NE	86.7%	77.7%	77.3%	76.8%	75.0%	74.9%	64.6%	16.1%	11.8%
NH	89.4%	75.8%	79.3%	76.8%	74.6%	76.1%	63.2%	17.5%	14.5%
NJ	93.0%	75.6%	80.7%	80.9%	75.4%	75.5%	66.8%	15.8%	11.0%
NM	92.0%	77.9%	71.9%	75.6%	72.6%	71.0%	65.0%	14.7%	15.3%
NV	90.6%	77.3%	75.1%	75.6%	71.8%	73.0%	67.3%	16.1%	12.2%
NY	90.6%	74.6%	77.5%	79.6%	73.9%	71.1%	64.2%	16.4%	10.7%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
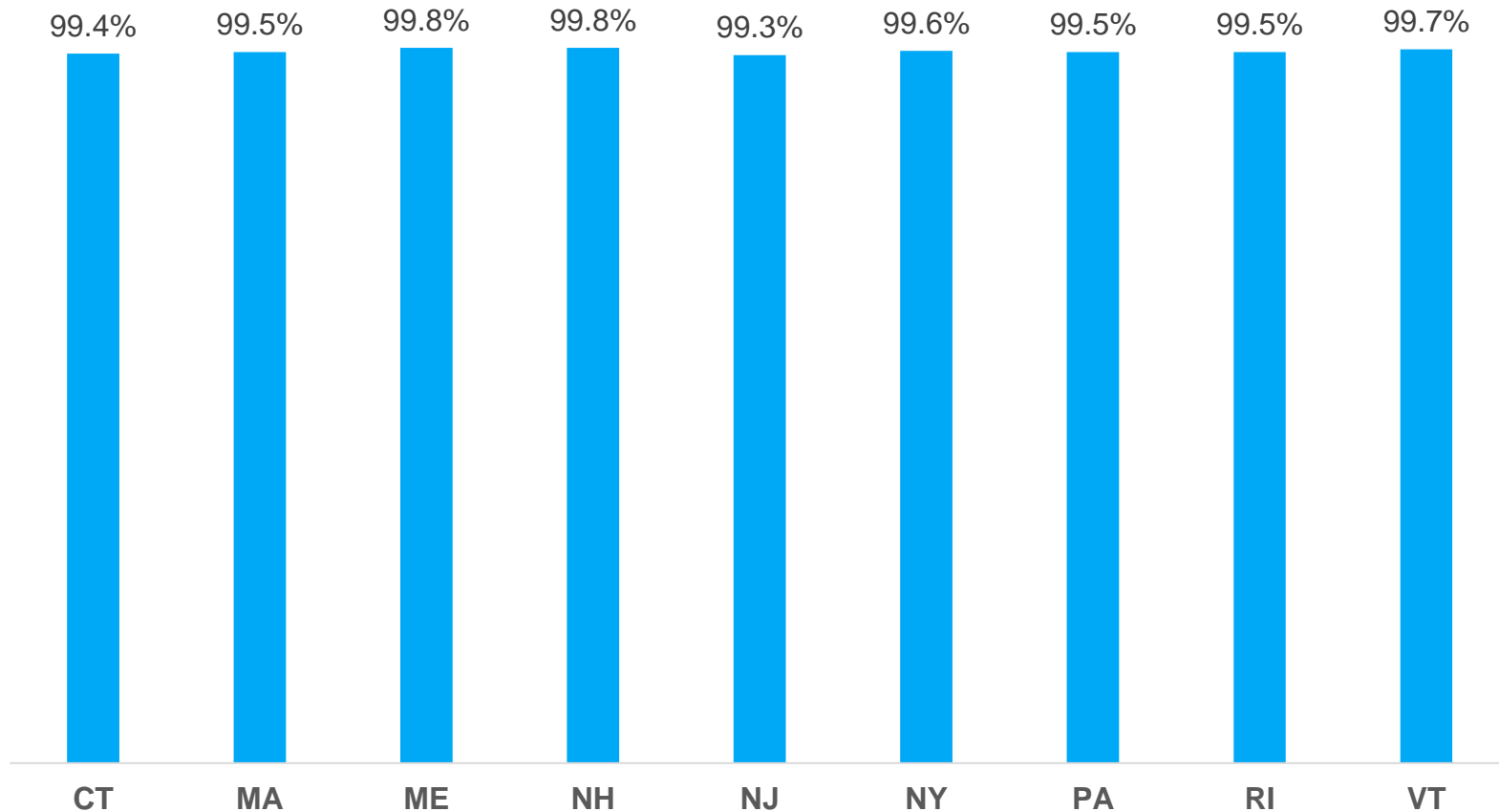
Outcomes: Quality of Home Health Care

Table 6.11: State Averages for Patient Outcomes while in Home Health Care in 2018 by State (OH-WY)

State	Wounds improved or healed after operation	Got better at bathing	Had less pain when moving around	Breathing improved	Got better at walking or moving around	Got better at getting in and out of bed	Got better at taking drugs correctly by mouth	Had to be admitted to hospital	Urgent, unplanned care in ER – w/o being admitted to the hospital
OH	88.2%	75.7%	73.9%	75.1%	74.3%	73.0%	64.7%	15.9%	13.7%
OK	90.7%	78.9%	74.5%	71.2%	75.6%	72.4%	67.4%	15.2%	14.6%
OR	90.3%	73.1%	70.6%	74.5%	71.1%	69.7%	58.8%	14.7%	16.5%
PA	90.9%	76.4%	77.0%	78.3%	76.0%	75.5%	66.0%	16.7%	12.3%
RI	94.5%	75.8%	79.7%	77.9%	74.5%	74.4%	65.1%	17.0%	12.2%
SC	90.5%	79.9%	79.2%	80.4%	77.0%	75.9%	67.5%	16.3%	14.2%
SD	84.4%	75.2%	73.7%	74.5%	72.5%	75.5%	63.2%	15.8%	11.9%
TN	90.3%	82.0%	81.7%	81.4%	78.5%	77.9%	70.4%	17.0%	13.0%
TX	88.6%	73.8%	71.2%	66.5%	70.3%	67.2%	61.4%	15.2%	13.1%
UT	93.0%	82.7%	76.3%	80.2%	79.3%	77.5%	70.9%	14.1%	13.7%
VA	91.0%	75.6%	77.3%	78.9%	74.4%	74.0%	65.4%	15.9%	14.1%
VT	91.7%	74.5%	75.7%	71.2%	72.3%	71.0%	61.3%	16.1%	14.5%
WA	90.6%	76.5%	74.6%	76.8%	74.1%	73.5%	62.9%	14.8%	15.2%
WI	89.7%	74.2%	76.4%	75.9%	74.3%	73.7%	63.5%	15.4%	14.9%
WV	91.9%	81.4%	82.6%	82.4%	79.2%	76.9%	70.4%	16.5%	14.8%
WY	90.7%	70.5%	62.2%	71.4%	69.1%	69.5%	56.0%	15.1%	16.4%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

Outcomes: Quality of Home Health Care

Chart 6.12: Performance on "How Often The Home Health Team Checked Patients' Risk Of Falling" Measure in 2018, for States in Northeastern Region

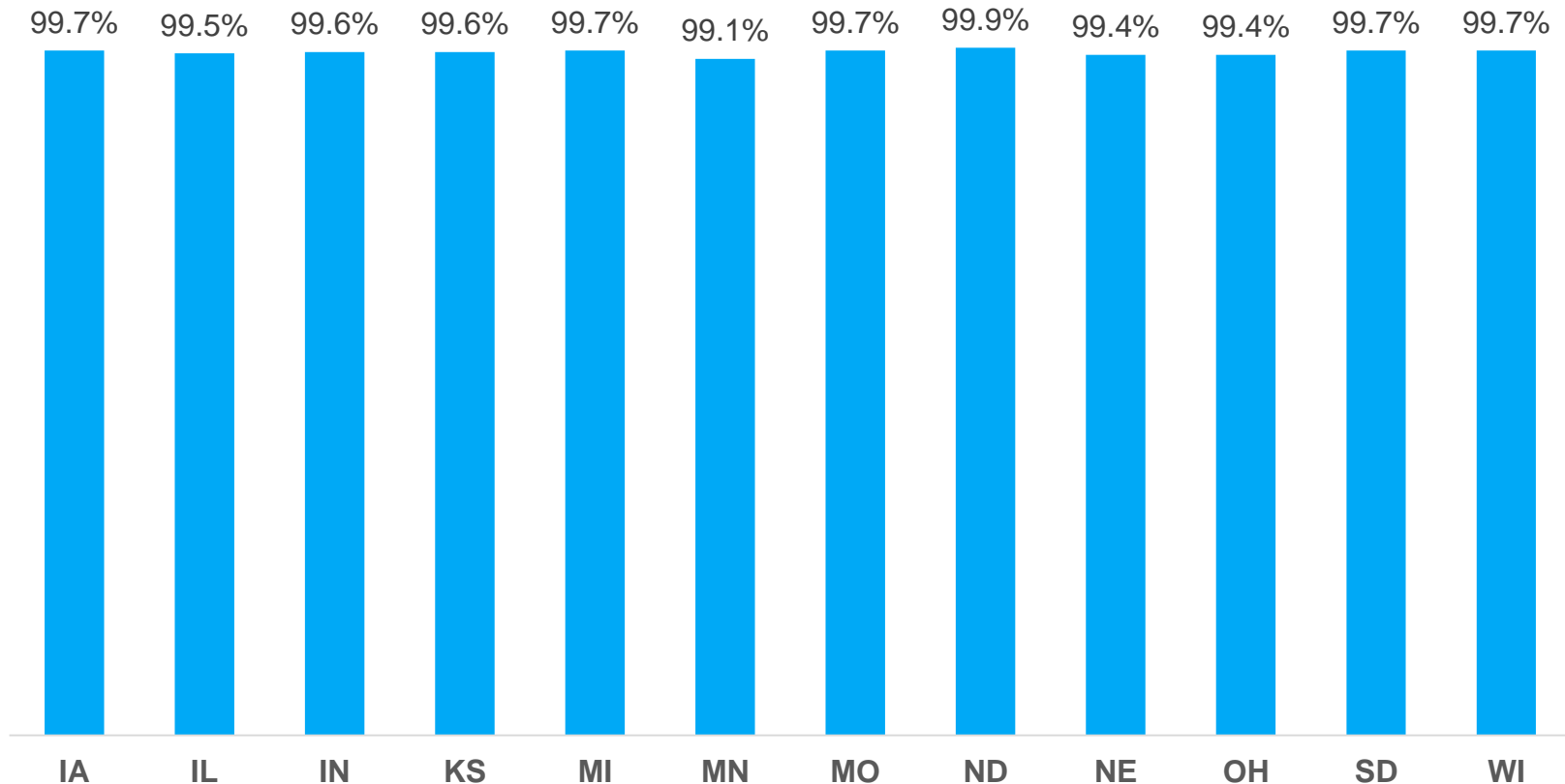| State	Value
CT	99.4%
MA	99.5%
ME	99.8%
NH	99.8%
NJ	99.3%
NY	99.6%
PA	99.5%
RI	99.5%
VT	99.7%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Northeast Region; includes CT, MA, ME, NH, NJ, NY, PA, RI, VT.

Outcomes: Quality of Home Health Care

Chart 6.13: Performance on "How Often The Home Health Team Checked Patients' Risk Of Falling" Measure in 2018, for States in Midwestern Region

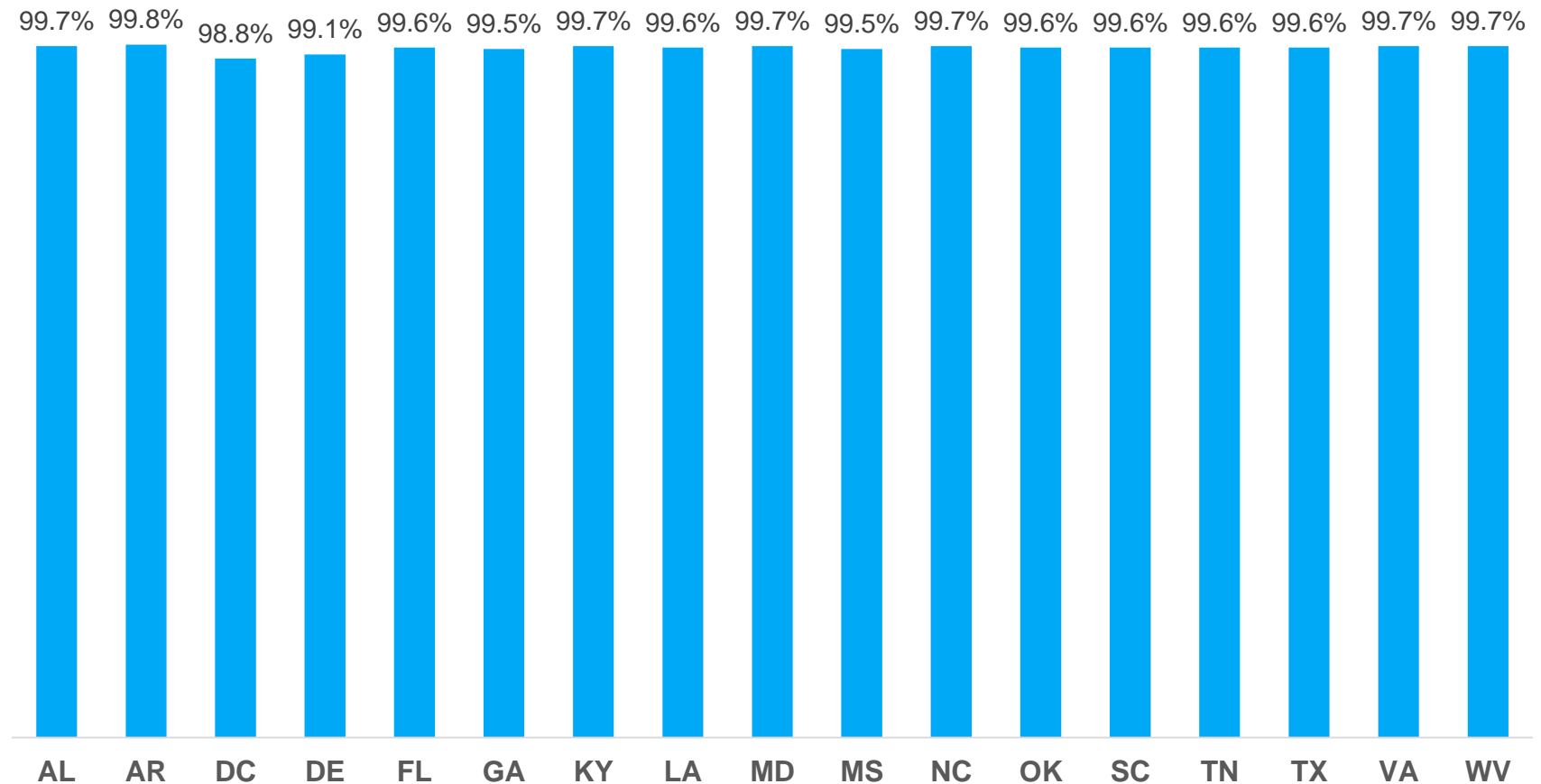| State	Value
IA	99.7%
IL	99.5%
IN	99.6%
KS	99.6%
MI	99.7%
MN	99.1%
MO	99.7%
ND	99.9%
NE	99.4%
OH	99.4%
SD	99.7%
WI	99.7%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare
Note: U.S. Census Bureau defines which states are in the Midwestern Region; includes IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI.
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Outcomes: Quality of Home Health Care

Chart 6.14: Performance on "How Often The Home Health Team Checked Patients' Risk Of Falling" Measure in 2018, for States in Southern Region

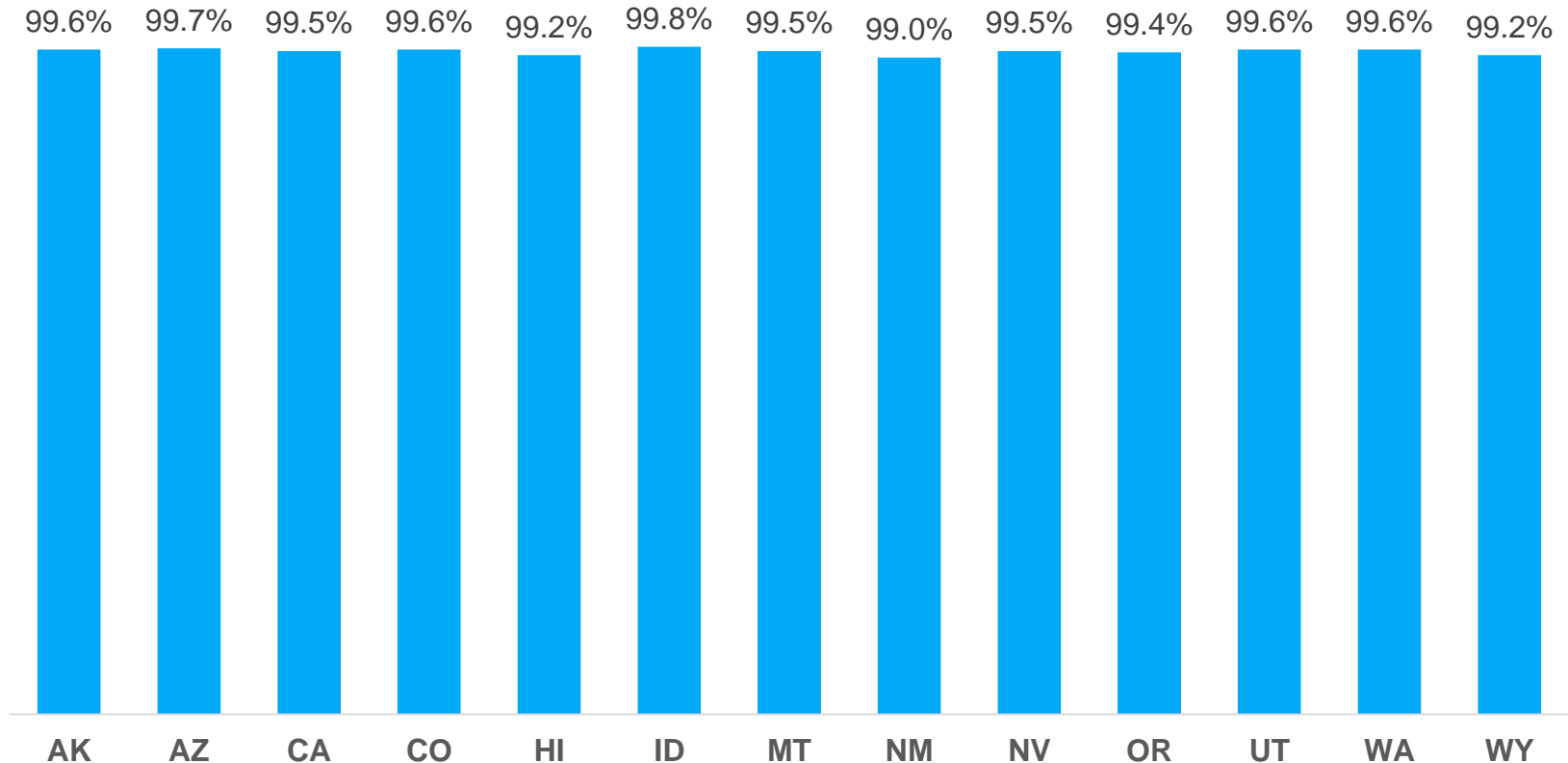| AL	AR	DC	DE	FL	GA	KY	LA	MD	MS	NC	OK	SC	TN	TX	VA	WV
99.7%	99.8%	98.8%	99.1%	99.6%	99.5%	99.7%	99.6%	99.7%	99.5%	99.7%	99.6%	99.6%	99.6%	99.6%	99.7%	99.7%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Southern Region; includes AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV.

Outcomes: Quality of Home Health Care

Chart 6.15: Performance on "How Often The Home Health Team Checked Patients' Risk Of Falling" Measure in 2018, for States in Western Region

| AK	AZ	CA	CO	HI	ID	MT	NM	NV	OR	UT	WA	WY
99.6%	99.7%	99.5%	99.6%	99.2%	99.8%	99.5%	99.0%	99.5%	99.4%	99.6%	99.6%	99.2%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Western Region; includes AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.

Outcomes: Quality of Home Health Care

Chart 6.16: Performance on "How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs" Measure in 2018, for States in Northeastern Region

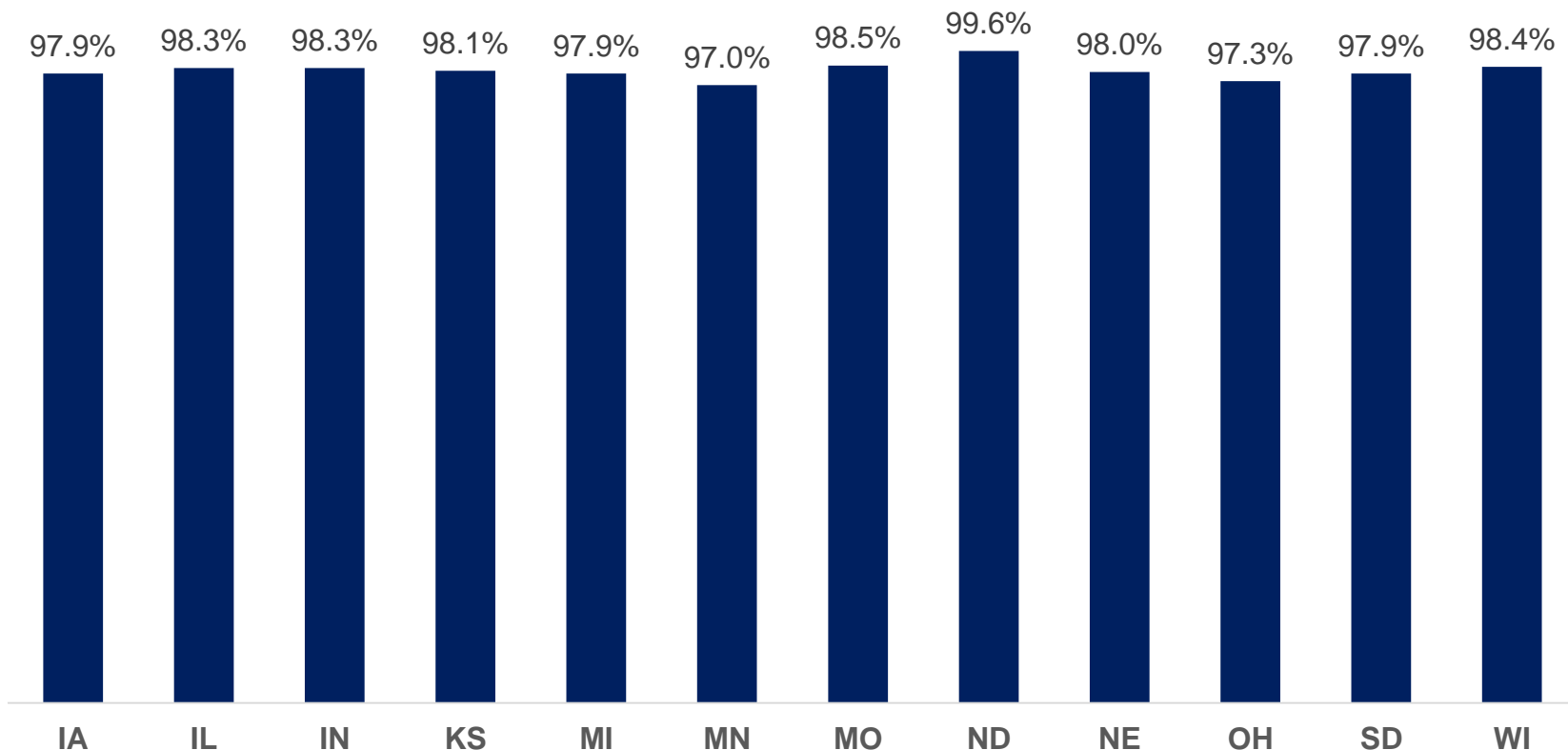| State	Value
CT	97.9%
MA	98.6%
ME	98.8%
NH	99.0%
NJ	99.1%
NY	97.7%
PA	98.2%
RI	97.8%
VT	98.7%
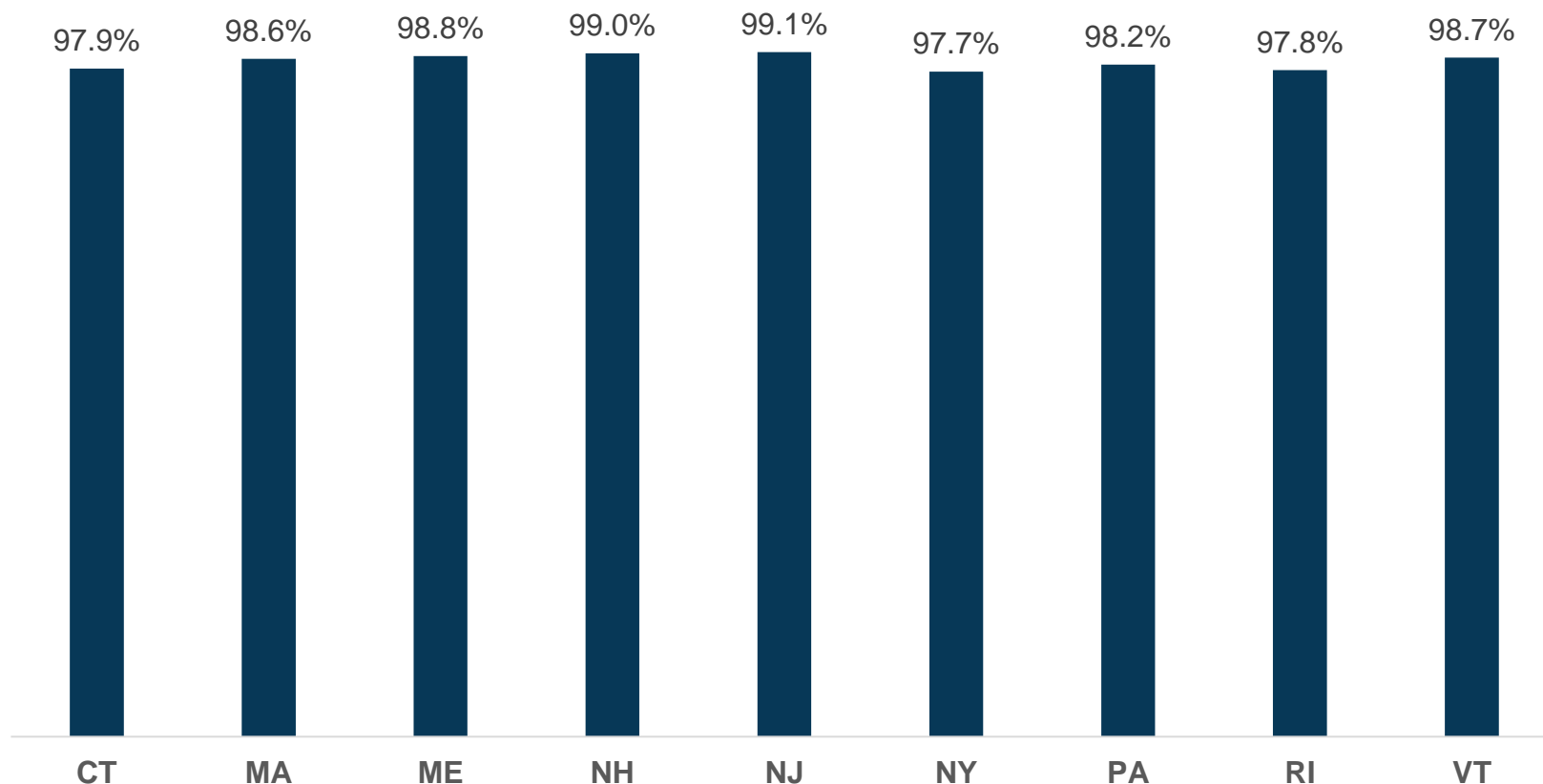
Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Northeast Region; includes CT, MA, ME, NH, NJ, NY, PA, RI, VT.

Outcomes: Quality of Home Health Care

Chart 6.17: Performance on "How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs" Measure in 2018, for States in Midwestern Region
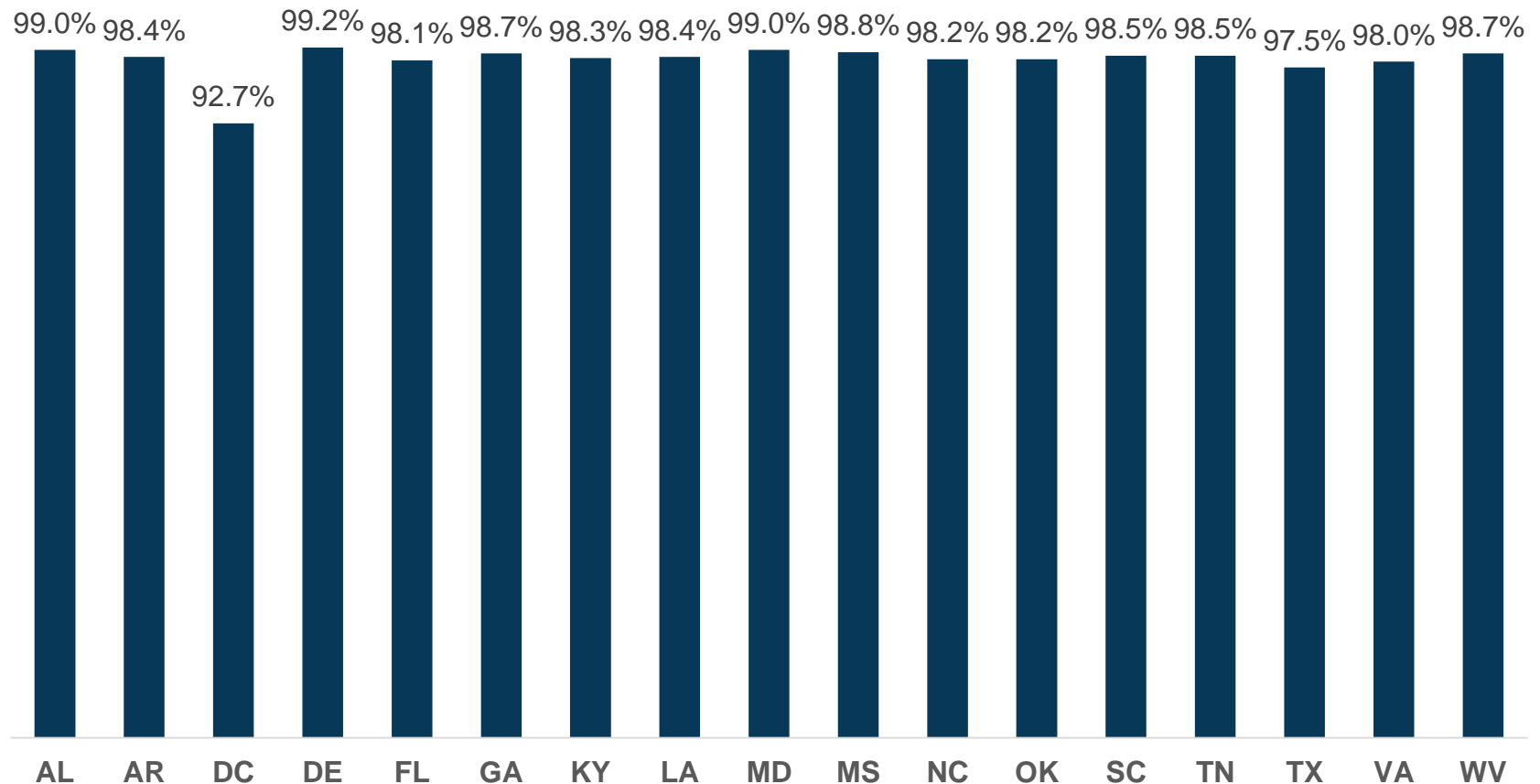

IA	IL	IN	KS	MI	MN	MO	ND	NE	OH	SD	WI
97.9%	98.3%	98.3%	98.1%	97.9%	97.0%	98.5%	99.6%	98.0%	97.3%	97.9%	98.4%

Outcomes: Quality of Home Health Care

Chart 6.18: Performance on "How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs" Measure in 2018, for States in Southern Region

Outcomes: Quality of Home Health Care

Chart 6.19: Performance on "How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs" Measure in 2018, for States in Western Region

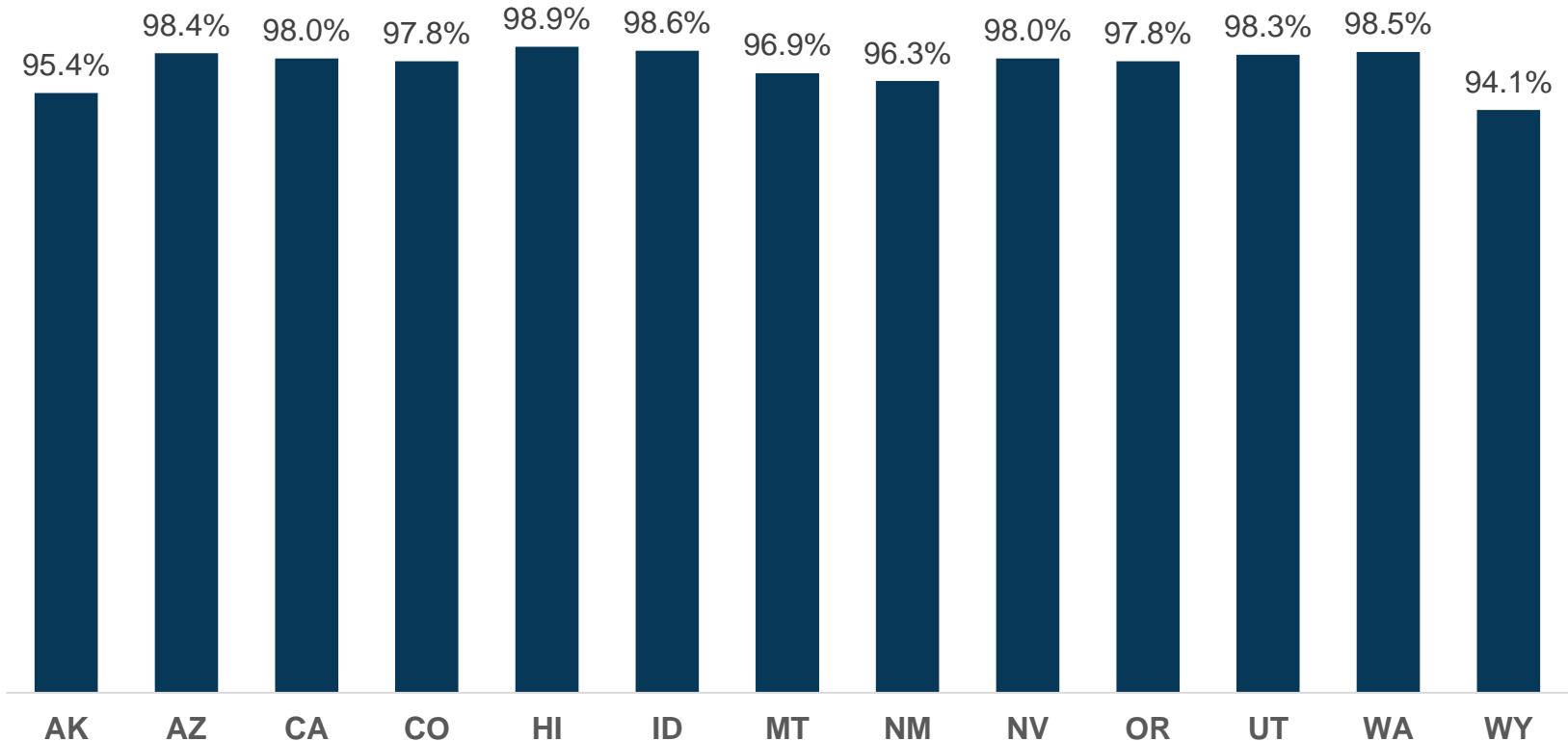| State	Value
AK	95.4%
AZ	98.4%
CA	98.0%
CO	97.8%
HI	98.9%
ID	98.6%
MT	96.9%
NM	96.3%
NV	98.0%
OR	97.8%
UT	98.3%
WA	98.5%
WY	94.1%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare
Note: U.S. Census Bureau defines which states are in the Western Region; includes AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.

Outcomes: Quality of Home Health Care

Chart 6.20: Performance on "How Often Patients' Wounds Improved or Healed After An Operation" Measure in 2018, for States in Northeastern Region

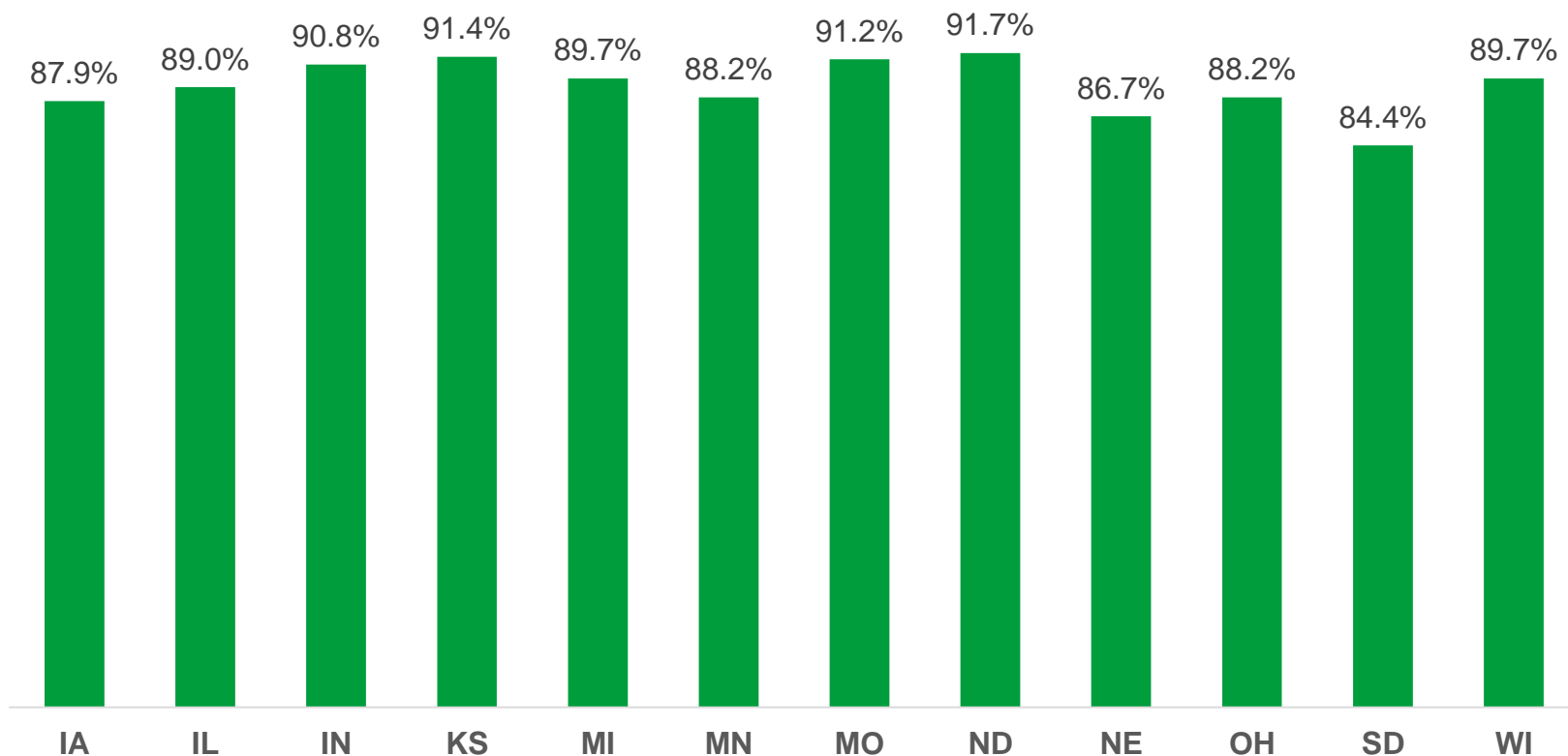| CT	MA	ME	NH	NJ	NY	PA	RI	VT
91.6%	92.3%	90.2%	89.4%	93.0%	90.6%	90.9%	94.5%	91.7%
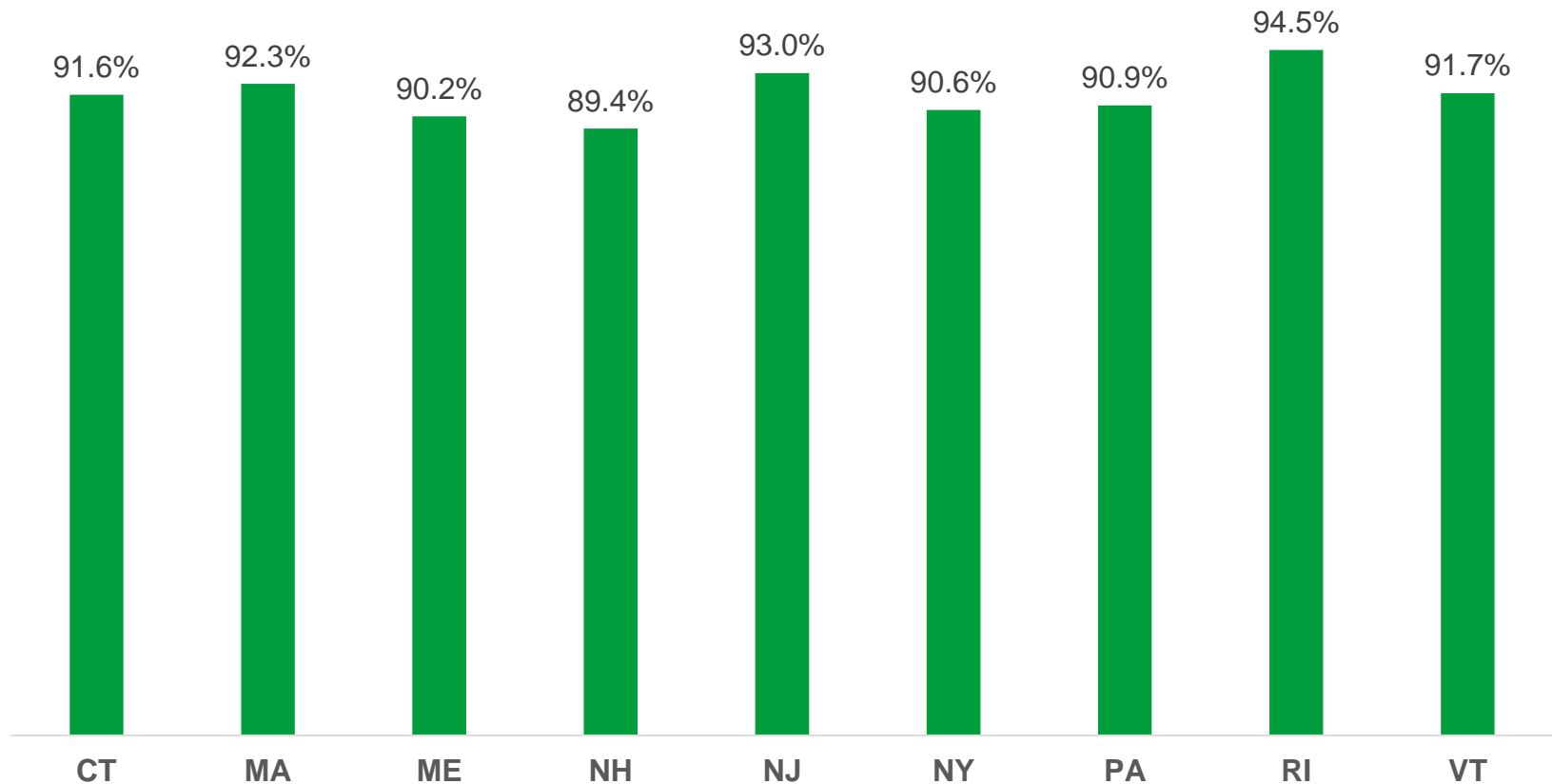
Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Northeast Region; includes CT, MA, ME, NH, NJ, NY, PA, RI, VT.

Outcomes: Quality of Home Health Care

Chart 6.21: Performance on "How Often Patients' Wounds Improved or Healed After An Operation" Measure in 2018, for States in Midwestern Region

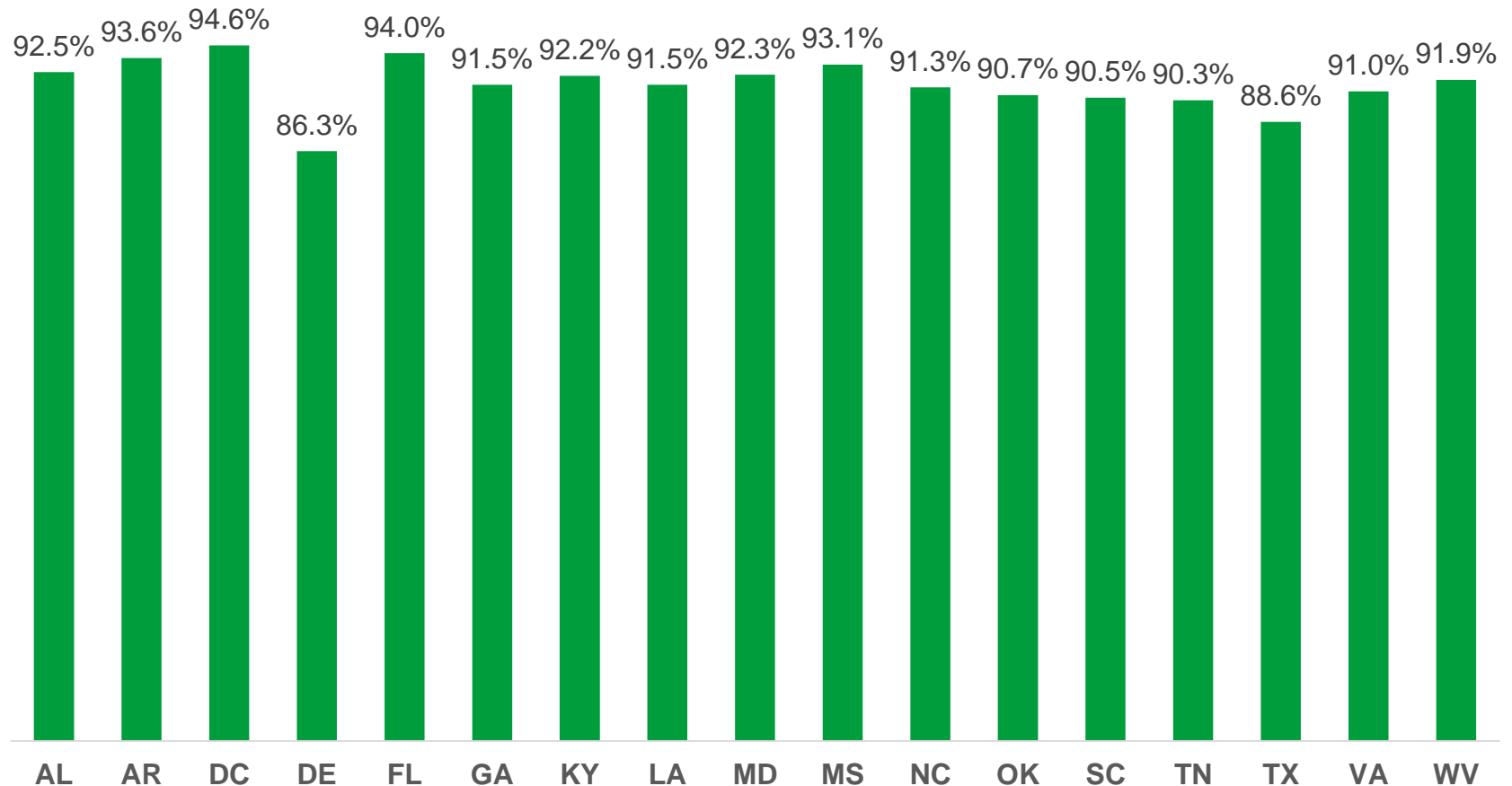| IA	IL	IN	KS	MI	MN	MO	ND	NE	OH	SD	WI
87.9%	89.0%	90.8%	91.4%	89.7%	88.2%	91.2%	91.7%	86.7%	88.2%	84.4%	89.7%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare
Note: U.S. Census Bureau defines which states are in the Midwestern Region; includes IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI.
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Outcomes: Quality of Home Health Care

Chart 6.22: Performance on "How Often Patients' Wounds Improved or Healed After An Operation" Measure in 2018, for States in Southern Region
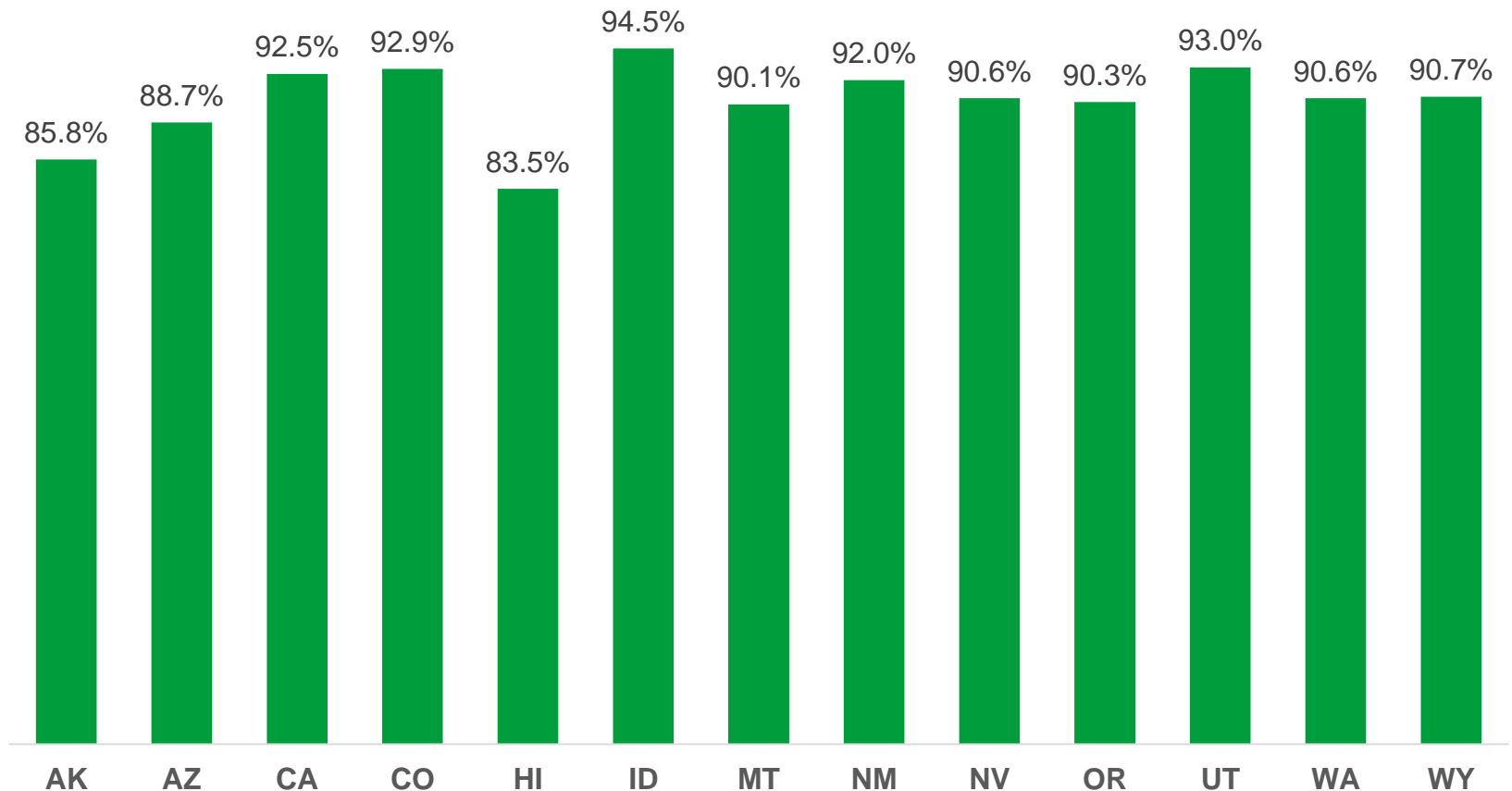

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Southern Region; includes AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV.

Outcomes: Quality of Home Health Care

Chart 6.23: Performance on "How Often Patients' Wounds Improved or Healed After An Operation" Measure in 2018, for States in Western Region

State	Value
AK	85.8%
AZ	88.7%
CA	92.5%
CO	92.9%
HI	83.5%
ID	94.5%
MT	90.1%
NM	92.0%
NV	90.6%
OR	90.3%
UT	93.0%
WA	90.6%
WY	90.7%

Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.
Note: U.S. Census Bureau defines which states are in the Western Region; includes AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.
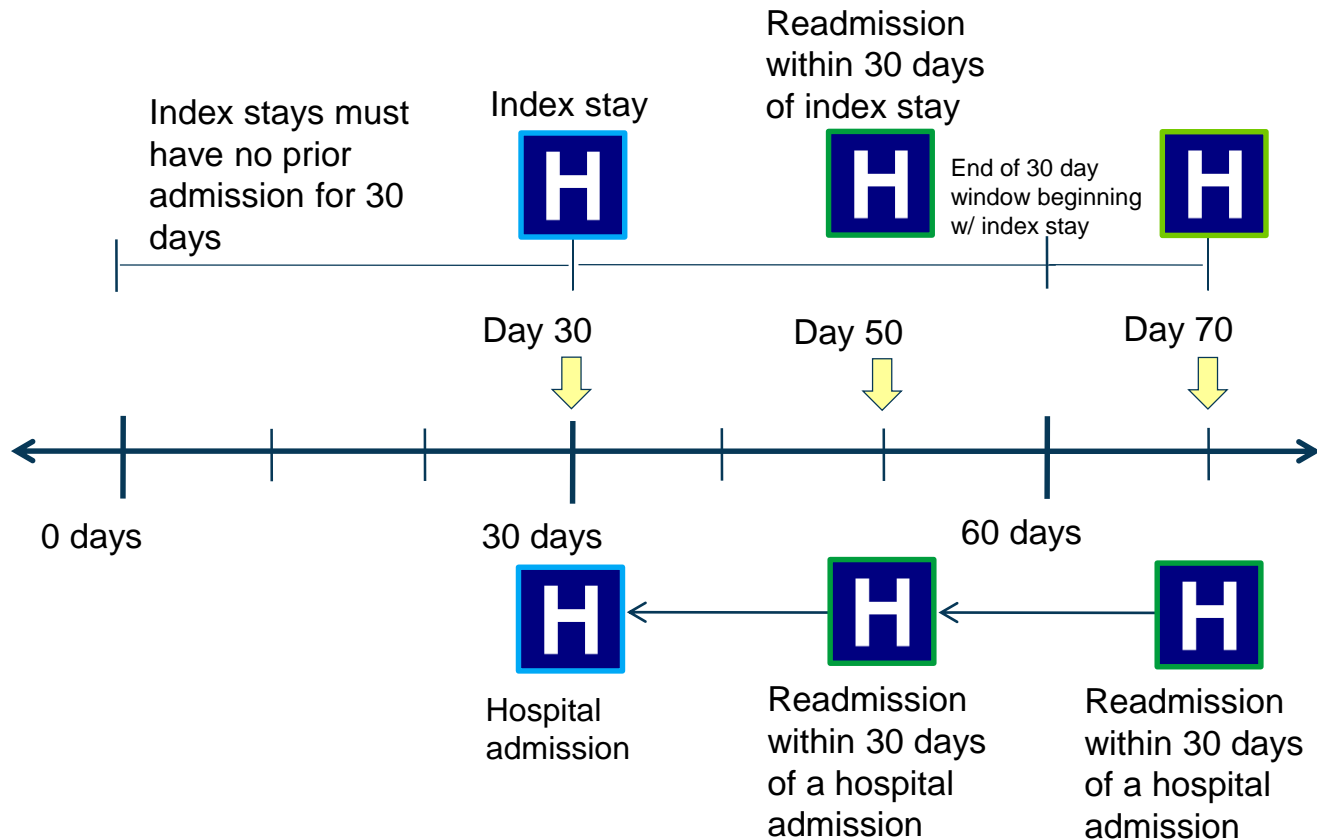
Appendix: Readmission Rate Methodology

Methodology: Calculating Readmission Rates

The ACA methodology defines a readmission as an admission to a short-term acute care hospital (STACH) within 30 days of an initial, or 'index', admission to a STACH. To be considered an index admission, there must be no other STACH admission in the prior 30 days. These data are based on raw Medicare claims and no risk-based or geographic adjustments have been applied.

Readmission within 30 days of index stay

Index stays must have no prior admission for 30 days

Index stay

End of 30 day window beginning w/ index stay

Using the Affordable Care Act (ACA) methodology, this episode of care results in one 30-day readmission

Day 30   Day 50   Day 70

0 days   30 days   60 days

Hospital admission

Readmission within 30 days of a hospital admission

Readmission within 30 days of a hospital admission

Without defining index stays as above, this episode of care results in two 30-day readmissions