

# Home Health Chartbook 2021: *Prepared for the Alliance for Home Health Quality and Innovation (AHHQI)*

**Avalere Health** | An Inovalon Company  
September 2021



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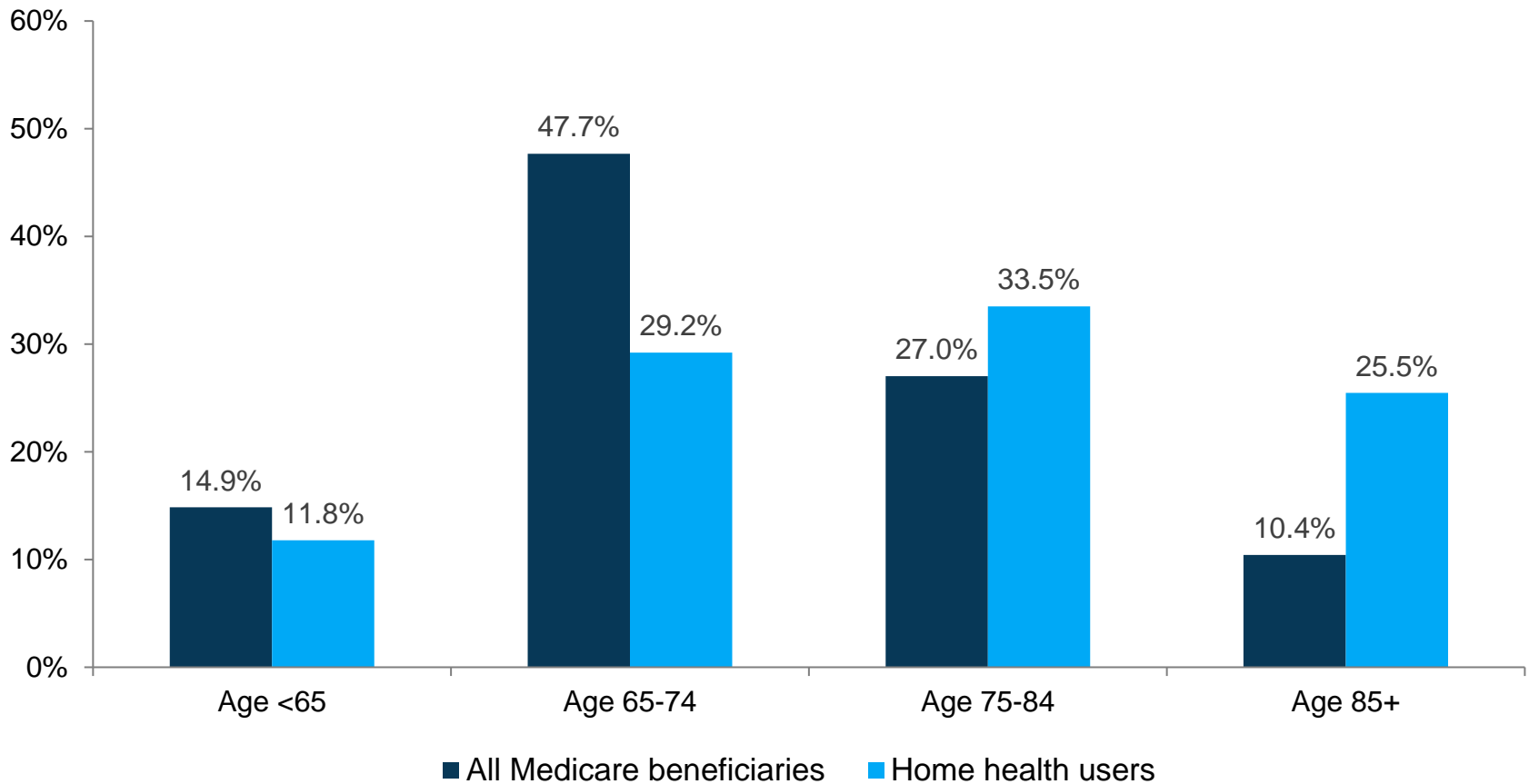


## Section 1: Demographics of Home Health Users



# Demographics of Home Health Users

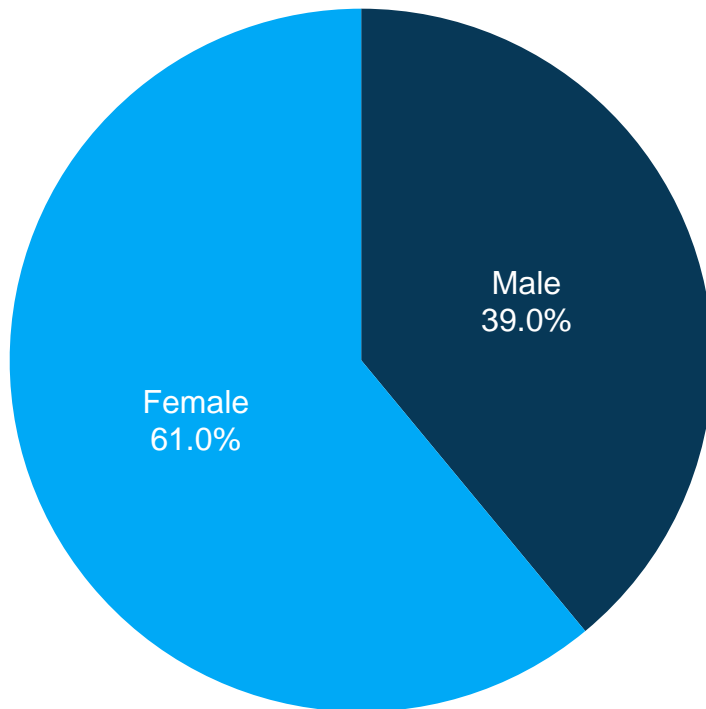
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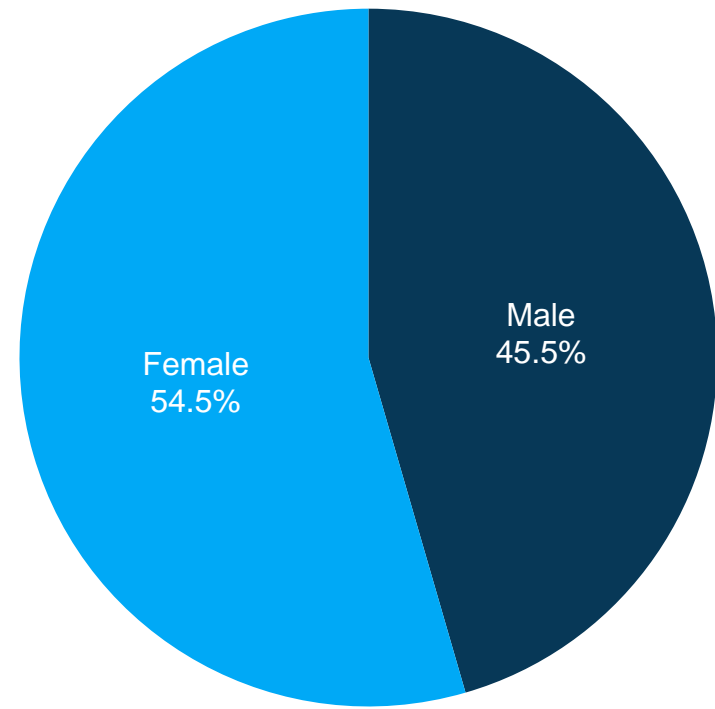
# Demographics of Home Health Users

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Home Health Users



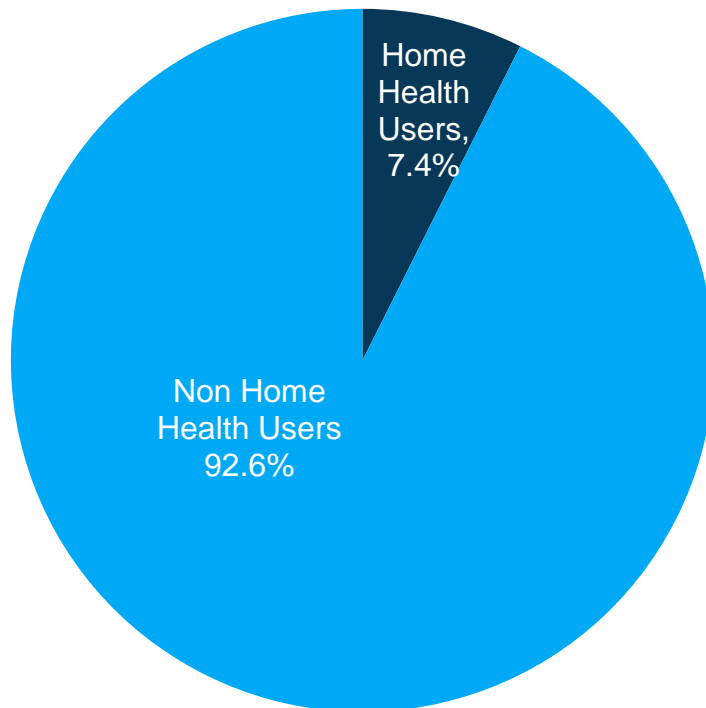
All Medicare Beneficiaries



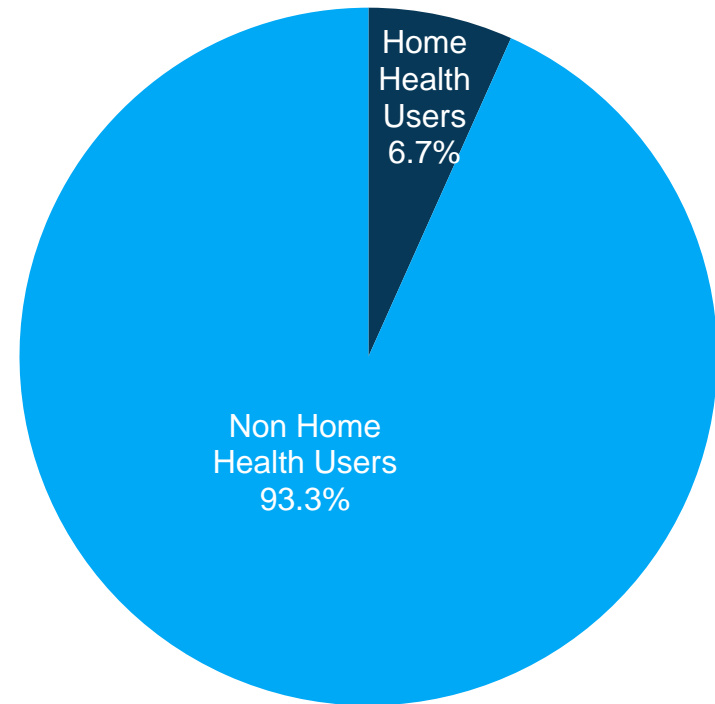
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Chart 1.3: Distribution of Home Health Users in Medicare Fee-for-Service and Medicare Advantage, 2018

Medicare Fee-for-Service Beneficiaries



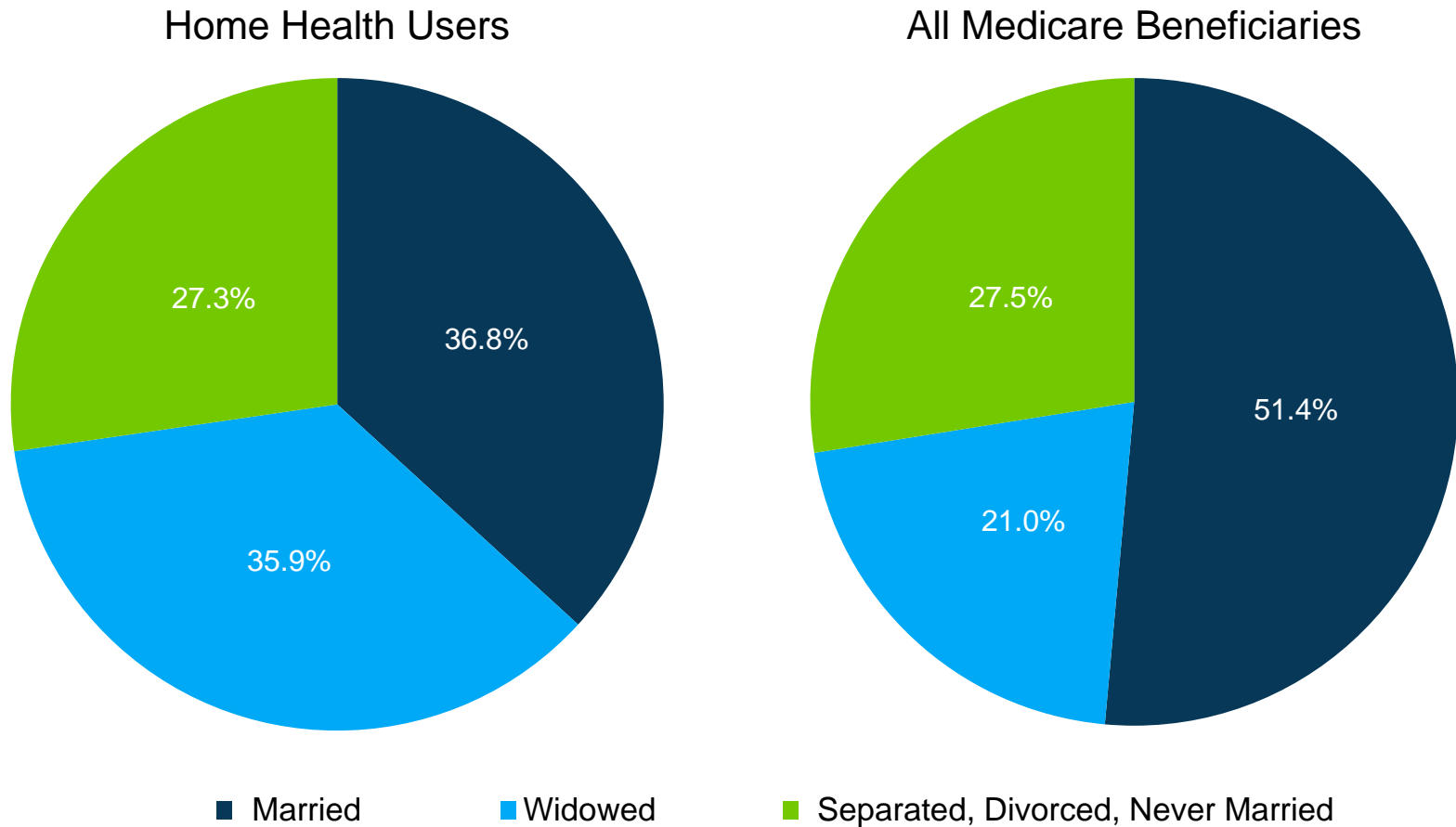
Medicare Advantage Beneficiaries



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

# Demographics of Home Health Users

Chart 1.4: Marital Status of Home Health Users and All Medicare Beneficiaries, 2018

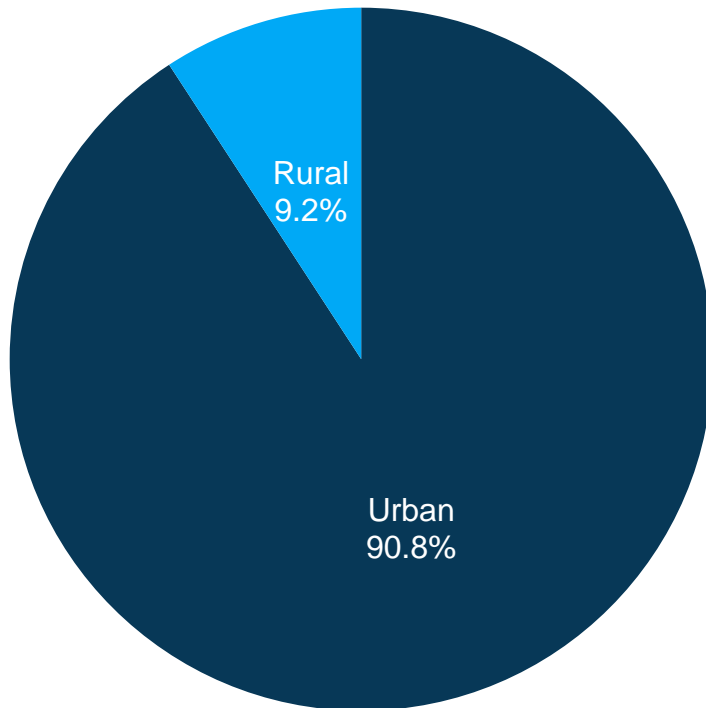


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

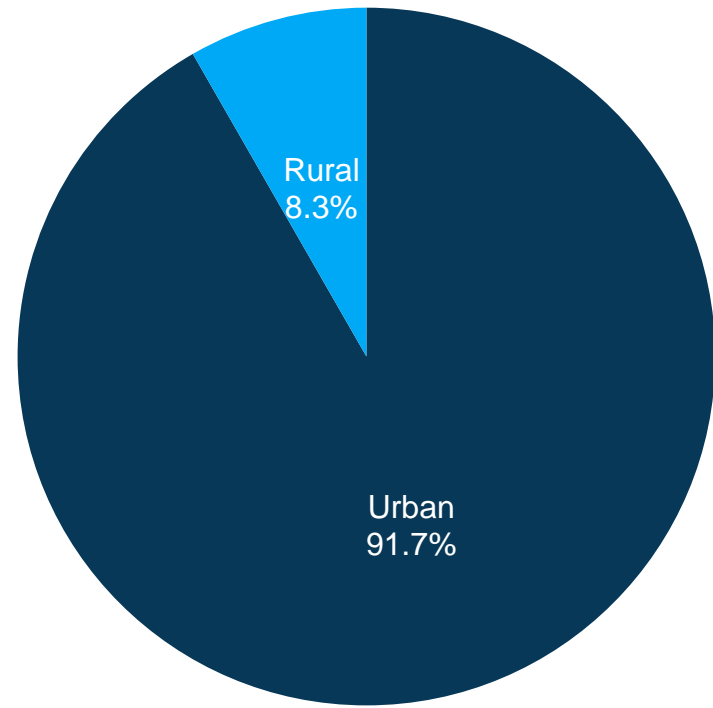
# Demographics of Home Health Users

Chart 1.5: Geographic Distribution of Home Health Users and All Medicare Beneficiaries, 2020

Home Health Users



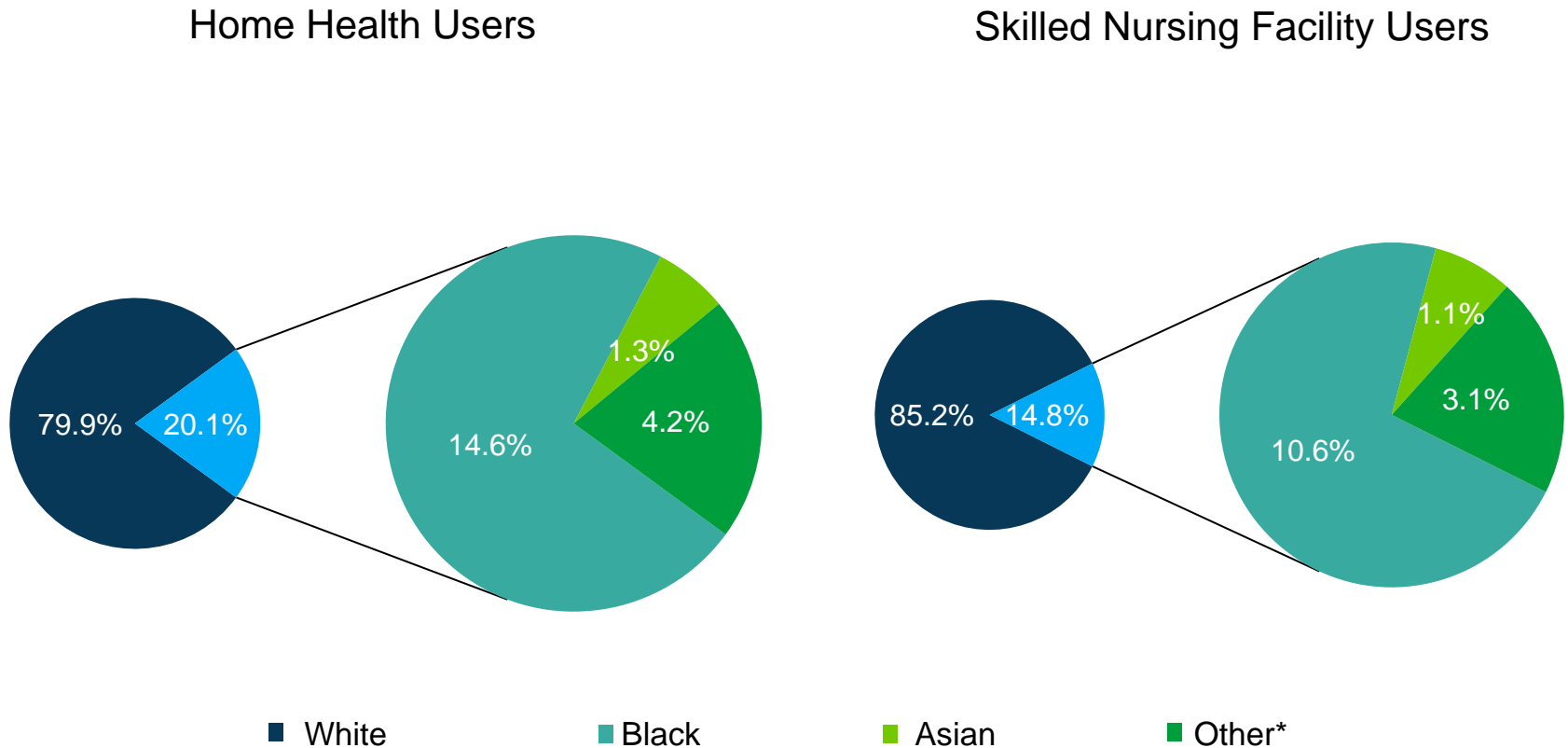
All Medicare Beneficiaries





# Demographics of Home Health Users

Chart 1.6: Race of Medicare Home Health Users and Skilled Nursing Facility Users, 2018

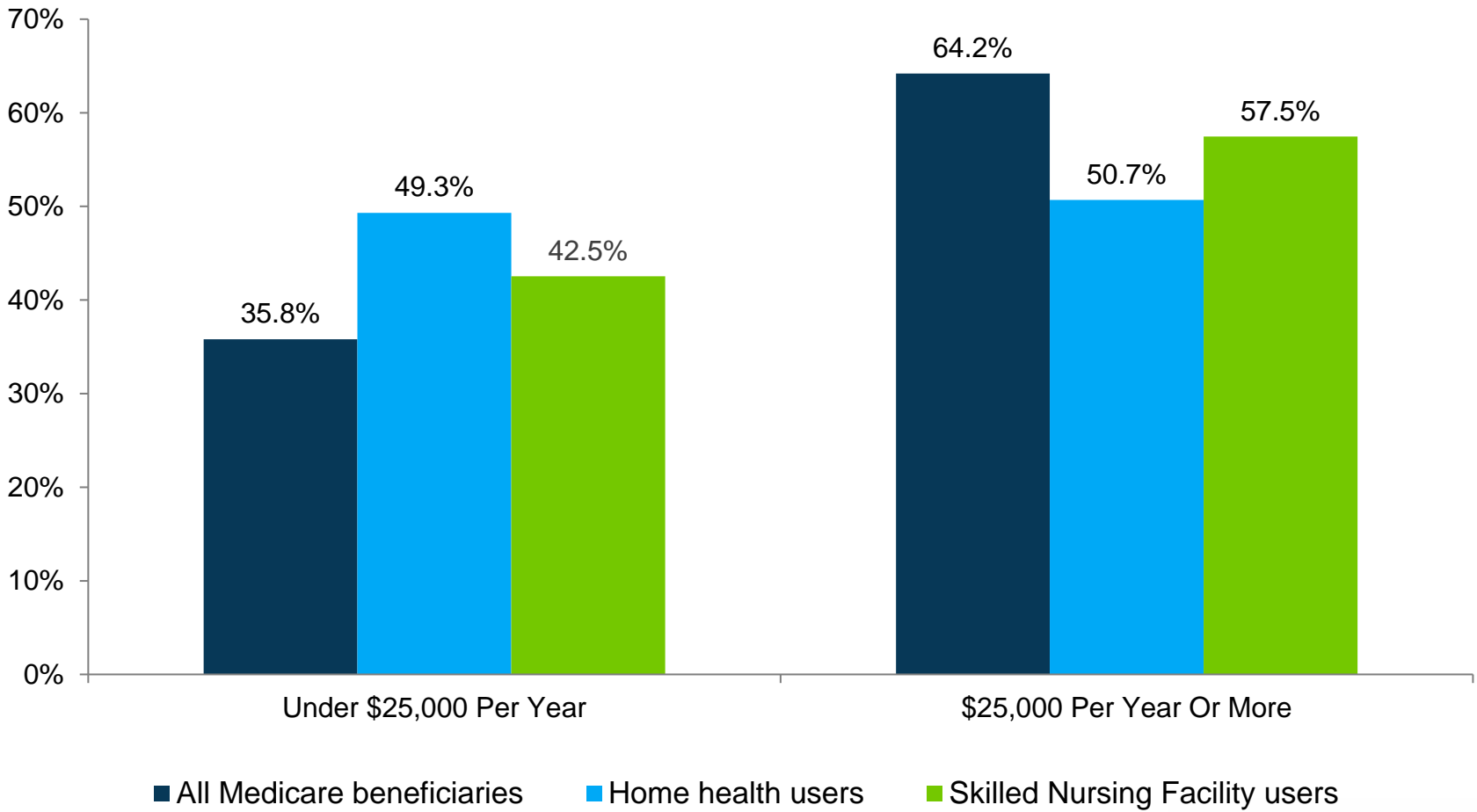


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*Other includes American Indian, Alaska Native, Native Hawaiian, Pacific Islander, Other race, and More than one race.

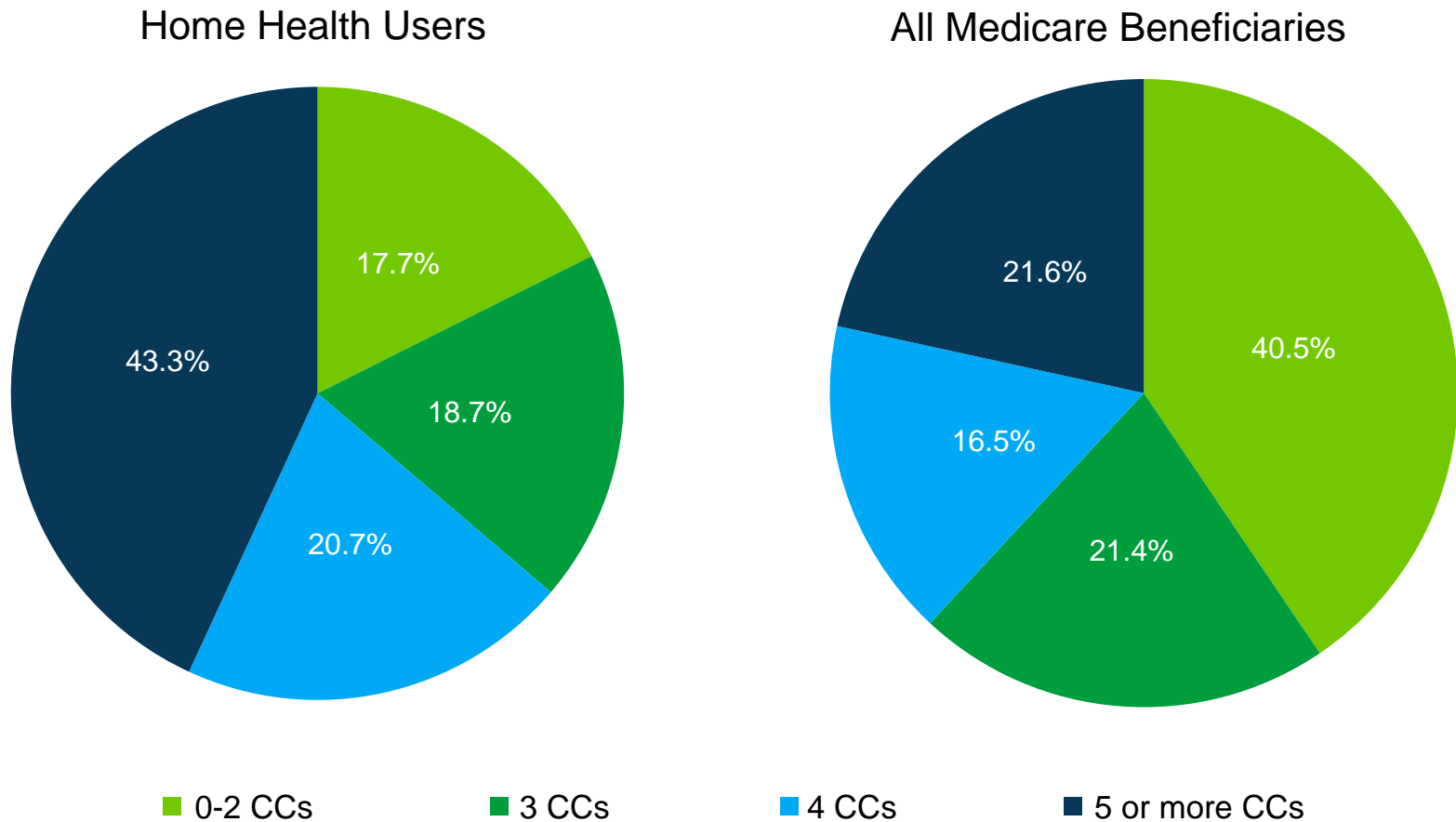
# Demographics of Home Health Users

Chart 1.7: Income Distribution of Home Health Users, Skilled Nursing Facility Users, and All Medicare Beneficiaries, 2018



# Demographics of Home Health Users

Chart 1.8: Percentage of All Medicare Beneficiaries and Home Health Users by Number of Chronic Conditions (CCs), 2018



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018. Totals may not sum to 100 percent due to rounding.

# Demographics of Home Health Users

Table 1.9: Selected Characteristics of Medicare Home Health Users and All Medicare Beneficiaries, 2018

	All Medicare Home Health Users	All Medicare Beneficiaries
Age 85+	25.5%	10.4%
Live alone	37.2%	29.0%
Have 3 or more chronic conditions	82.3%	59.5%
Have 2 or more ADL limitations*	27.9%	9.8%
Report fair or poor health	41.2%	23.9%
Are in somewhat or much worse health than last year	38.0%	19.3%
Have incomes at or under 200% of the Federal Poverty Level (FPL)**	57.8%	42.7%
Have incomes under 100% of the Federal Poverty Level (FPL)**	22.8%	16.8%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*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 2018, 100 percent of FPL for a household of 1 was \$12,140, a household of 2 was \$16,460, a household of 3 was \$20,780, and household of 4 was \$25,100. 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, 2019

Living Expense	2018			2019		
	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	\$6,895	\$9,133	\$8,360	\$7,680	\$10,117	\$9,077
Food	\$2,549	\$4,658	\$3,903	\$2,729	\$4,621	\$3,936
Transportation	\$1,972	\$4,590	\$3,386	\$2,013	\$5,063	\$3,576
Health Care (out-of-pocket costs)	\$2,510	\$4,467	\$3,470	\$2,608	\$4,574	\$3,485
<b>Total</b>	<b>\$13,927</b>	<b>\$22,848</b>	<b>\$19,119</b>	<b>\$15,031</b>	<b>\$24,377</b>	<b>\$20,076</b>

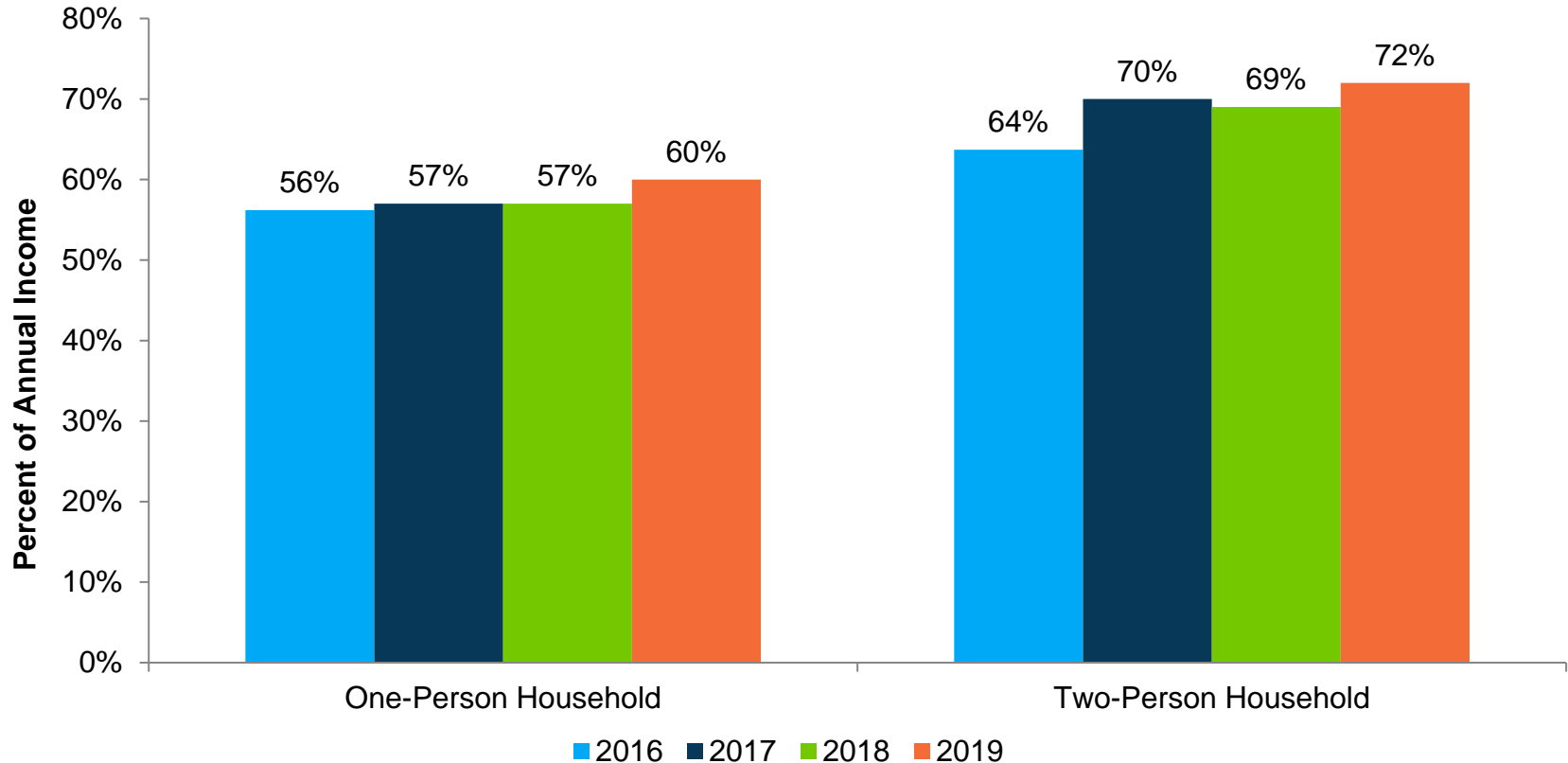
Source: Avalere analysis of the 2019 Bureau of Labor Statistics Consumer Expenditure Survey. The analysis includes households with one or more individuals age 65 or older and annual incomes below 200 percent of the Federal Poverty Level.

\*This analysis includes, but is not limited to, home health users.

\*\*In 2019, 200 percent of the Federal Poverty Level was \$24,980 for a one-person household and \$33,820 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, 2019



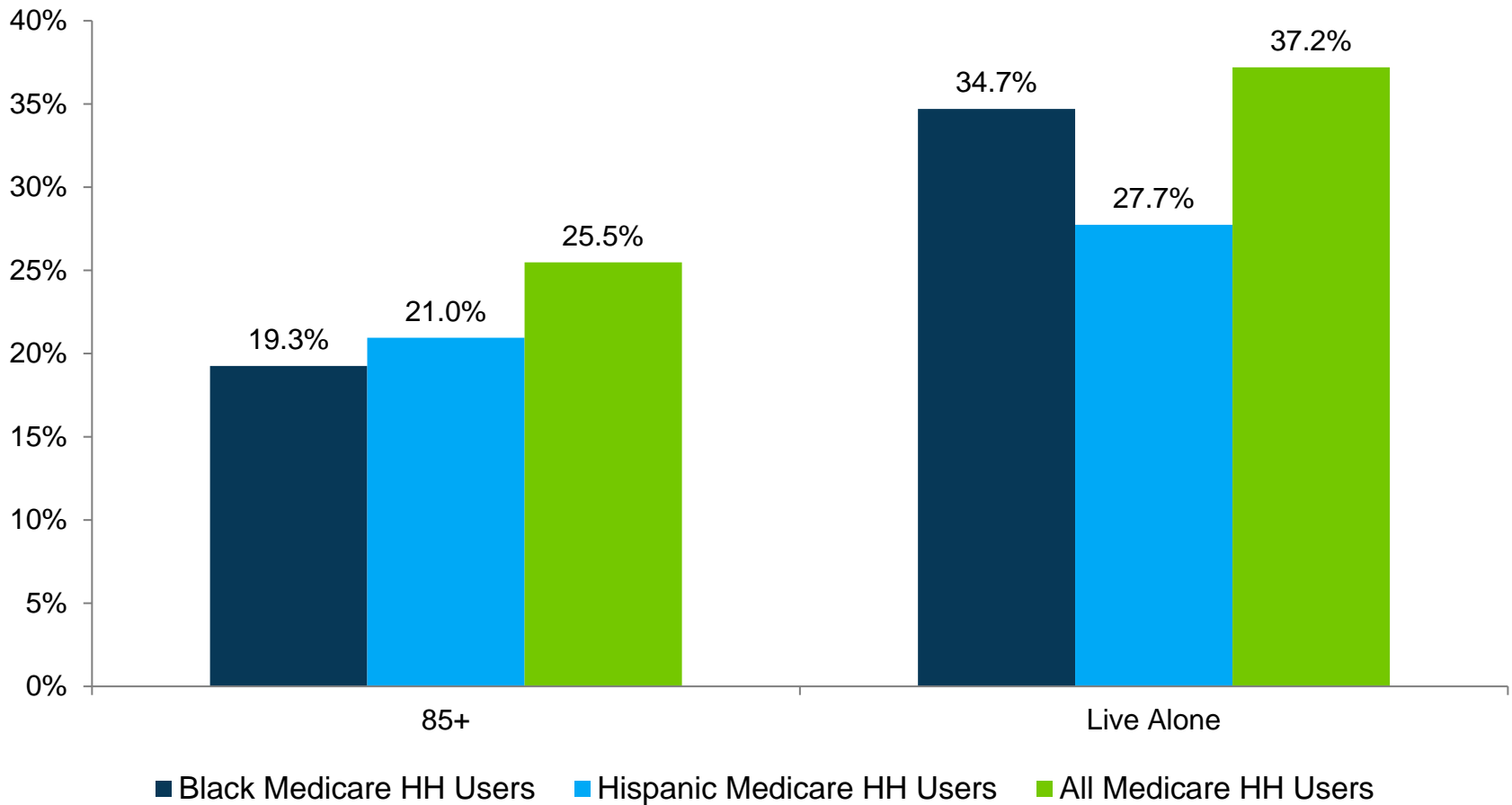
Source: Avalere analysis of the 2019 Bureau of Labor Statistics Consumer Expenditure Survey. The 2019 average annual living expenses are for one-person or two-person households, respectively, under 200 percent of the Federal Poverty Level with at least one individual 65 years or older.

\*This analysis includes, but is not limited to, home health users.

\*\*In 2019, 200 percent of the Federal Poverty Level was \$24,980 for a one-person household and \$33,820 for a two-person household.

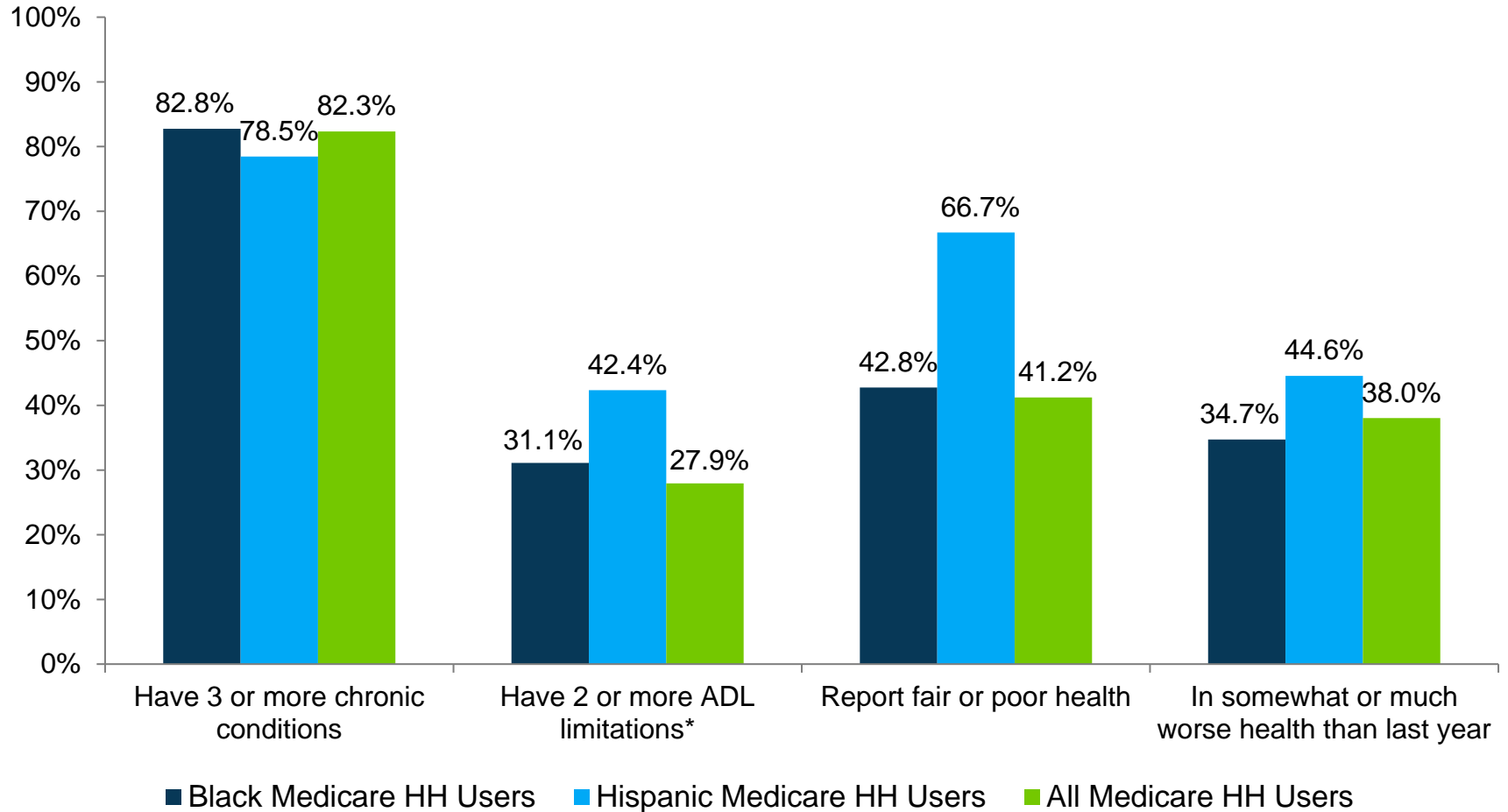
# Demographics of Home Health Users by Race and Ethnicity

Chart 1.12: Selected Characteristics of All Medicare Home Health Users by Race and Ethnicity, 2018



# Demographics of Home Health Users by Race and Ethnicity

Chart 1.13: Health Status of Home Health Users by Race and Ethnicity, 2018



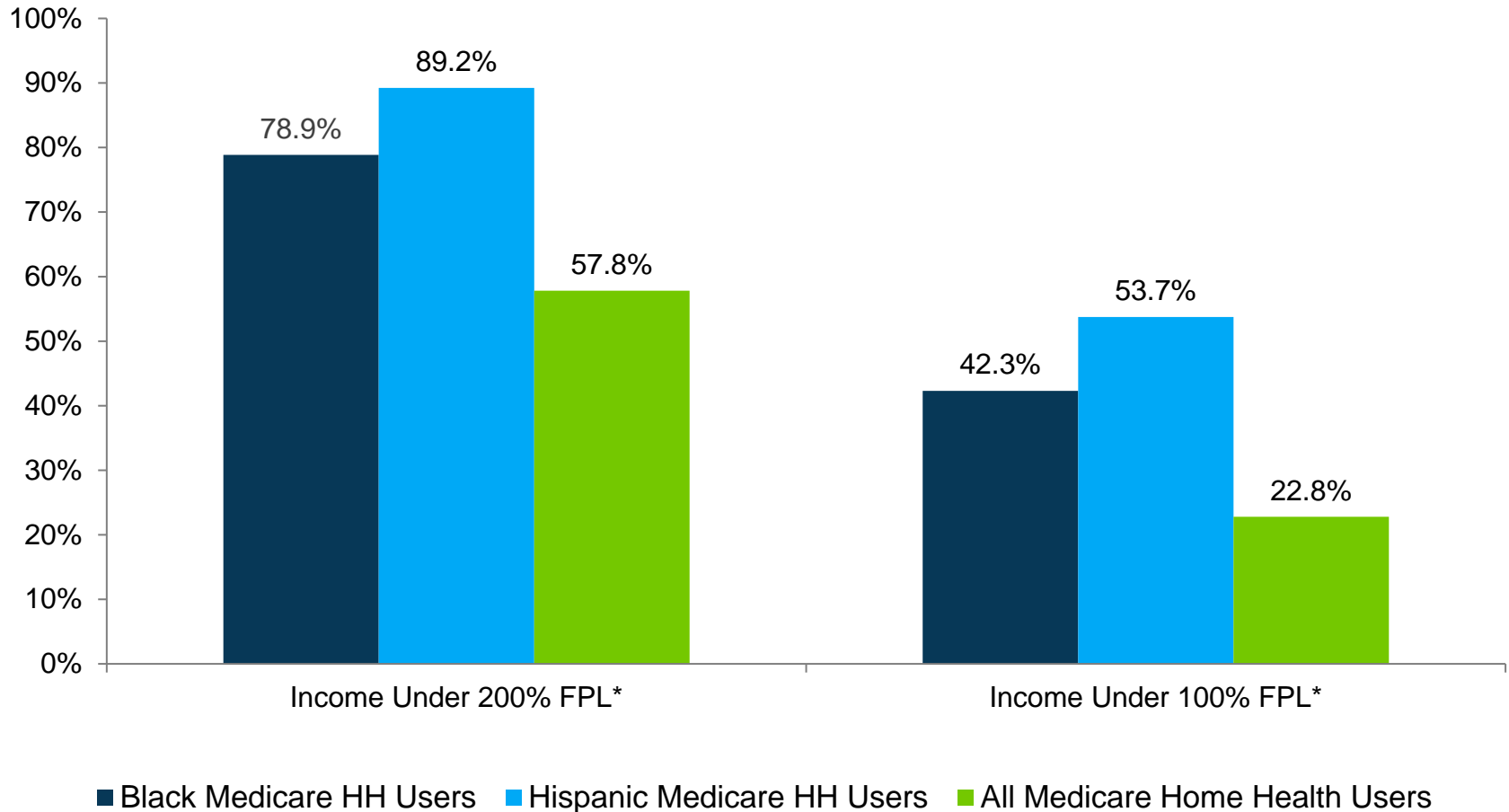
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*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 Race and Ethnicity

Chart 1.14: Income by Federal Poverty Level (FPL) of Home Health Users by Race and Ethnicity, 2018

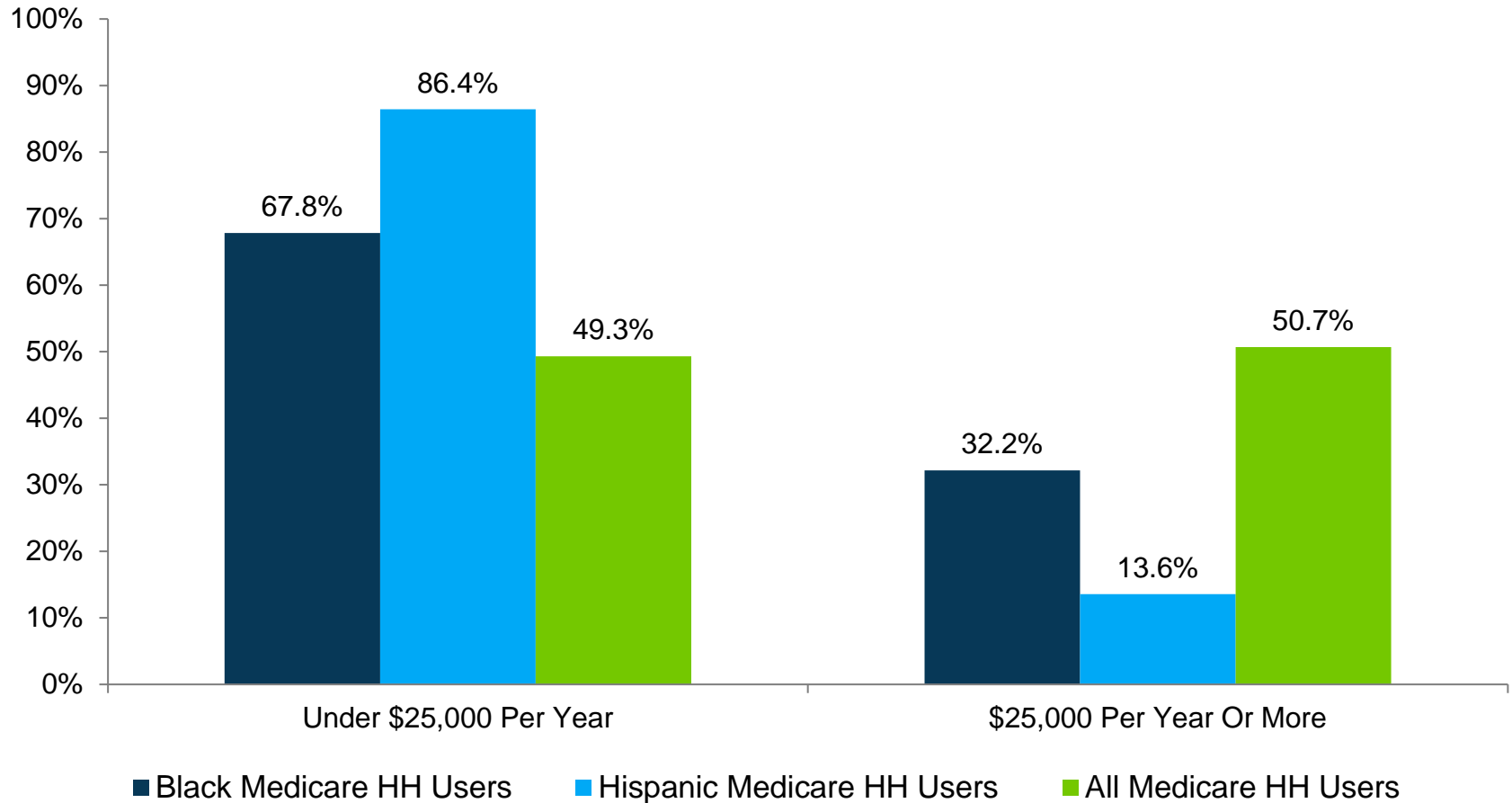


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*\*In 2018, 100 percent of FPL for a household of 1 was \$12,140, a household of 2 was \$16,460, a household of 3 was \$20,780, and household of 4 was \$25,100. 200 percent of FPL was double each amount.

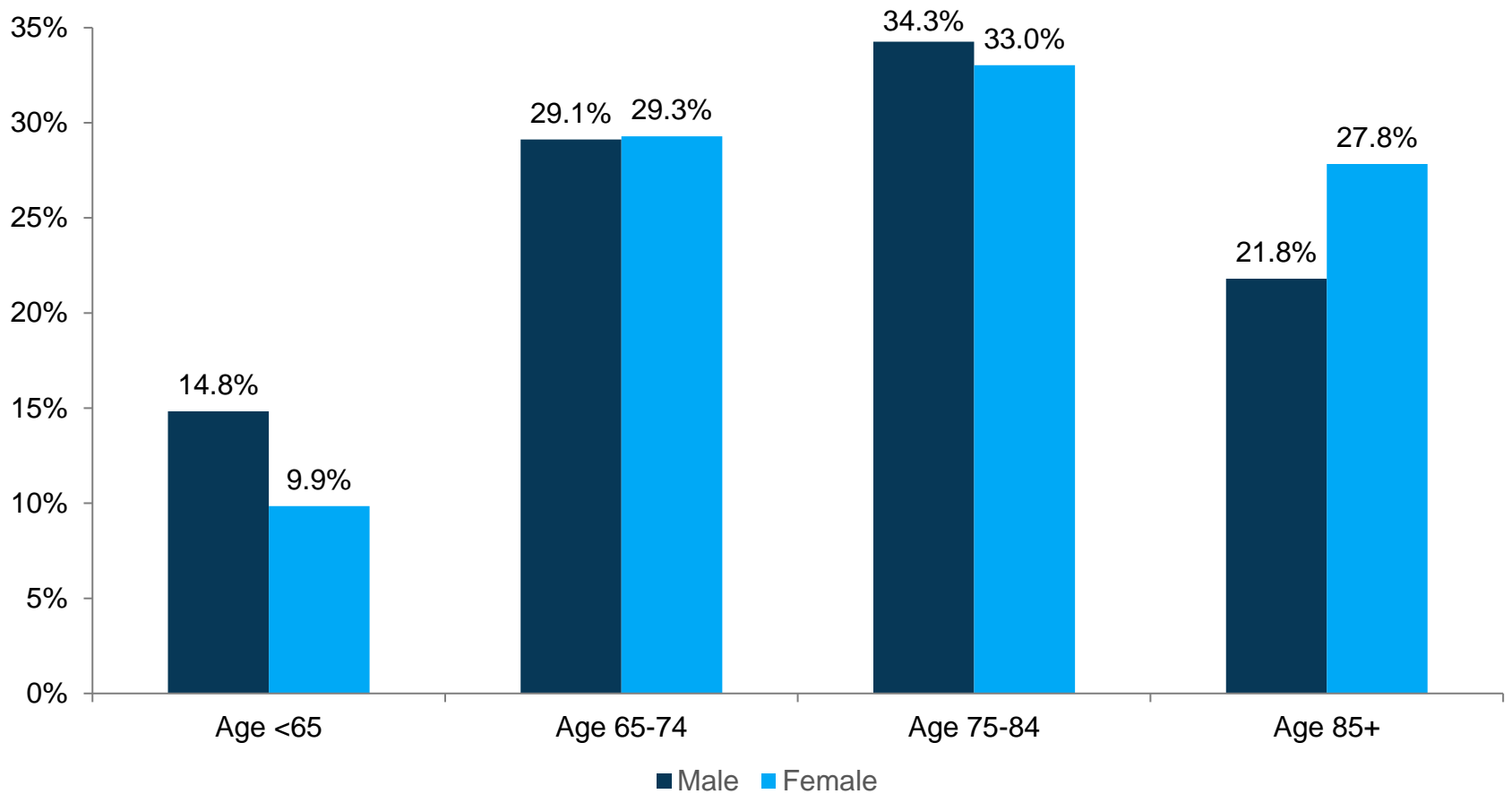
# Demographics of Home Health Users by Race and Ethnicity

Chart 1.15: Income Distribution of Home Health Users by Race and Ethnicity, 2018



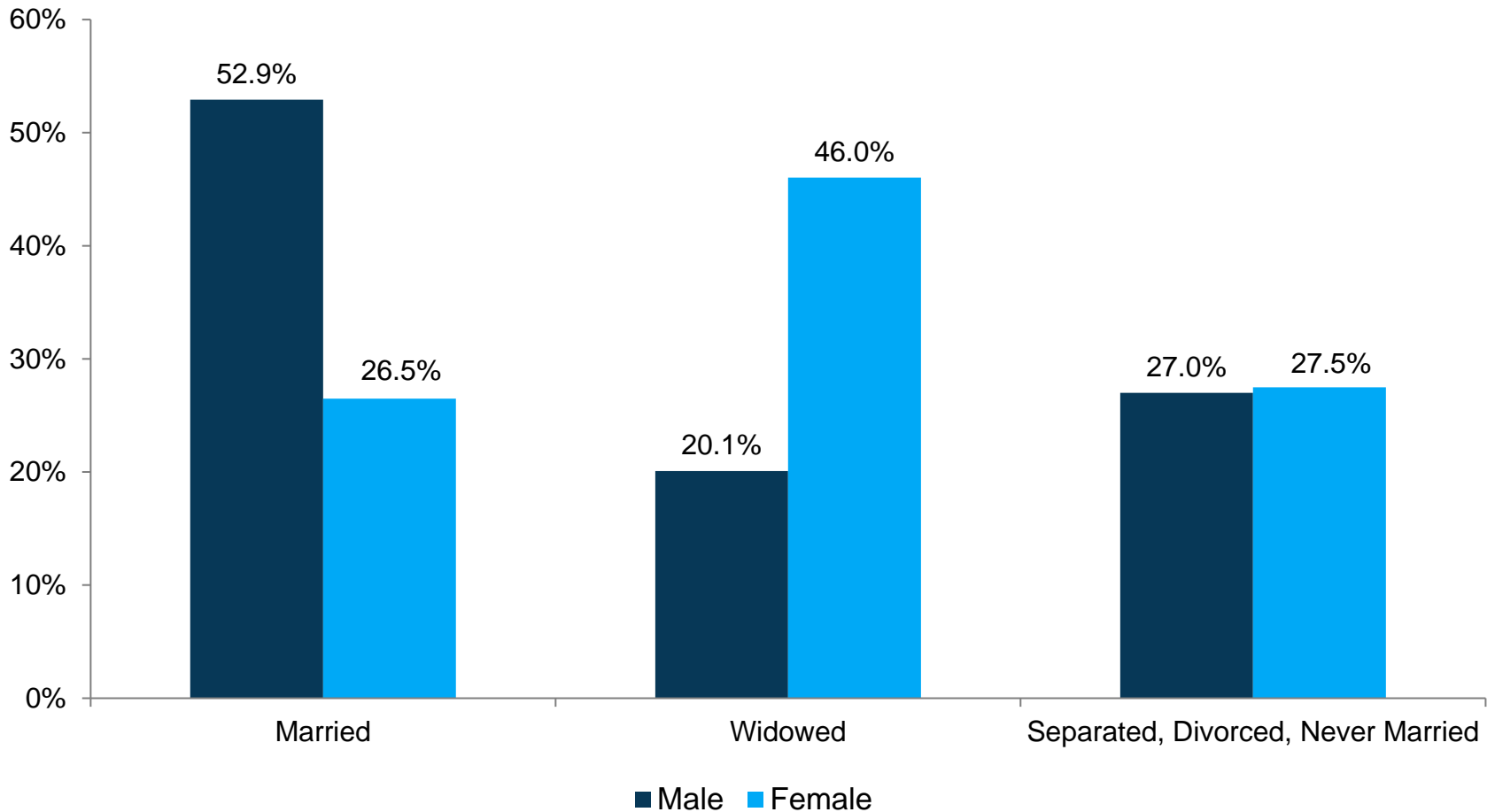
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Chart 1.16: Age Distribution of Home Health Users by Sex, 2018



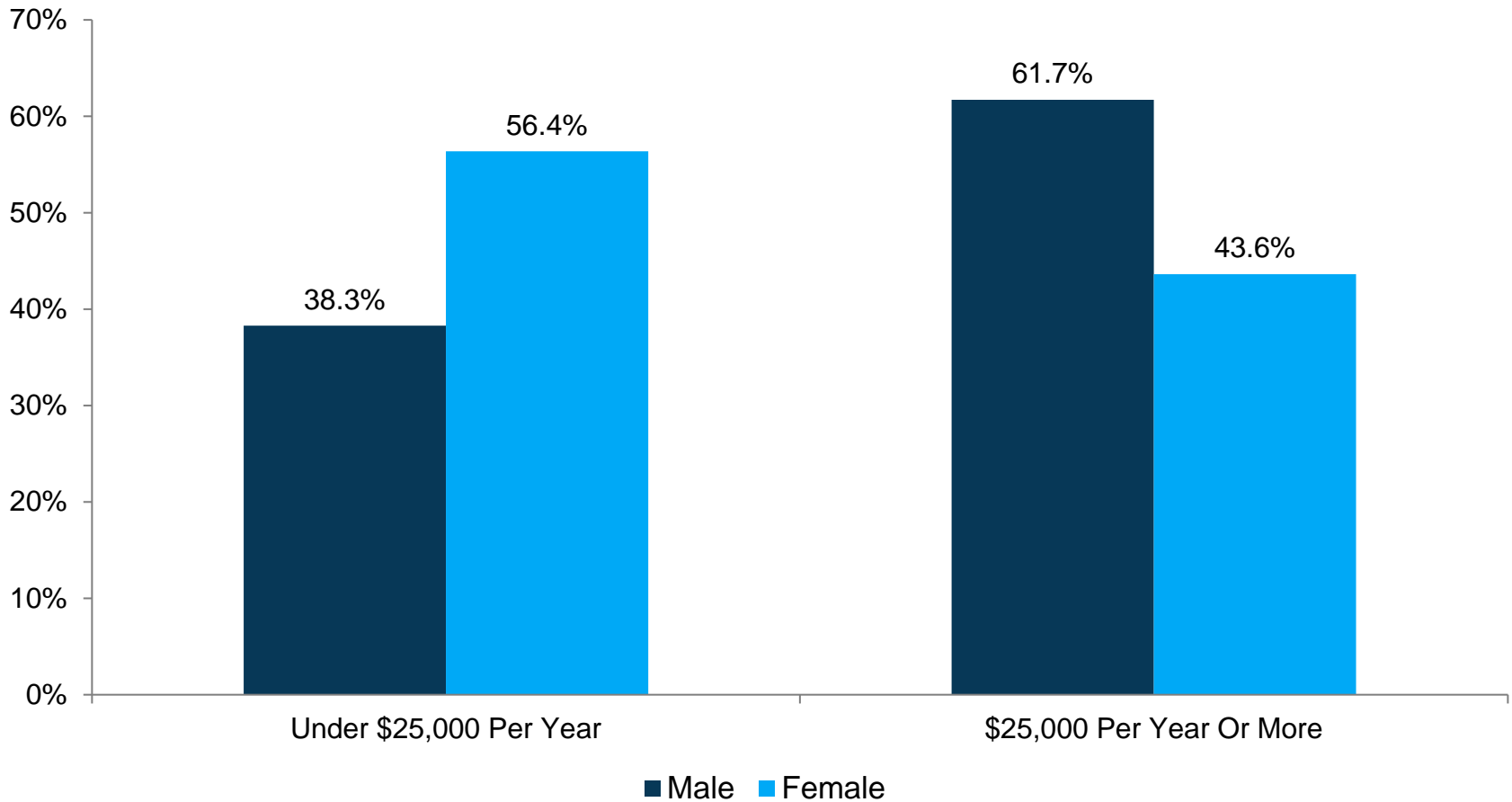
# Demographics of Home Health Users by Sex

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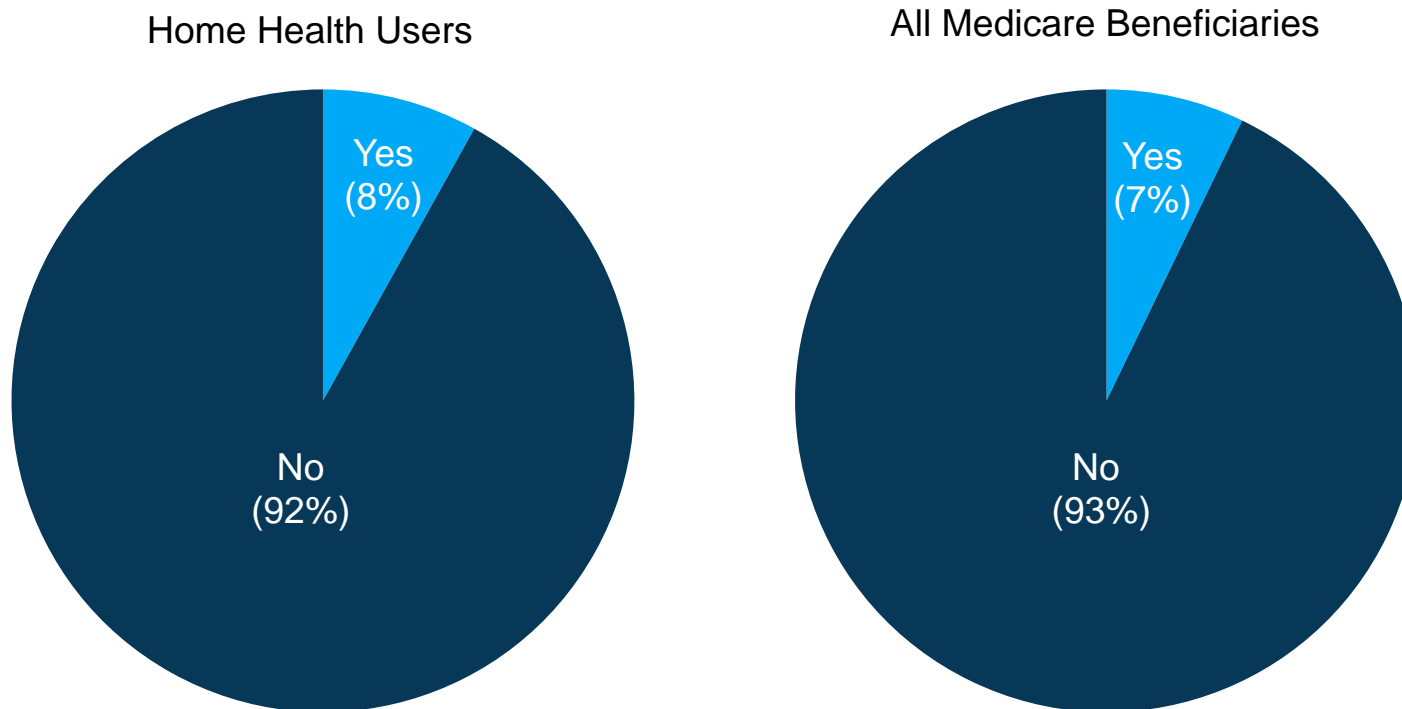
# Demographics of Home Health Users by Sex

Chart 1.18: Income Distribution of Home Health Users by Sex, 2018



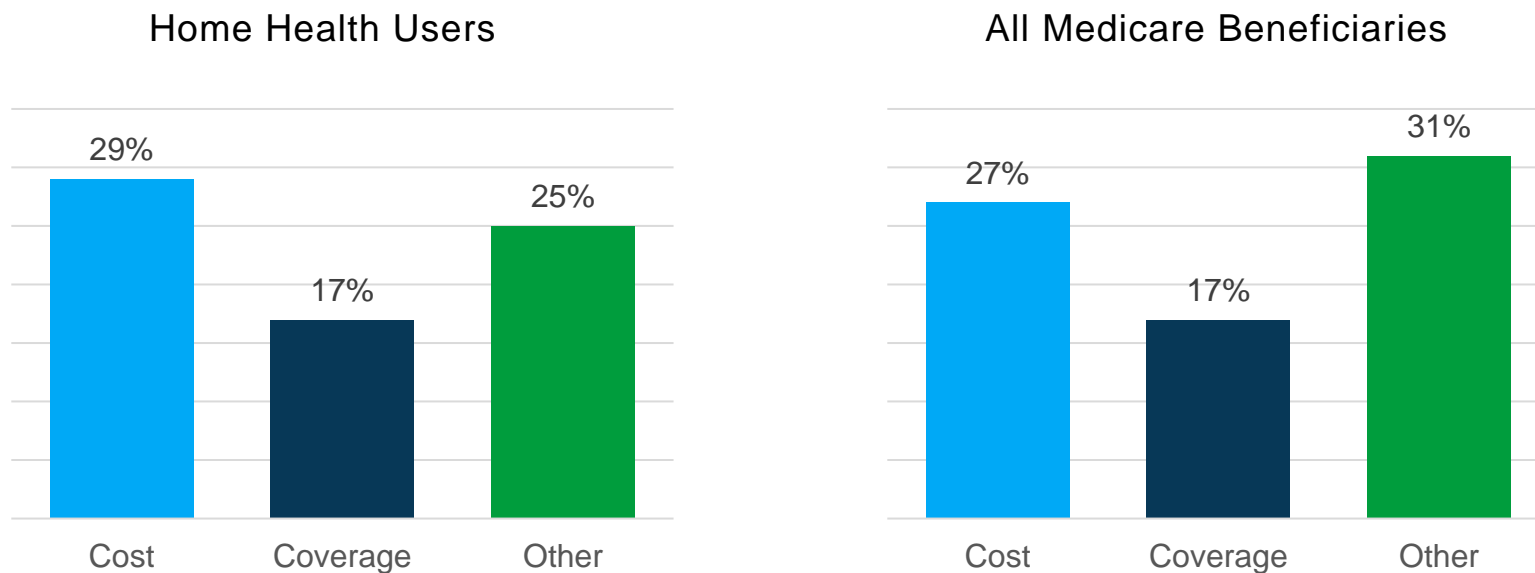
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Chart 1.19a: Access to Care “Trouble Getting Needed Care” Measure in Home Health Users and All Medicare Beneficiaries, 2018



# Top Reasons for Trouble Getting Needed Care for Home Health Users and All Medicare Beneficiaries

Chart 1.19b: Top Reasons Selected for “Trouble Getting Needed Care” Measure in Home Health Users and All Medicare Beneficiaries\*, 2018



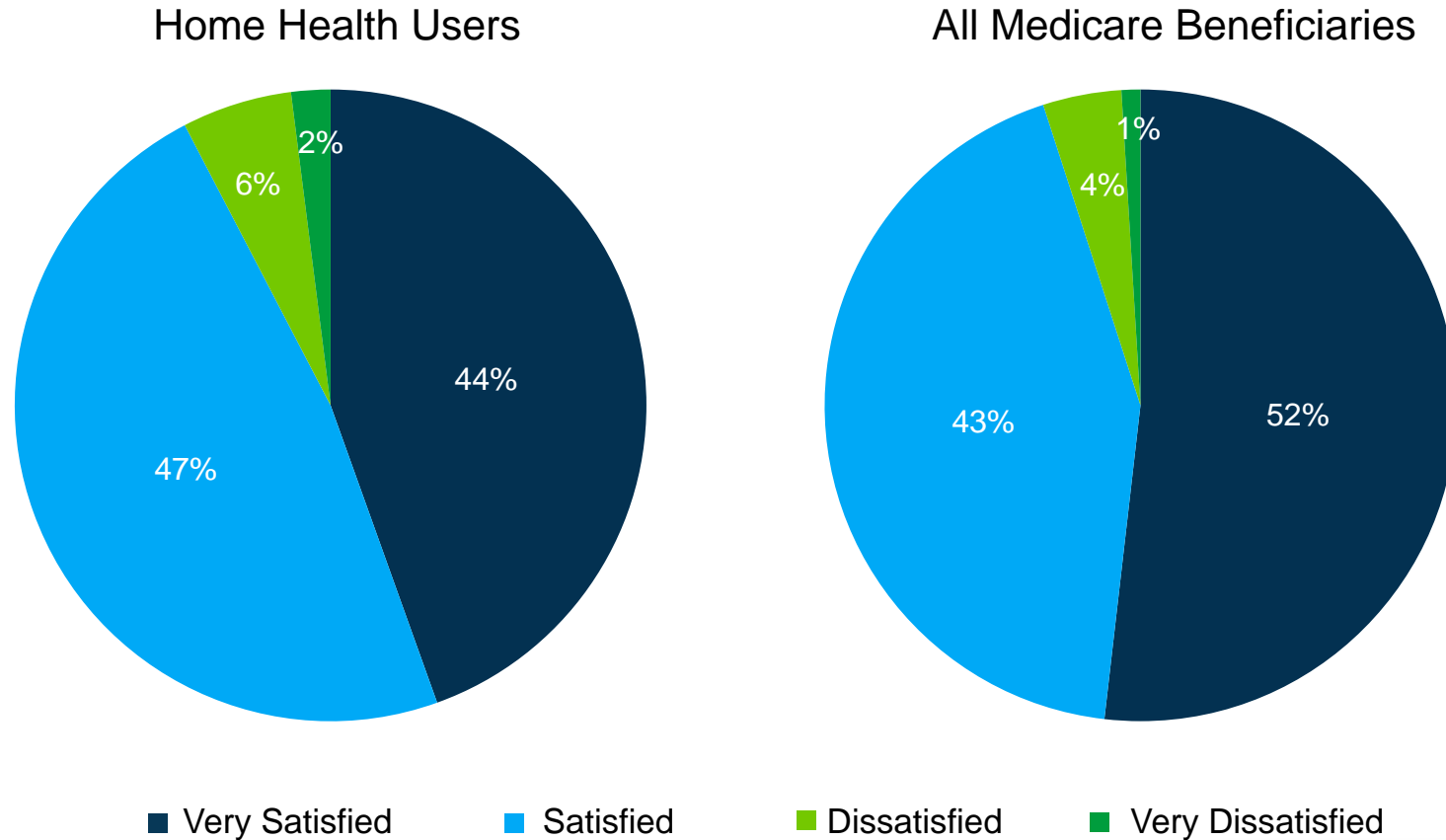
Source: Avalere analysis of the Medicare Current Beneficiary Survey.

Access to care includes information about the respondents' use of all types of medical services.

\* Respondent can select multiple reasons; the percentages are calculated as the number of respondents selected the reason over all respondents that indicated having trouble getting needed care

# Satisfaction with Care for Home Health Users Compared to All Medicare Beneficiaries

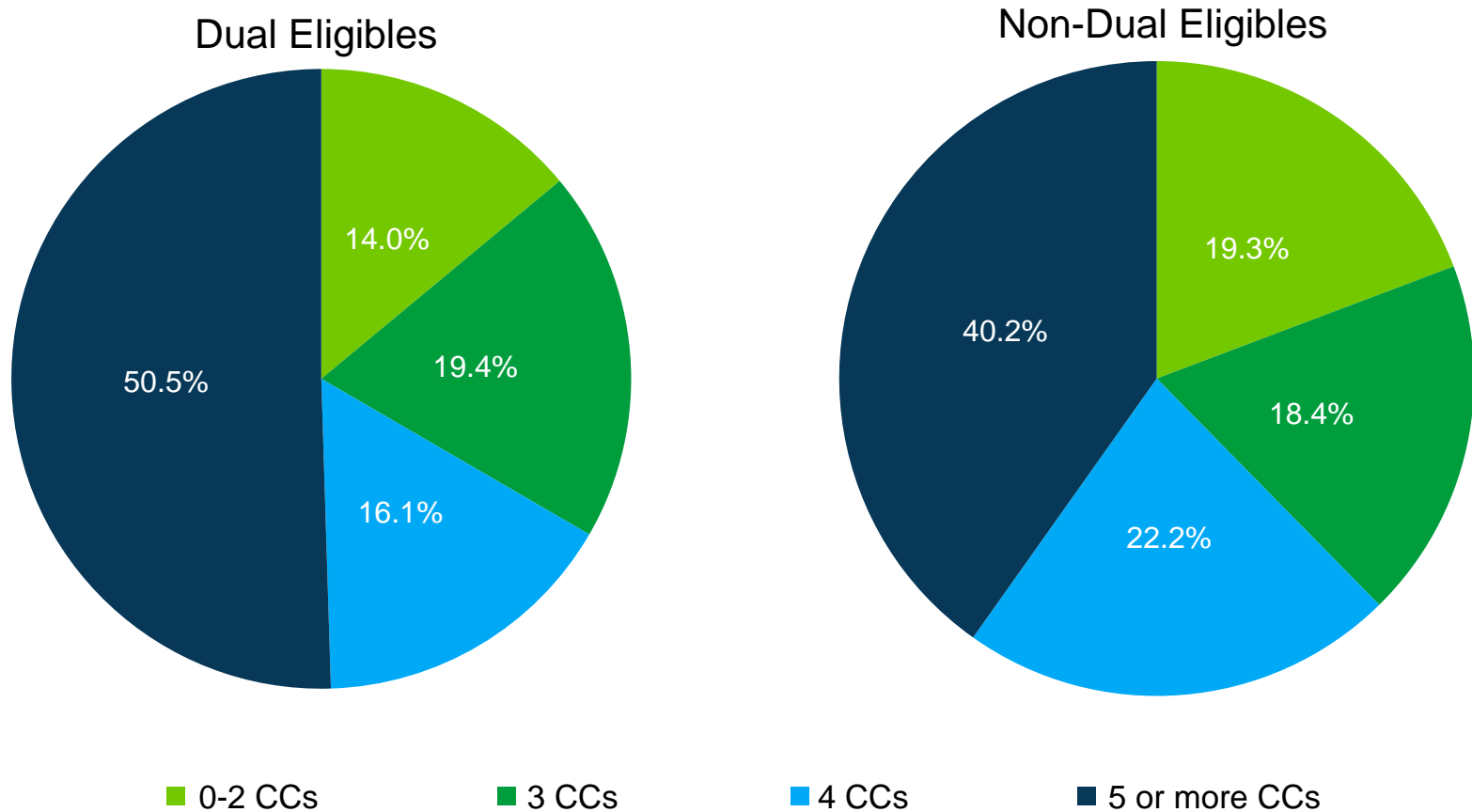
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# Demographics of Home Health Users by Dual Eligible Status

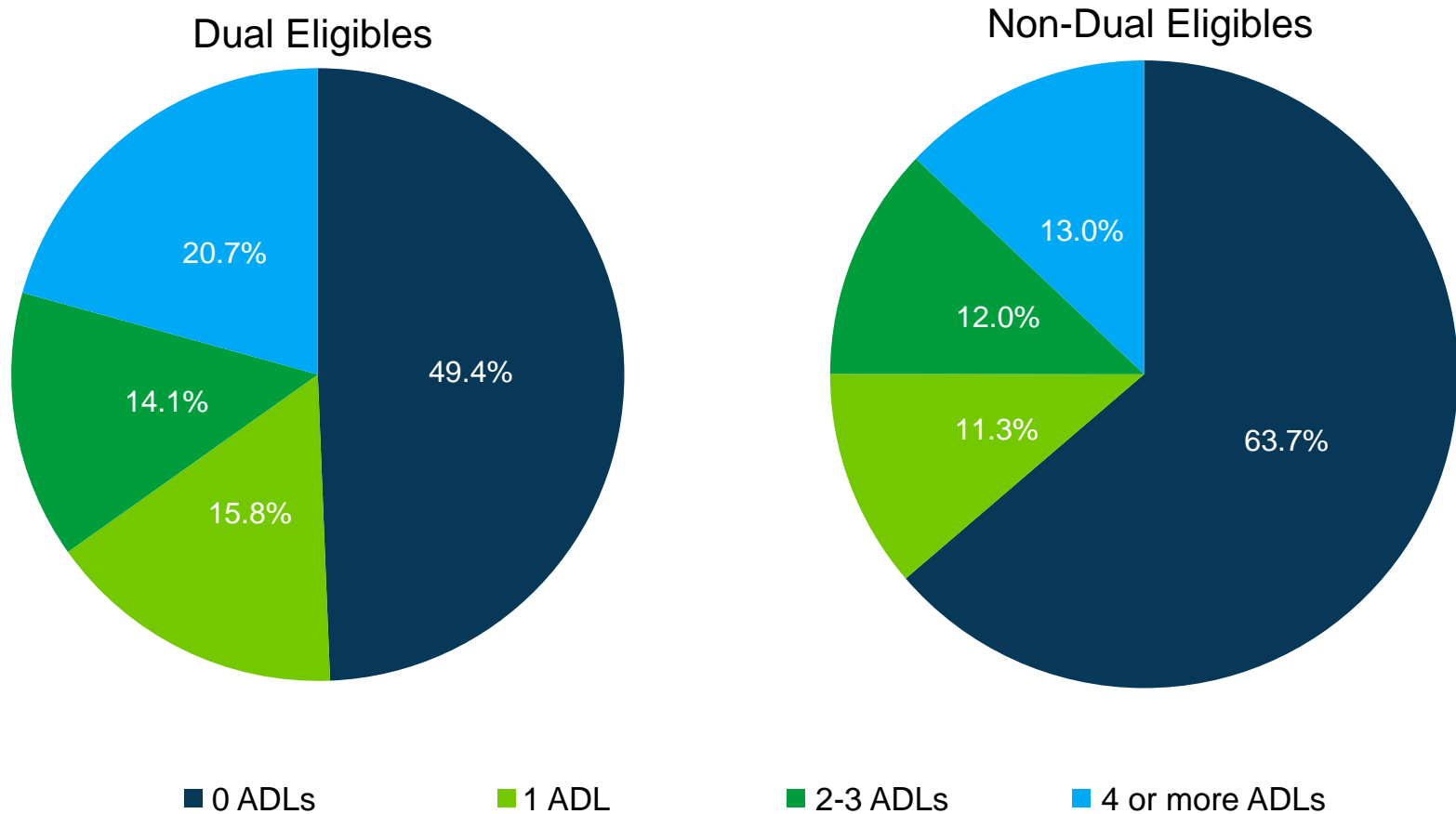
Chart 1.21: Percentage of Home Health Users by Dual Eligible Status and Number of Chronic Conditions (CCs), 2018



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.  
Note: Dual eligibles are defined as individuals with any state buy-in at any point during the year.  
Totals may not sum to 100 percent due to rounding.

# Demographics of Home Health Users by Dual Eligible Status

Chart 1.22: Percentage of Home Health Users by Dual Eligible Status and Number of Activities of Daily Living (ADLs) with Which They Require Assistance, 2018



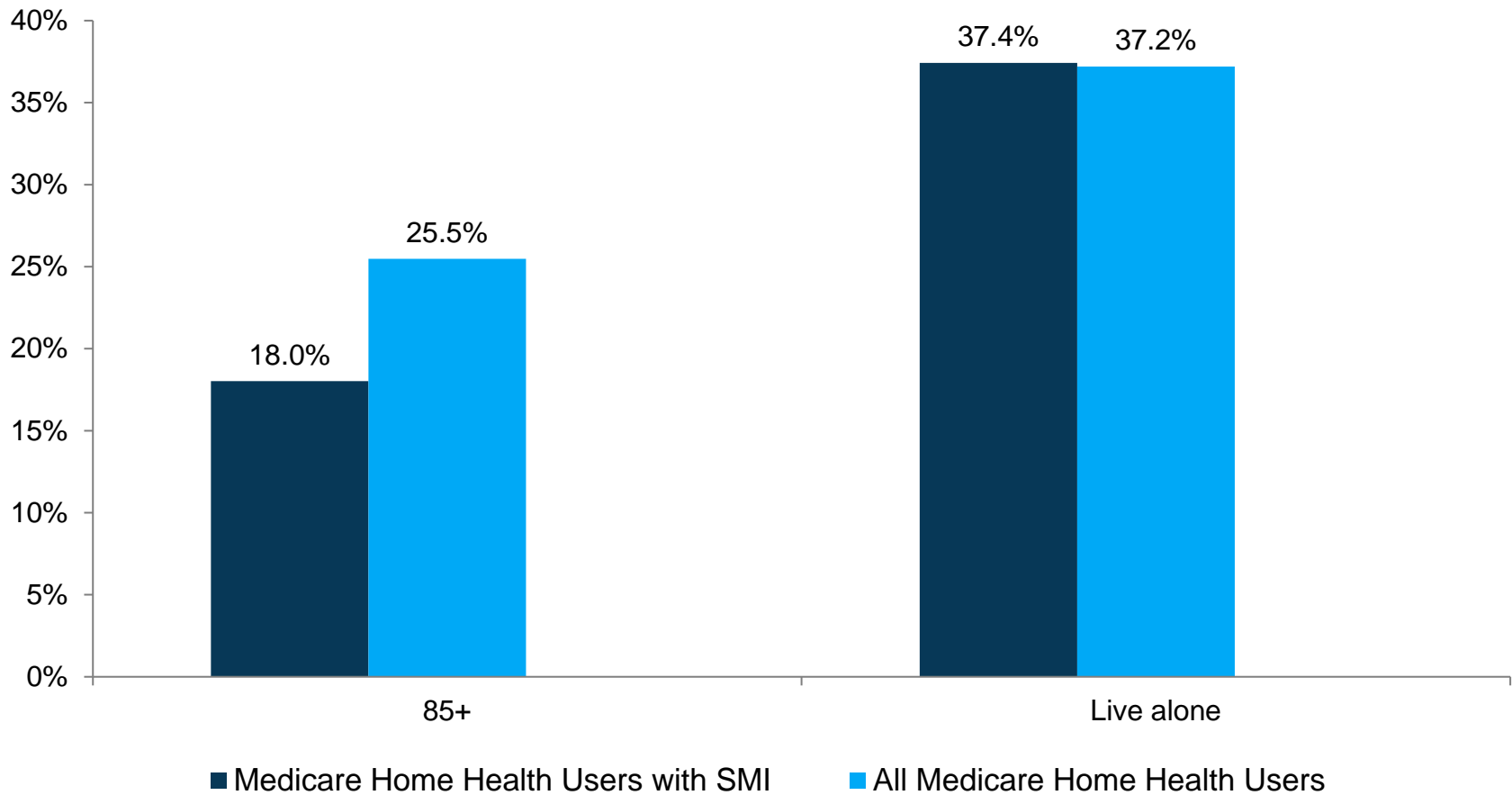
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

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 1.23: Selected Characteristics of All Medicare Home Health Users and Medicare Home Health Users with SMI, 2018

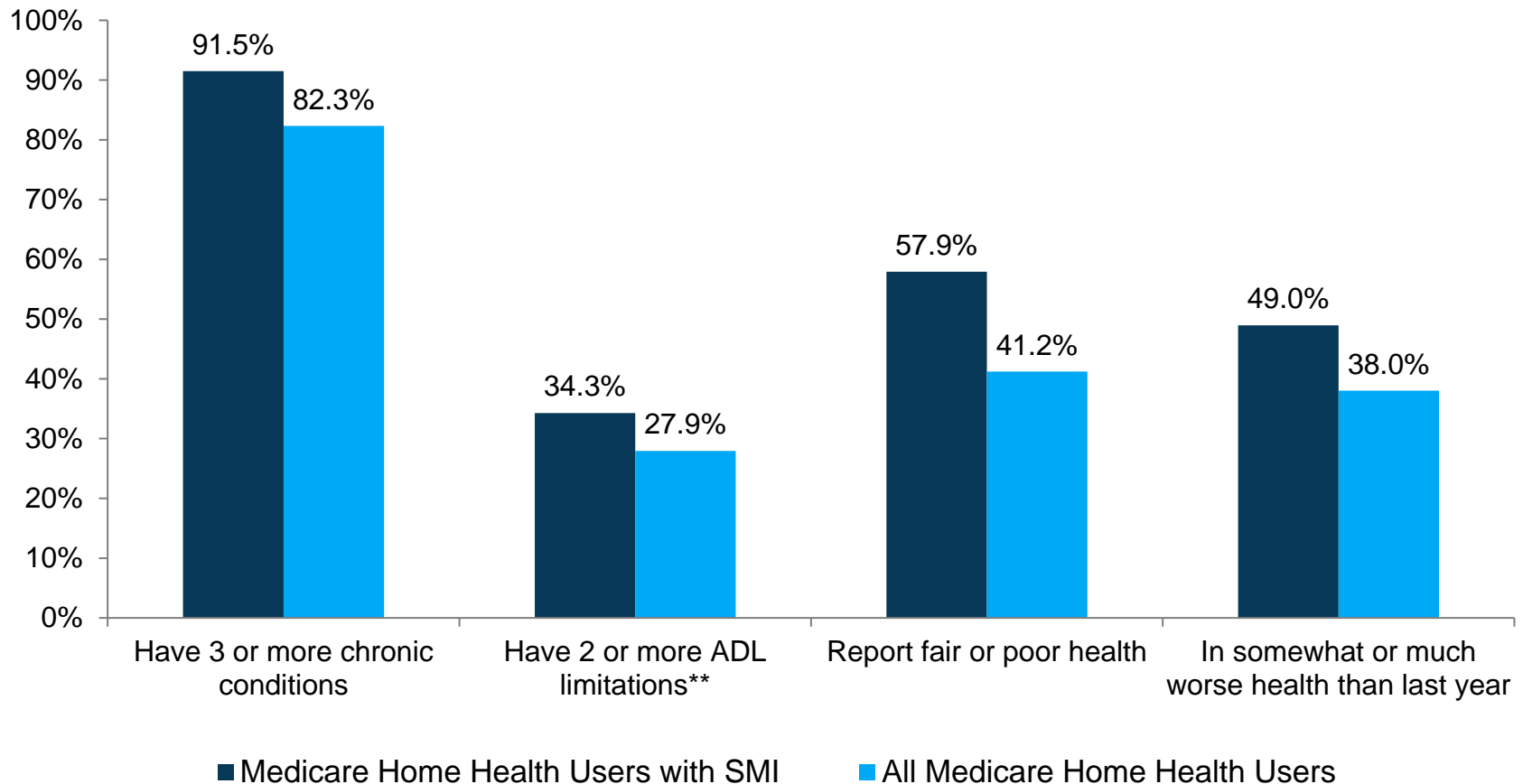


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*Severe mental illness (SMI) is defined as having major depression or another mental illness, including bipolar disorder, schizophrenia, and other psychoses.

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

Chart 1.24: Selected Characteristics of All Medicare Home Health Users and Medicare Home Health Users with SMI, 2018



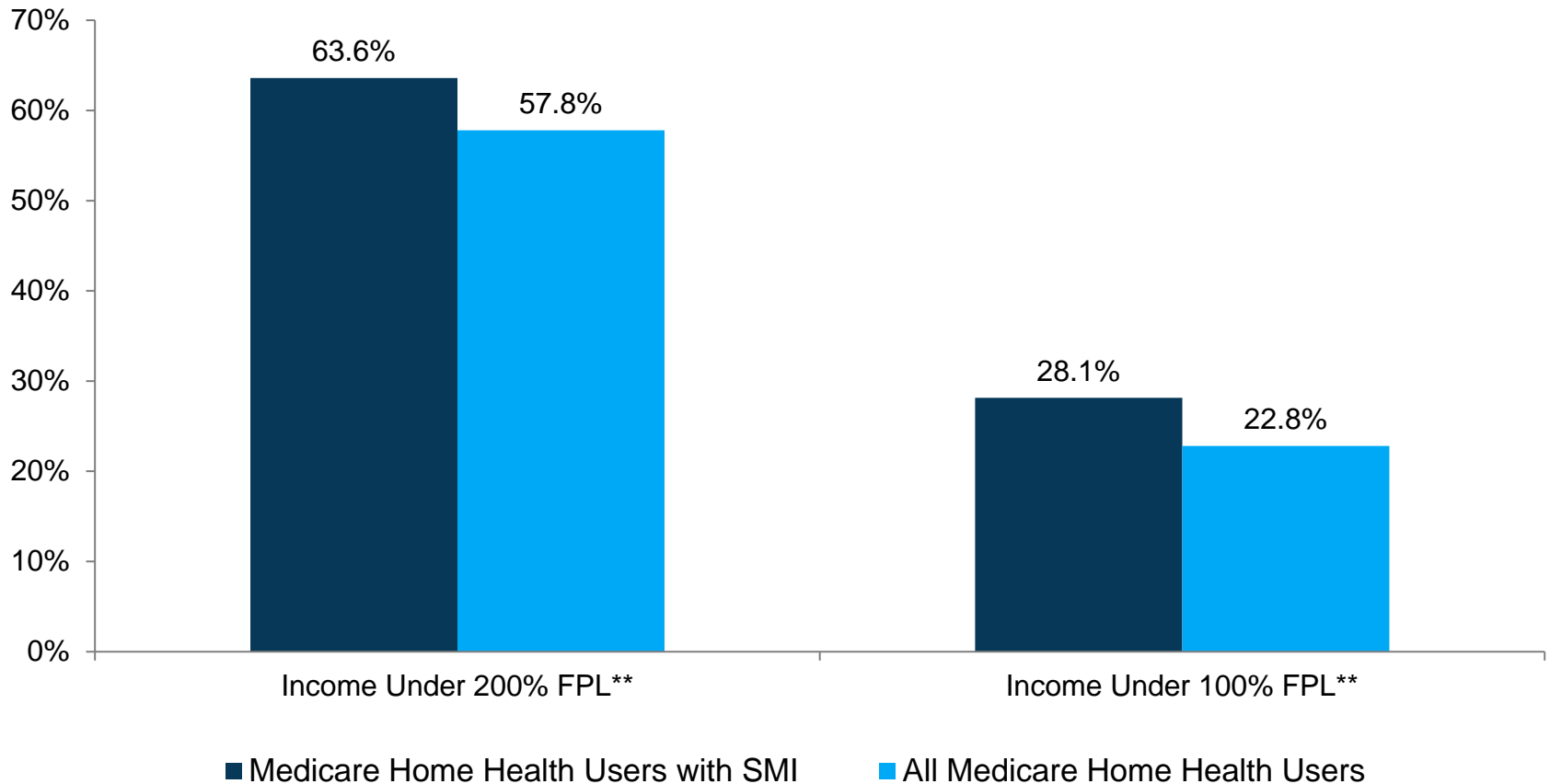
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*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 1.25: Selected Characteristics of Medicare Home Health Users with SMI and All Medicare Home Health Users, 2018



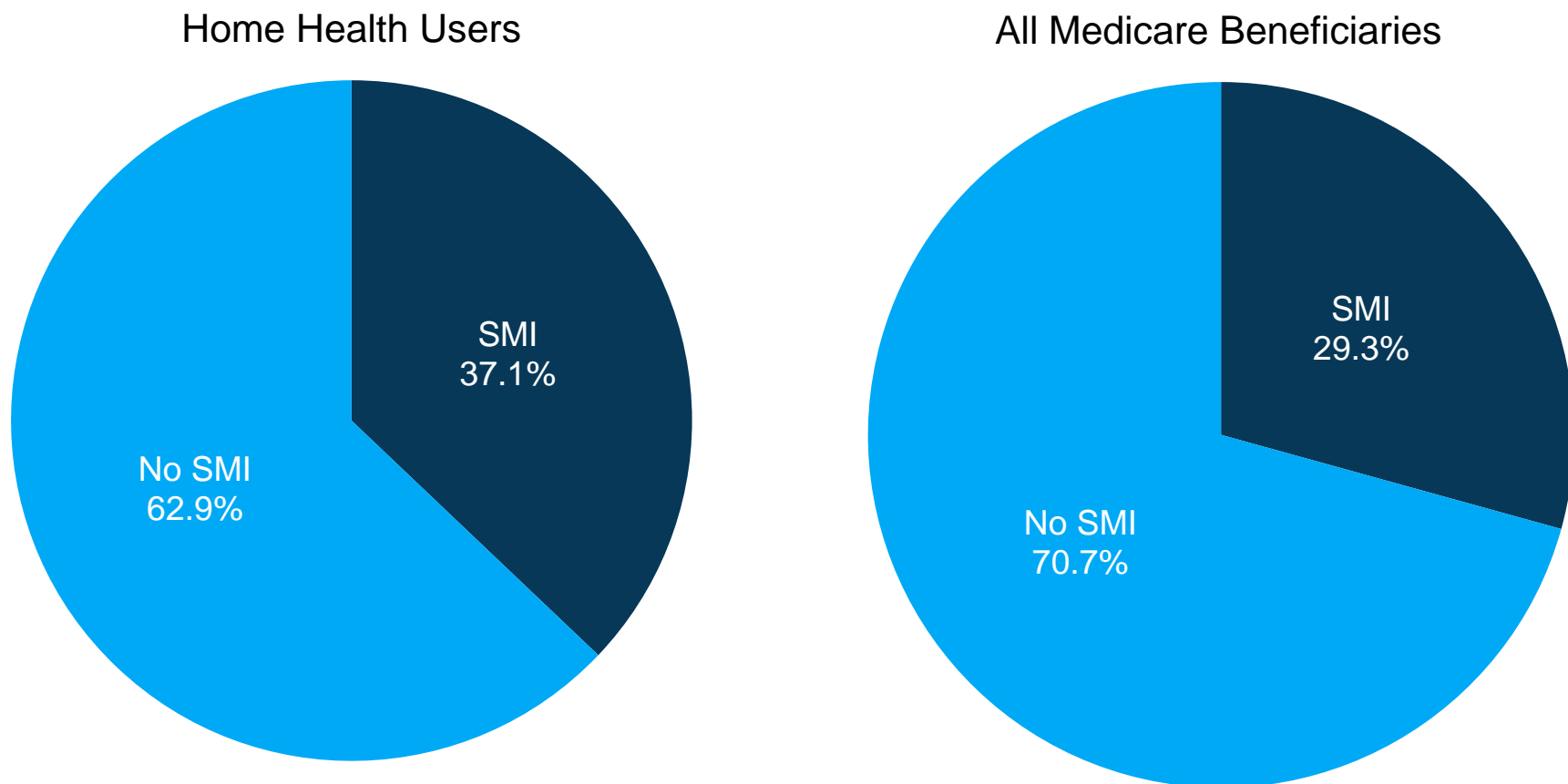
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*Severe mental illness (SMI) is defined as having depression or another mental disorder, including bipolar disorder, schizophrenia, and other psychoses.

\*\*In 2018, 100 percent of FPL for a household of 1 was \$12,140, a household of 2 was \$16,460, a household of 3 was \$20,780, and household of 4 was \$25,100. 200 percent of FPL was double each amount.

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

Chart 1.26: Percentage of Medicare Home Health Users with SMI Compared to the Percentage of Medicare Beneficiaries with SMI, 2018

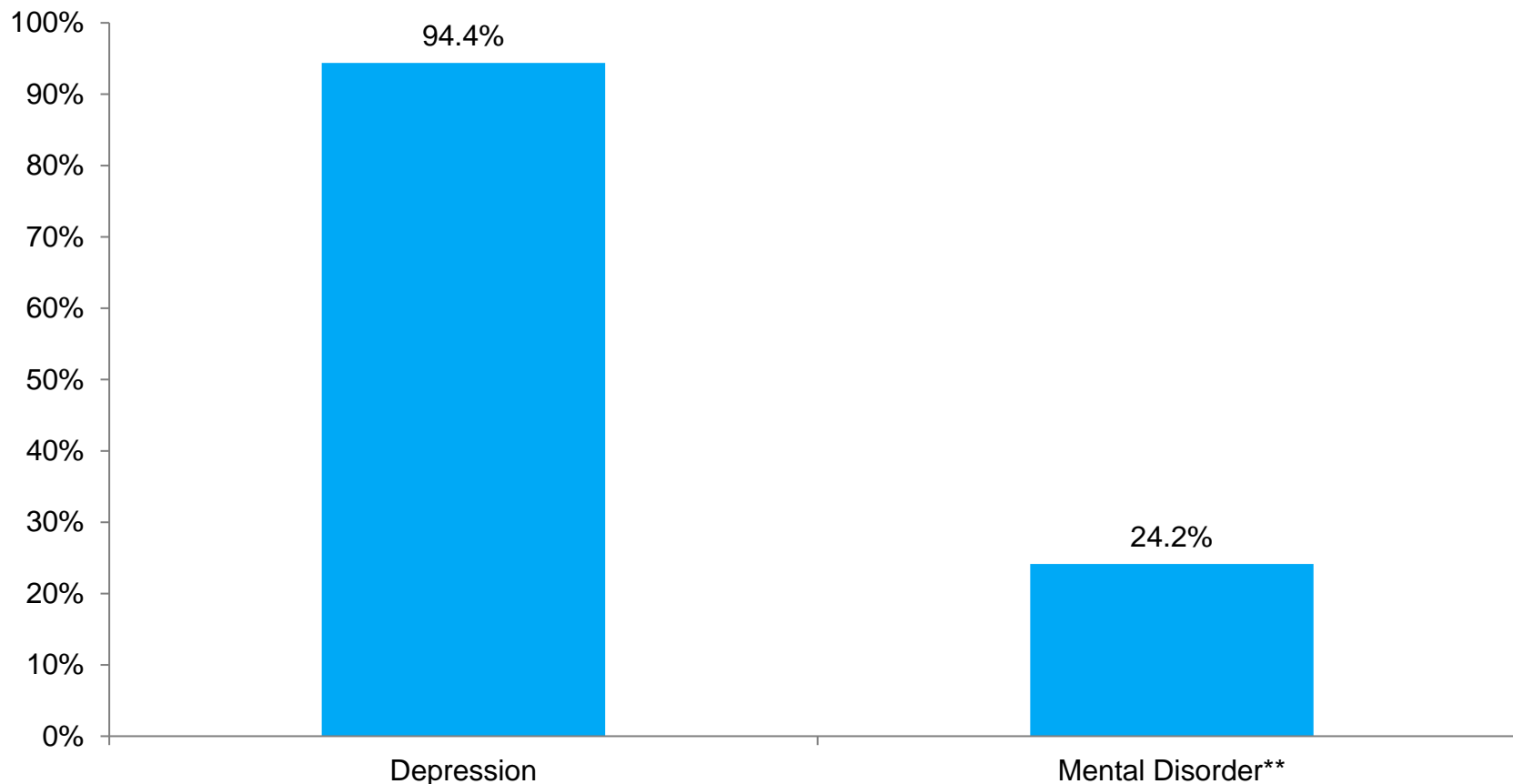


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*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 1.27: Breakdown of Medicare Home Health Users with SMI by Type of SMI, 2018



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2018.

\*Severe mental illness (SMI) is defined as having depression or other mental disorder, including bipolar disorder, schizophrenia, and other psychoses.

\*\*Mental disorder includes bipolar disorder, schizophrenia, and other psychoses besides depression.

# Demographic Trend of Home Health Users

Table 1.28: Selected characteristics of Medicare Home Health Users, 2012 – 2018

	2012	2013	2015	2016	2017	2018
Have 3 or more chronic conditions	85.9%	85.1%	85.9%	80.5%	82.3%	82.3%
Have 2 or more ADL limitations*	34.2%	31.9%	32.9%	27.8%	27.8%	27.9%
Have incomes under 200% of the Federal Poverty Level (FPL)**	67.9%	67.2%	62.5%	64.0%	57.1%	57.8%
Have incomes under 100% of the Federal Poverty Level (FPL)**	32.6%	31.2%	28.7%	27.5%	26.5%	22.8%
Are dual eligibles***	29.9%	31.7%	38.1%	31.3%	32.4%	30.0%
Have SMI****	27.0%	27.2%	44.0%	39.2%	38.3%	37.1%

Note: CMS did not release a 2014 Medicare Current Beneficiary Survey

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care files, 2012 – 2018.

\*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, \$11,880 in 2016, \$12,060 in 2017, and \$12,140 in 2018. 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

Alliance for  
**Home Health**  
Quality and Innovation

  
**Avalere**

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National Association for Home Care & Hospice

# Clinical Profile of Home Health Users

Table 2.1a: Top 20 Most Common Diagnosis Related Groups (MS-DRGs) for Beneficiaries Discharged from Hospital to Part A Home Health Episodes, 2020

MS-DRG	Number of Home Health Part A Claims, 2020	Percent of Total Home Health Part A Claims, 2020
Septicemia or severe sepsis w/o MV >96 hours w MCC	156,702	6.84%
Heart failure & shock w MCC	108,270	4.72%
Major hip and knee joint replacement or reattachment of lower extremity w/o MCC	67,576	2.95%
Respiratory infections & inflammations w MCC	65,720	2.87%
Hip & femur procedures except major joint w CC	56,951	2.48%
Intracranial hemorrhage or cerebral infarction w CC or TPA in 24 hrs	40,193	1.75%
Simple pneumonia & pleurisy w MCC	38,526	1.68%
Infectious & parasitic diseases w O.R. procedure w MCC	36,751	1.60%
Septicemia or severe sepsis w/o MV >96 hours w/o MCC	36,681	1.60%
Renal failure w CC	28,651	1.25%
Pulmonary edema & respiratory failure	28,299	1.23%
Kidney & urinary tract infections w/o MCC	28,263	1.23%
Renal failure w MCC	25,641	1.12%
Intracranial hemorrhage or cerebral infarction w MCC	24,816	1.08%
Acute myocardial infarction, discharged alive w MCC	23,583	1.03%
Kidney & urinary tract infections w MCC	22,485	0.98%
Cellulitis w/o MCC	22,117	0.96%
G.I. hemorrhage w CC	22,116	0.96%
Chronic obstructive pulmonary disease w MCC	22,102	0.96%
Major small & large bowel procedures w CC	21,639	0.94%
<b>Total for Top 20 MS-DRGs</b>	<b>877,082</b>	<b>38.26%</b>

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

Data for beneficiaries with a Part A home health episode and a prior short-term acute care hospital stay in 2020.

Note: CC is complication or comorbidity. MCC is major complication or comorbidity.

# Clinical Profile of Home Health Users

Table 2.1b: Comparison of Top 20 Most Common Diagnosis Related Groups (MS-DRGs) for Beneficiaries Discharged from Hospital to Part A Home Health Episodes, 2019- 2020

MS-DRG	Number of Home Health Part A Claims, 2020	Number of Home Health Part A Claims, 2019
Septicemia or severe sepsis w/o MV >96 hours w MCC	156,702	96,982
Heart failure & shock w MCC	108,270	75,307*
Major hip and knee joint replacement or reattachment of lower extremity w/o MCC	67,576	81,582
Respiratory infections & inflammations w MCC	65,720	N/A**
Hip & femur procedures except major joint w CC	56,951	33,731
Intracranial hemorrhage or cerebral infarction w CC or TPA in 24 hrs	40,193	22,347
Simple pneumonia & pleurisy w MCC	38,526	28,167
Infectious & parasitic diseases w O.R. procedure w MCC	36,751	20,842
Septicemia or severe sepsis w/o MV >96 hours w/o MCC	36,681	25,985
Renal failure w CC	28,651	20,226
Pulmonary edema & respiratory failure	28,299	22,748
Kidney & urinary tract infections w/o MCC	28,263	21,592
Renal failure w MCC	25,641	16,779
Intracranial hemorrhage or cerebral infarction w MCC	24,816	15,002
Acute myocardial infarction, discharged alive w MCC	23,583	15,454
Kidney & urinary tract infections w MCC	22,485	15,161
Cellulitis w/o MCC	22,117	17,182
G.I. hemorrhage w CC	22,116	14,359
Chronic obstructive pulmonary disease w MCC	22,102	21,317
Major small & large bowel procedures w CC	21,639	15,197
<b>Total for Top 20 MS-DRGs</b>	<b>877,082</b>	<b>579,960</b>

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2019- 2020.

Data for beneficiaries with a Part A home health episode and a prior short-term acute care hospital stay in 2019 or 2020.

\* 2019 description is "Heart Failure & Shock w MCC or Peripheral Extracorporeal Membrane Oxygenation" Copyright ©2021. Avalere Health LLC and Alliance for Home Health Quality and Innovation. All Rights Reserved.

\*\* Data not available in top 20 in 2019

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, 2020

ICD-10 Diagnosis	Number of Medicare Home Health Claims, 2020	Percent of Total Medicare Home Health Claims, 2020
Type 2 diabetes mellitus	782,916	8.31%
Encounter for other postprocedural aftercare	466,803	4.95%
Orthopedic aftercare	441,611	4.68%
Pressure ulcer	376,862	4.00%
Hypertensive heart disease	367,017	3.89%
Other chronic obstructive pulmonary disease	351,899	3.73%
Essential (primary) hypertension	338,489	3.59%
Sequelae of cerebrovascular disease	337,167	3.58%
Hypertensive heart and chronic kidney disease	280,044	2.97%
Chronic ischemic heart disease	228,570	2.42%
Fracture of femur	198,021	2.10%
Atrial fibrillation and flutter	173,750	1.84%
Parkinson's disease	165,505	1.76%
Encounter for fitting and adjustment of other devices	153,284	1.63%
Other disorders of veins	147,413	1.56%
Other disorders of urinary system	145,981	1.55%
Hypertensive chronic kidney disease	133,804	1.42%
Osteoarthritis of knee	132,658	1.41%
Alzheimer's disease	112,703	1.20%
Polyosteoarthritis	110,593	1.17%
<b>Total for Top 20 Primary ICD-10 Diagnoses</b>	<b>5,445,090</b>	<b>57.76%</b>

# 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, 2020

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	91.98%	18.00%	Montana	91.79%	29.01%
Alaska	90.50%	23.31%	Nebraska	93.24%	28.40%
Arizona	89.05%	13.03%	Nevada	87.76%	13.58%
Arkansas	91.71%	23.78%	New Hampshire	91.14%	27.94%
California	89.27%	13.99%	New Jersey	91.05%	15.84%
Colorado	88.39%	14.46%	New Mexico	88.72%	18.24%
Connecticut	90.73%	16.50%	New York	90.50%	15.02%
Delaware	92.16%	27.11%	North Carolina	92.29%	18.82%
D.C.	88.77%	16.71%	North Dakota	95.16%	41.87%
Florida	89.23%	15.02%	Ohio	93.06%	20.09%
Georgia	91.33%	16.73%	Oklahoma	92.69%	28.54%
Hawaii	92.17%	9.52%	Oregon	91.03%	15.29%
Idaho	88.72%	22.34%	Pennsylvania	91.93%	18.43%
Illinois	93.22%	24.97%	Rhode Island	90.88%	15.85%
Indiana	93.57%	23.11%	South Carolina	91.25%	21.35%
Iowa	93.67%	30.02%	South Dakota	93.79%	37.27%
Kansas	92.81%	28.76%	Tennessee	92.26%	16.68%
Kentucky	92.65%	24.04%	Texas	91.35%	16.34%
Louisiana	91.77%	22.03%	Utah	85.98%	16.37%
Maine	93.27%	23.18%	Vermont	91.09%	32.75%
Maryland	91.20%	20.35%	Virginia	91.26%	22.49%
Massachusetts	90.93%	23.56%	Washington	91.21%	17.69%
Michigan	92.73%	20.47%	West Virginia	94.32%	30.27%
Minnesota	91.53%	18.28%	Wisconsin	93.28%	19.96%
Mississippi	91.88%	28.89%	Wyoming	89.09%	26.42%
Missouri	93.05%	23.52%			

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

Note: Having a chronic condition is defined as having a Medicare claim with a chronic condition listed by the Centers for Medicare and Medicaid Services' Chronic Conditions Data Warehouse.



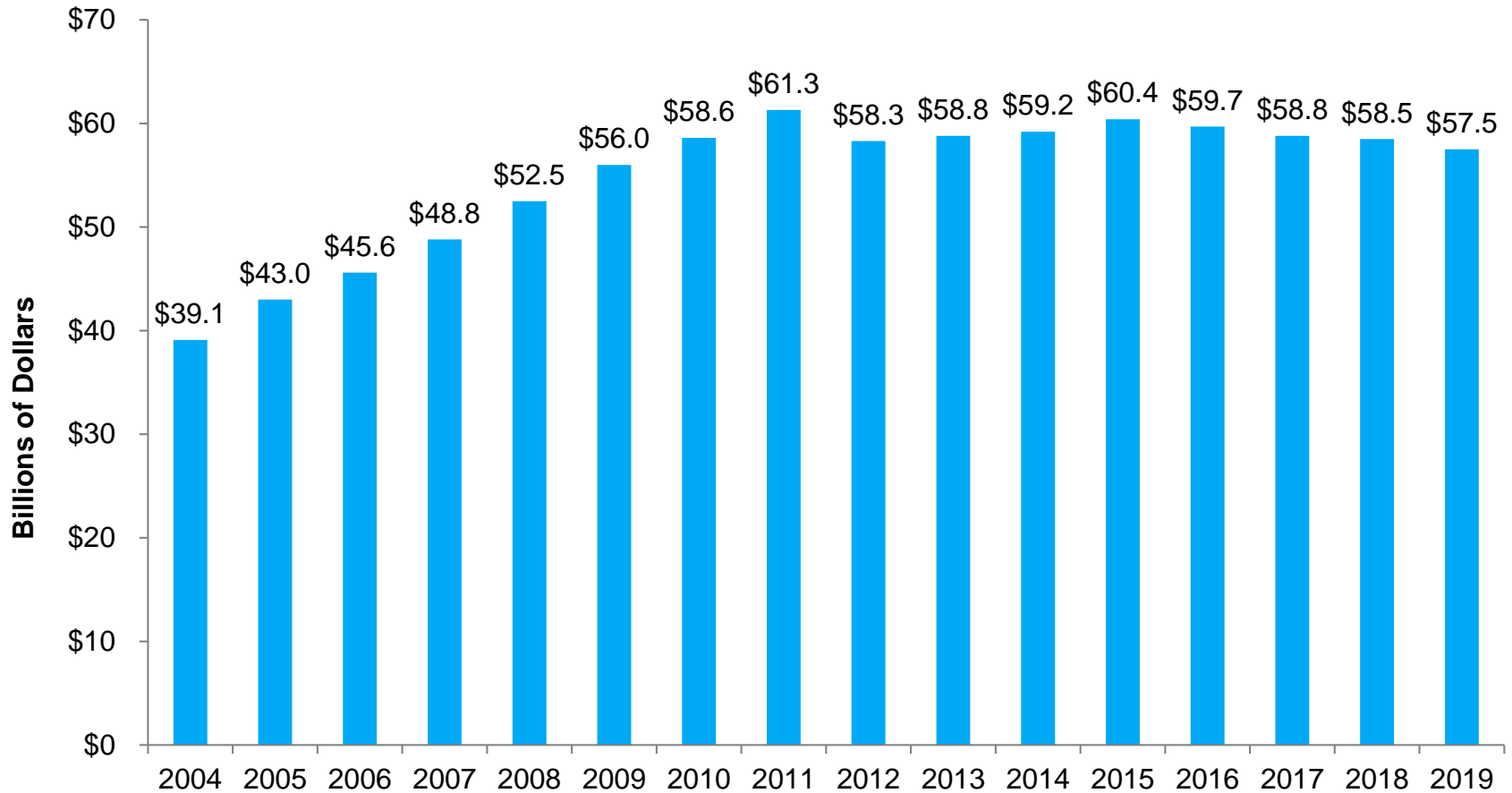


## Section 3: Post-Acute Care Market Overview



# Post-Acute Care Market Overview

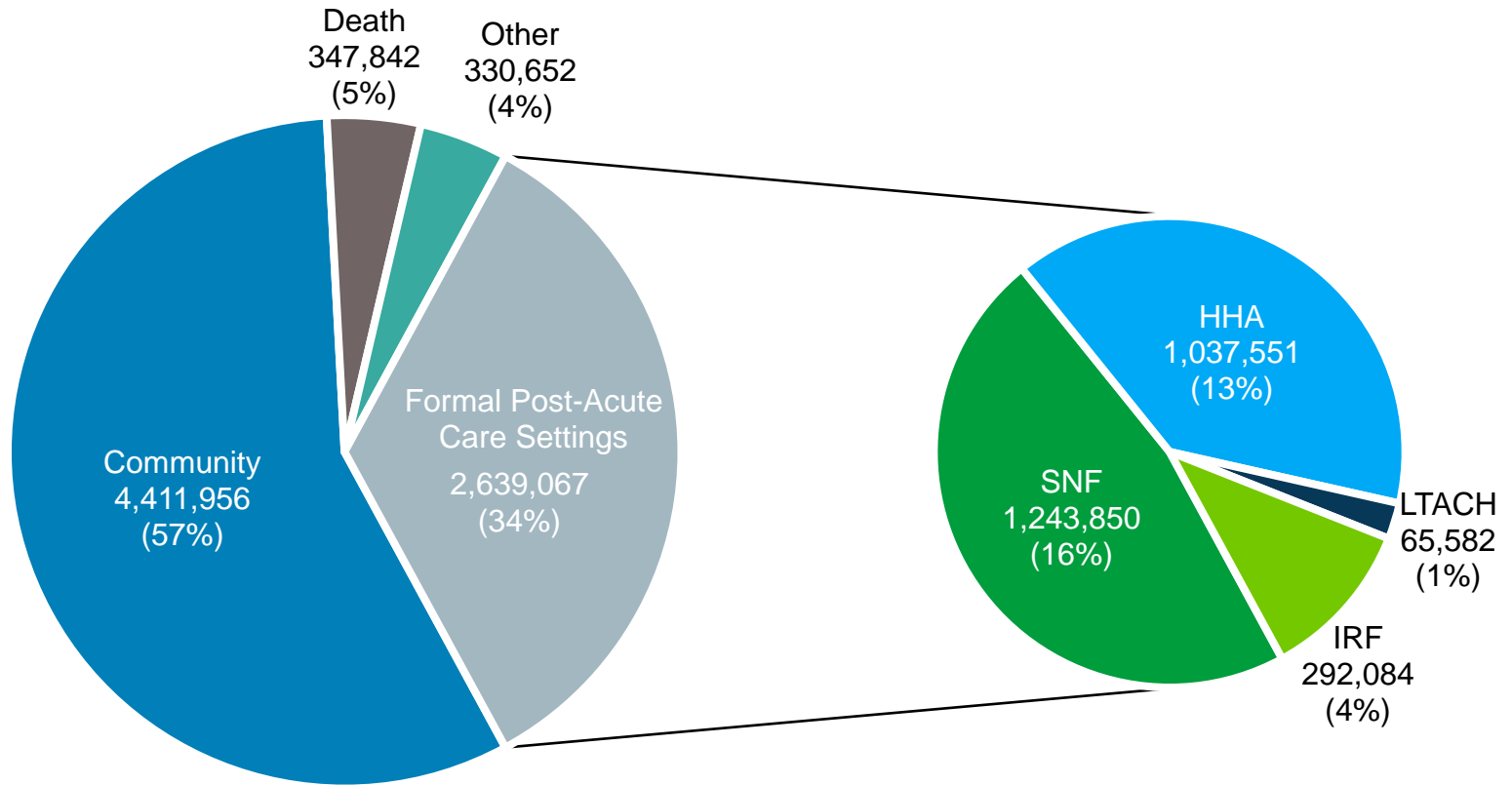
Chart 3.1: Total Medicare Post-acute Care Expenditures, Billions of Dollars, 2004-2019



Source: Medicare Payment Advisory Commission. A Data Book: Health Care Spending and the Medicare Program, June 2017-2021.

# Post-Acute Care Market Overview

Chart 3.2: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries, 2020



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

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.

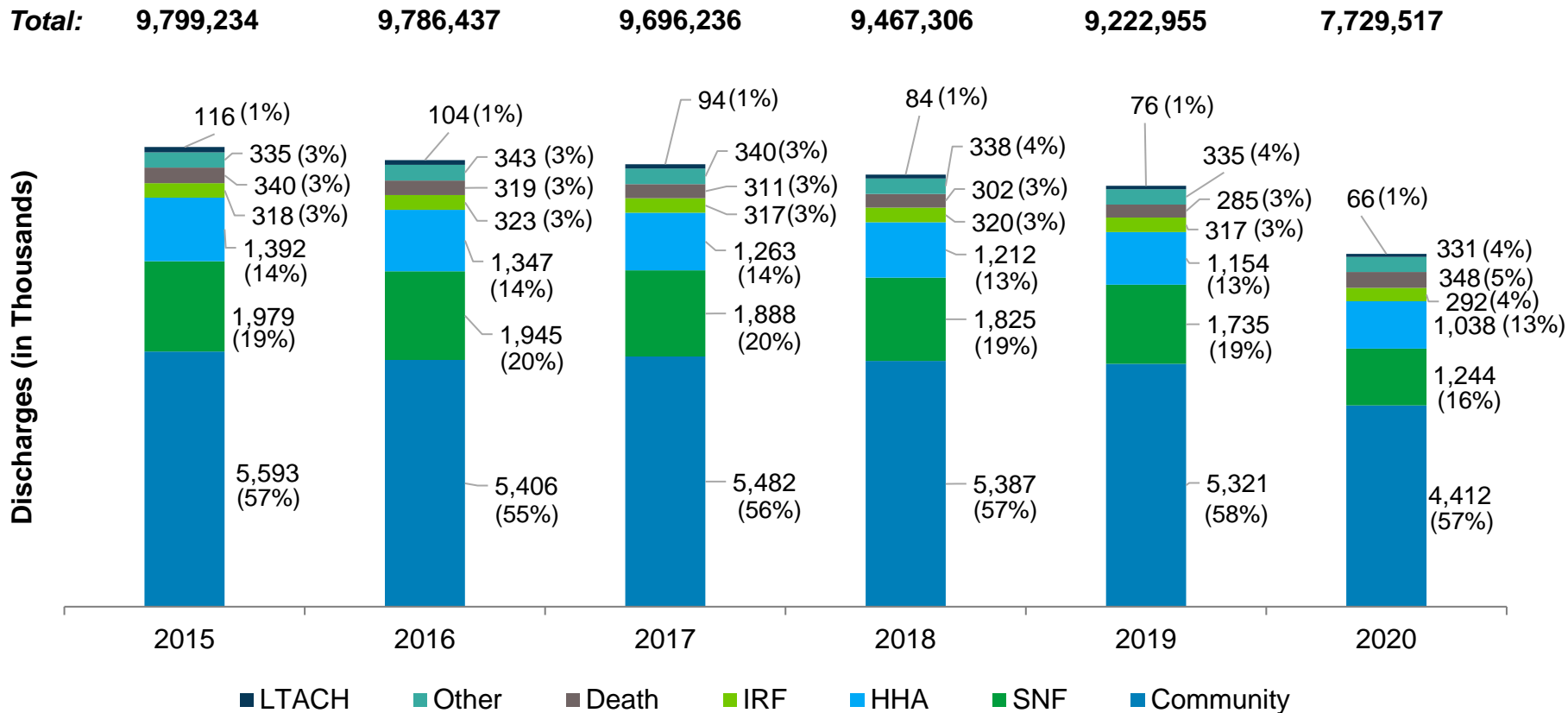
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF), home health agencies (HHA), inpatient rehabilitation facilities (IRF), and long-term acute care hospitals (LTACH).

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, 2015 – 2020



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2015-2020.

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.

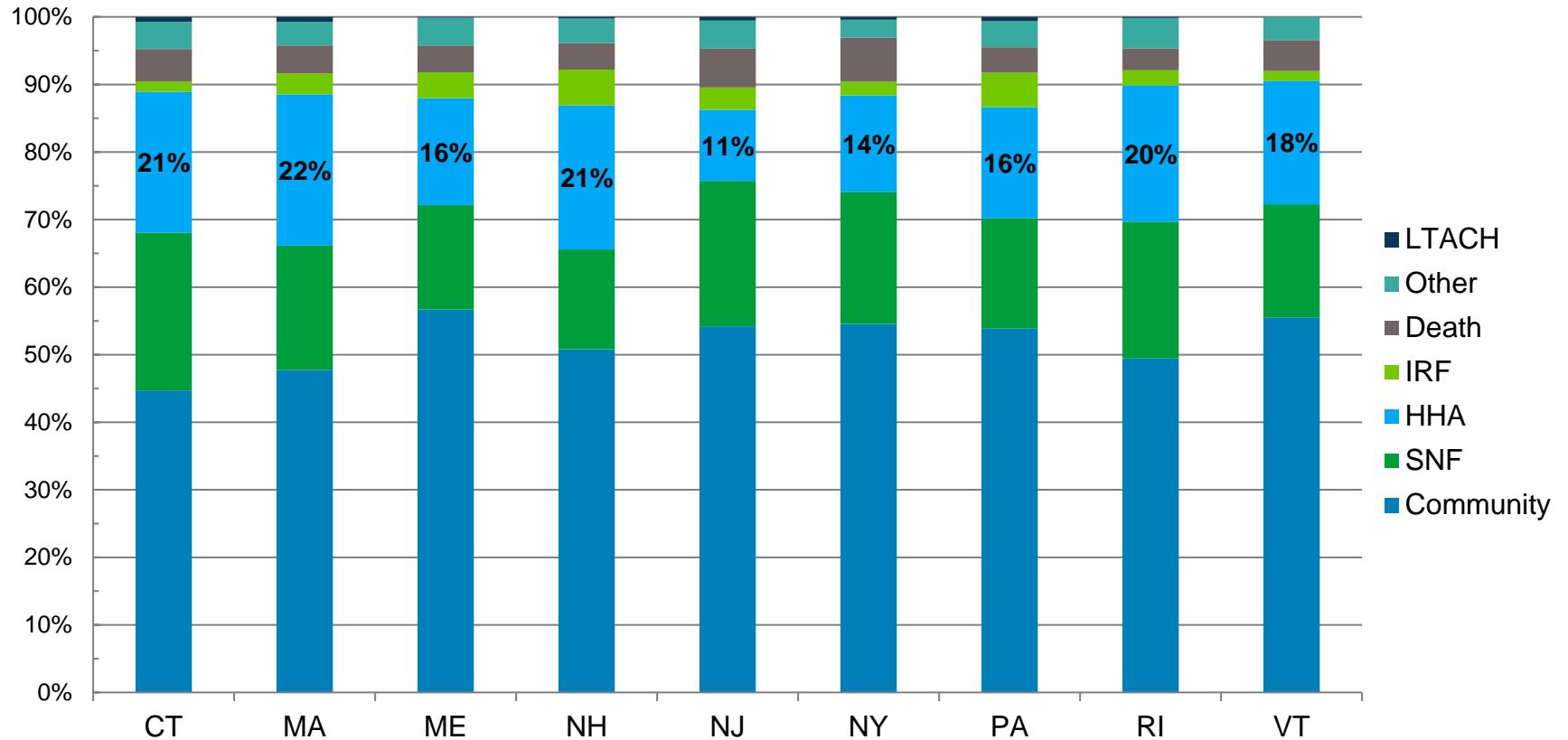
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF), home health agencies (HHA), inpatient rehabilitation facilities (IRF), and long-term acute care hospitals (LTACH).

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 2020, for States in Northeastern Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

Note: U.S. Census Bureau defines which states are in the Northeast Region; includes CT, MA, ME, NH, NJ, NY, PA, RI, VT.

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.

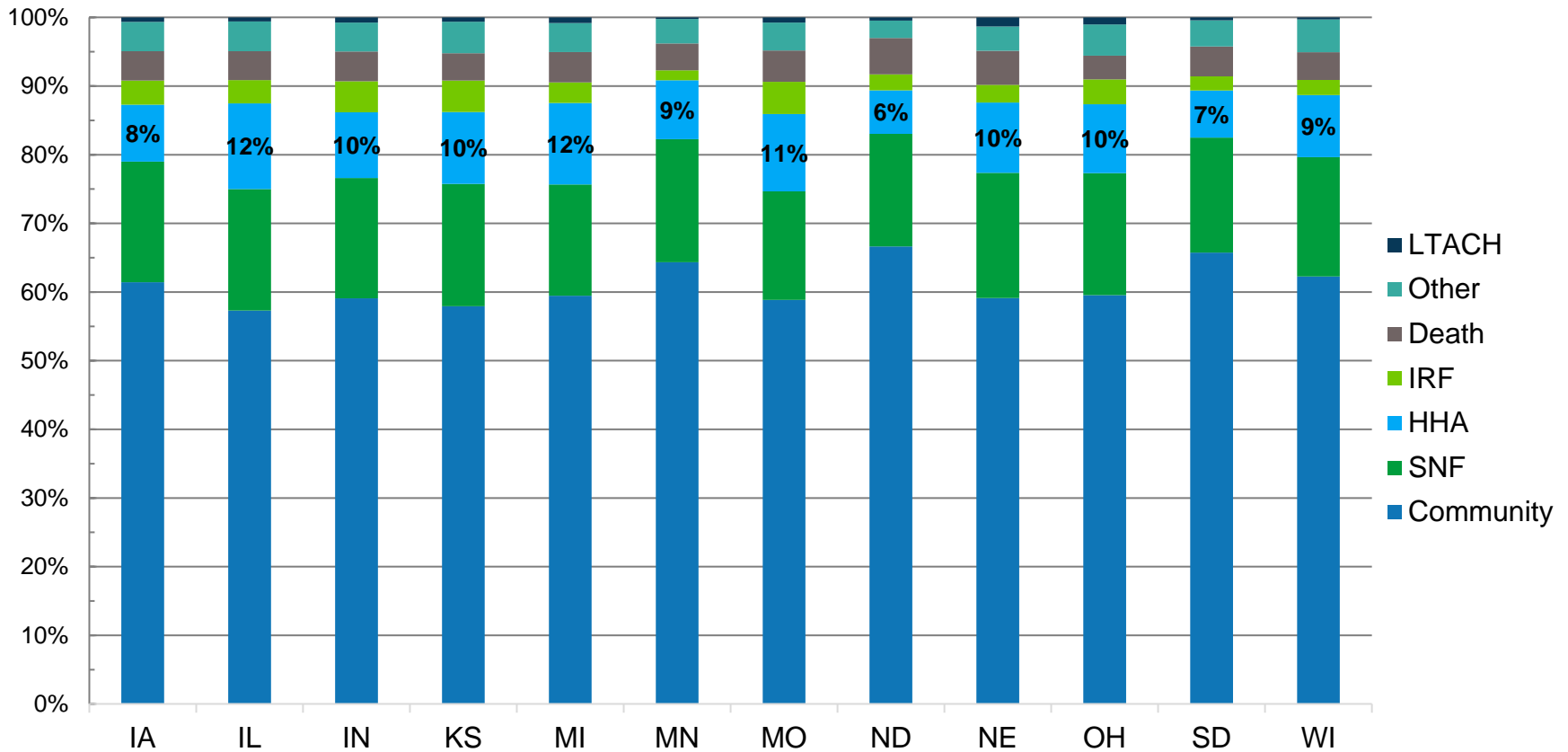
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF),

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 3.5: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries in 2020, for States in Midwestern Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

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.

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.

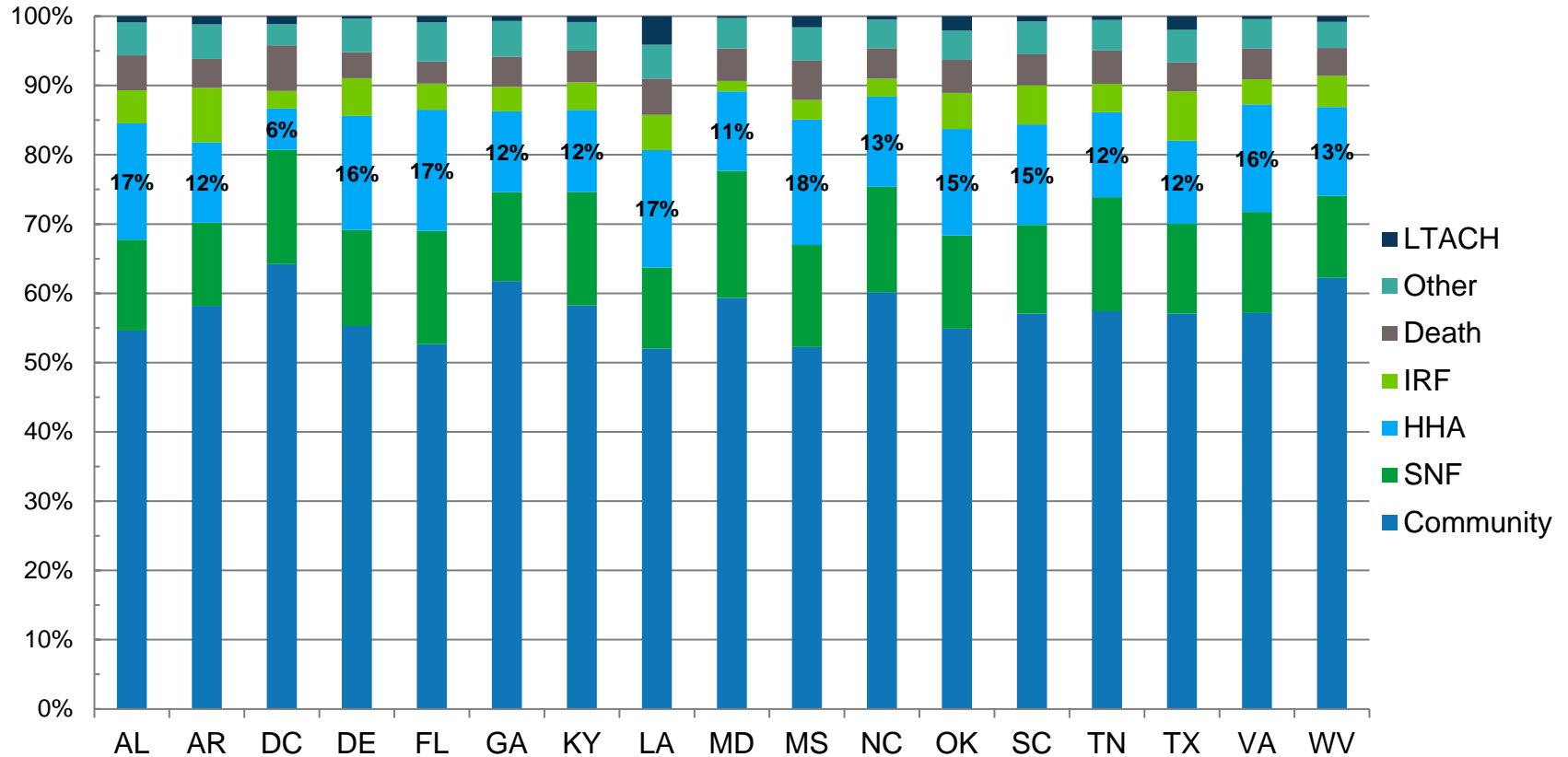
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF),

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 3.6: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries in 2020, for States in Southern Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

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).

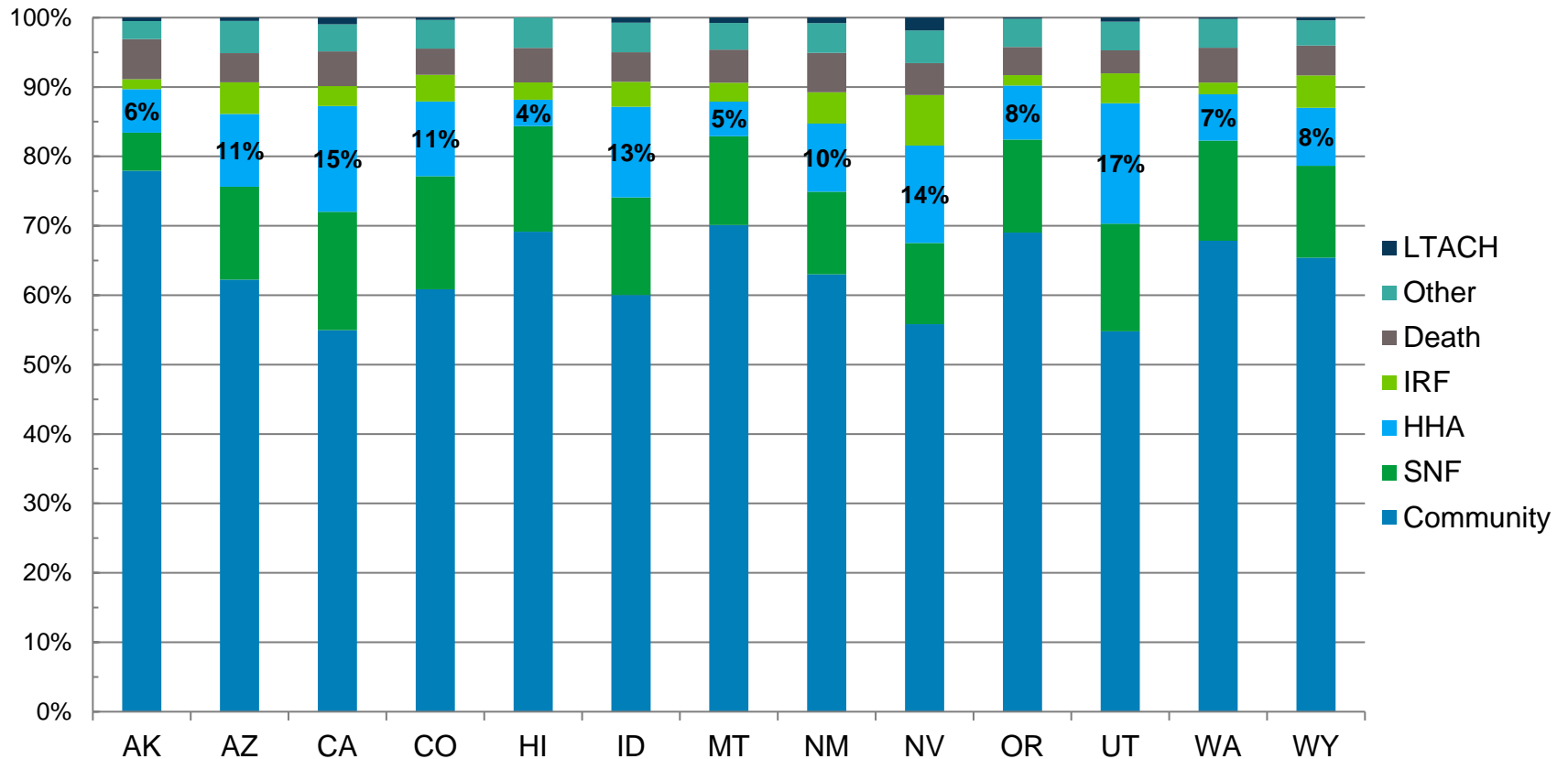
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.

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 2020, for States in Western Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

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.

Hospital: Short-Term Acute Care Hospital (STACH).

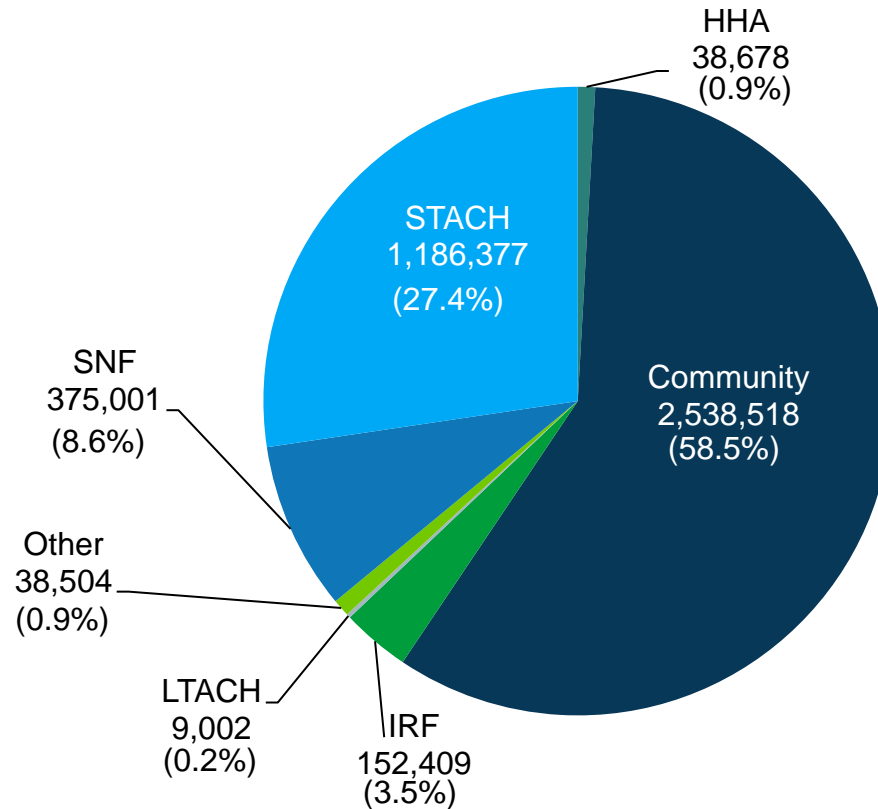
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.

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 3.8: Distribution of Care Settings Prior to Home Health Episodes, 2020



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

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

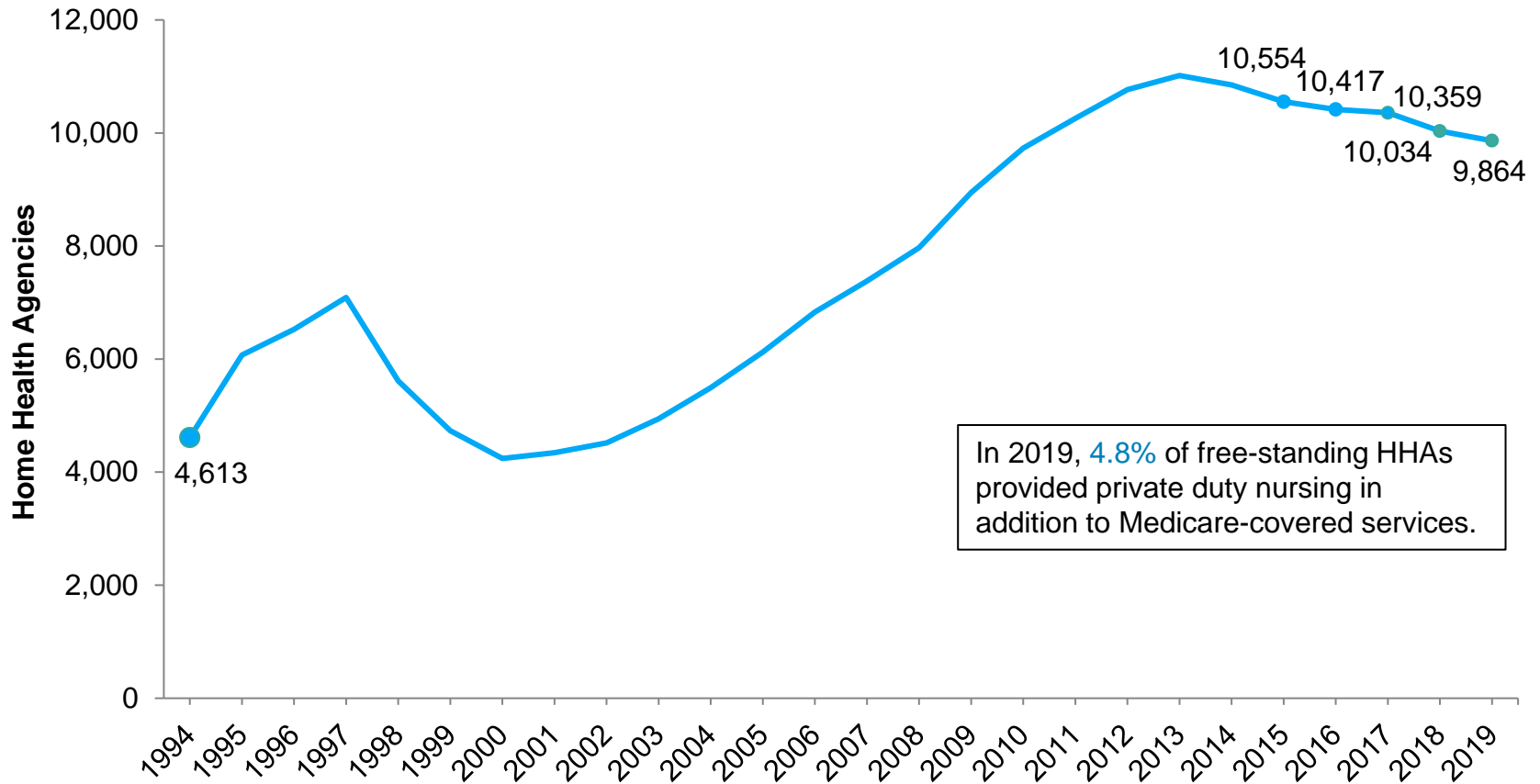
Alliance for  
**Home Health**  
Quality and Innovation

  
**Avalere**

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National Association for Home Care & Hospice

# Organizational Trends in Home Health

Chart 4.1: Number of Medicare-Certified Free-Standing Home Health Agencies (HHAs), 1994-2019

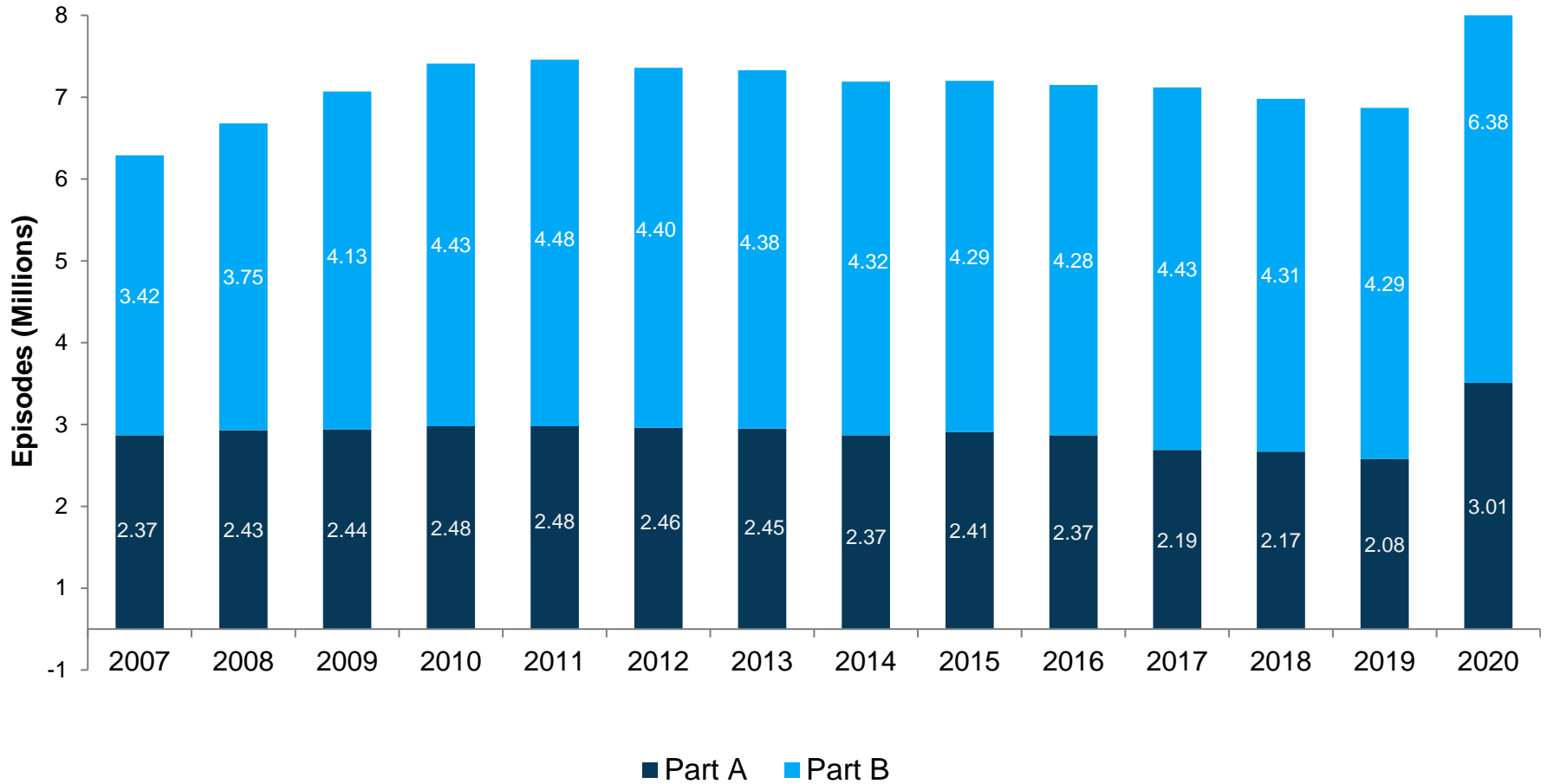


Source: Medicare Cost Reports from the Centers for Medicare and Medicaid Services.



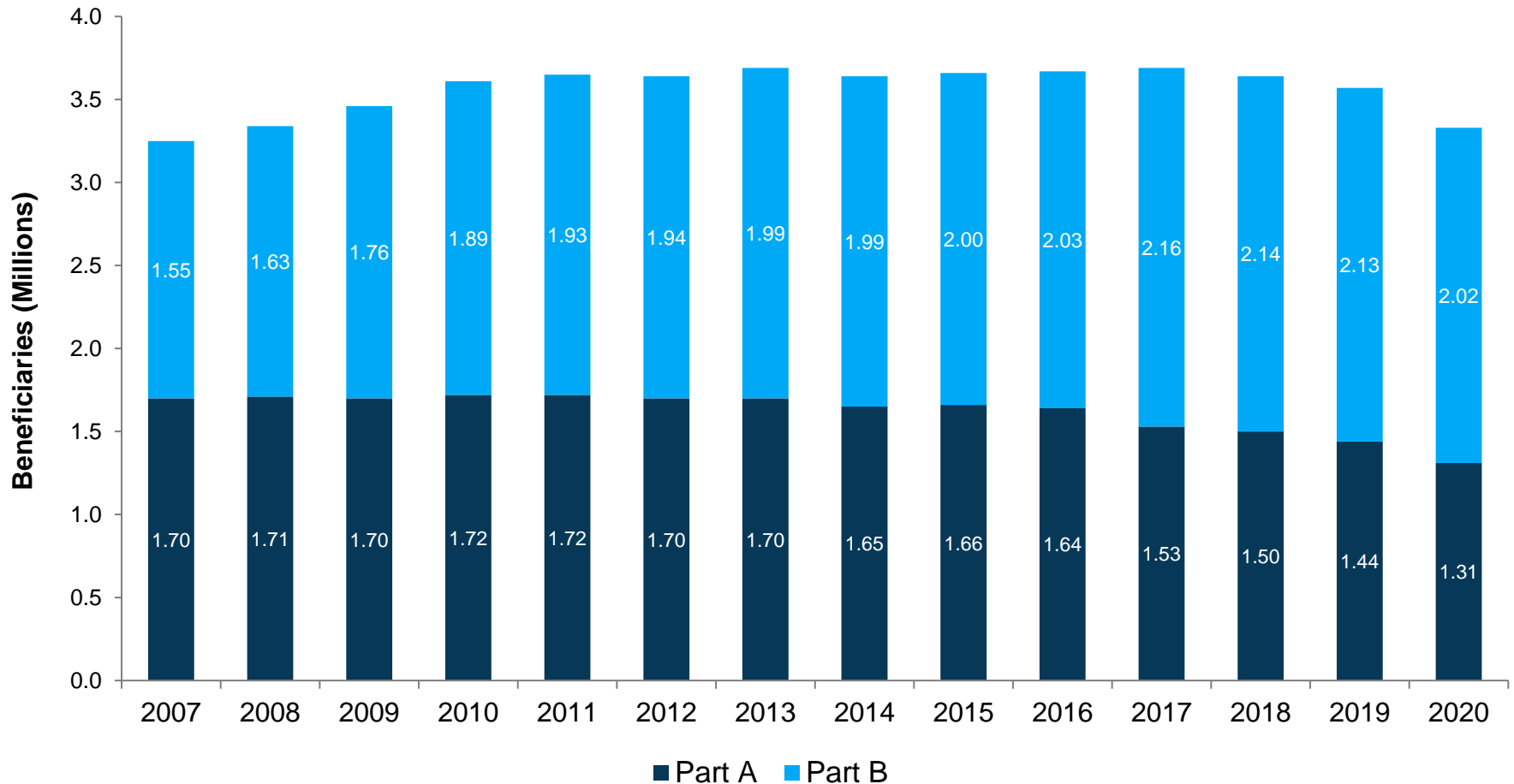
# Organizational Trends in Home Health

Chart 4.2: Number of Medicare Part A and Part B Home Health Episodes, in Millions, 2007-2020



# Organizational Trends in Home Health

Chart 4.3: Number of Medicare Part A and Part B Beneficiaries with a Home Health Episode, in Millions, 2006-2020



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2020.

Note: Beneficiaries are double-counted if they had both a Part A and a Part B home health episode during the year.

# Organizational Trends in Home Health

Table 4.4: Number of Medicare Beneficiaries with a Home Health Episode, by State, 2020

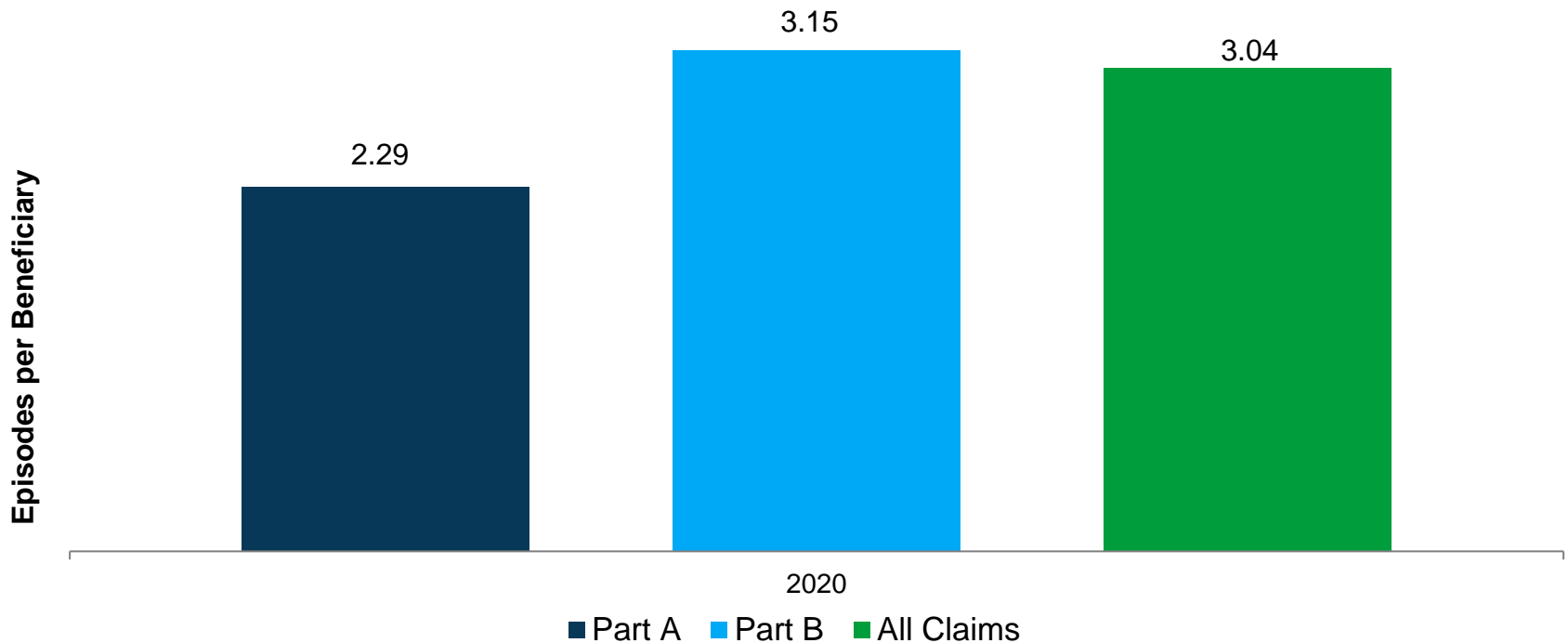
State	Number of Beneficiaries	State	Number of Beneficiaries	State	Number of Beneficiaries
Alabama	61,551	Kentucky	49,502	North Dakota	4,263
Alaska	3,240	Louisiana	56,252	Ohio	101,992
Arizona	45,541	Maine	15,869	Oklahoma	64,459
Arkansas	35,564	Maryland	66,289	Oregon	24,436
California	328,434	Massachusetts	103,929	Pennsylvania	126,689
Colorado	31,488	Michigan	96,214	Rhode Island	11,083
Connecticut	41,260	Minnesota	32,817	South Carolina	63,530
Delaware	14,115	Mississippi	56,355	South Dakota	5,735
District of Columbia	4,443	Missouri	53,280	Tennessee	68,262
Florida	279,715	Montana	6,305	Texas	249,810
Georgia	79,908	Nebraska	15,852	Utah	22,564
Hawaii	4,230	Nevada	29,462	Vermont	10,778
Idaho	15,239	New Hampshire	20,331	Virginia	95,180
Illinois	138,293	New Jersey	78,125	Washington	45,658
Indiana	56,072	New Mexico	16,333	West Virginia	23,027
Iowa	23,144	New York	151,390	Wisconsin	36,509
Kansas	29,126	North Carolina	97,427	Wyoming	4,629
				<b>Total U.S.*</b>	<b>3,102,644</b>

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2020.

\*Total includes 6,945 other or unknown beneficiaries (i.e. beneficiaries from US territories or beneficiaries not attributed to a specific state).

# 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, 2020



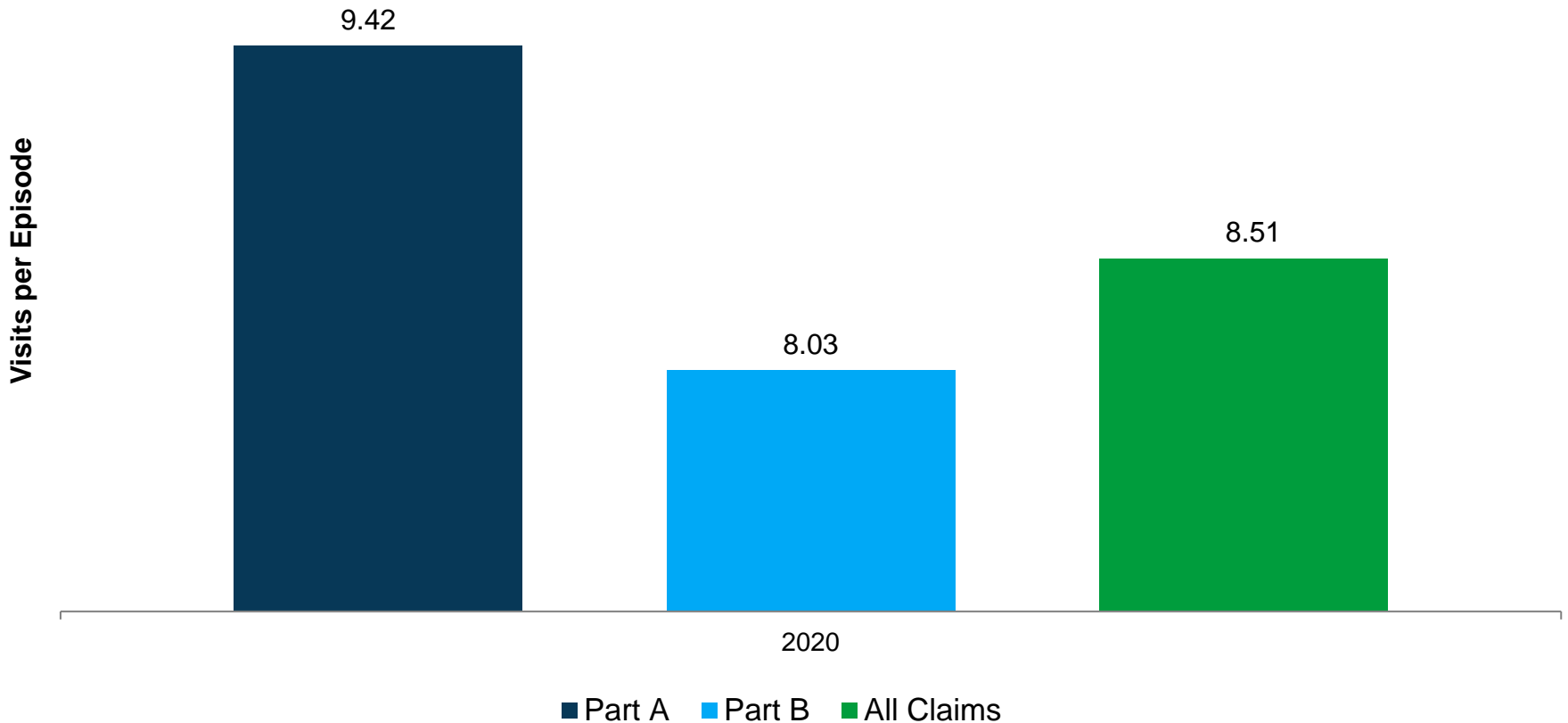
Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2020.

Due to changes outlined in the Patient-Driven Groupings Model (PDGM), the definition of home health episodes changed from 60 days to 30 days in 2020, therefore historical data has been excluded.

Note: These data reflect the number of home health episodes for Medicare beneficiaries with at least one Part A or Part B home health episode.

# Organizational Trends in Home Health

Chart 4.6: Number of Home Health Visits per Episode by Part A, Part B, and all Claims, 2020



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2020.

Due to changes outlined in the Patient-Driven Groupings Model (PDGM), the definition of home health episodes changed from 60 days to 30 days in 2020, therefore historical data has been excluded.

Note: These data reflect the number of home health episodes for Medicare beneficiaries with at least one Part A or Part B home health episode.



## 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, 2020

State	Estimated Number of HH Employees <sup>1</sup>	Multiplier for Employment <sup>2</sup>	Estimated Jobs Created by HH Industry <sup>3</sup>	State	Estimated Number of HH Employees <sup>1</sup>	Multiplier for Employment <sup>2</sup>	Estimated Jobs Created by HH Industry <sup>3</sup>
Alabama	11,992	1.5418	18,489	Montana	2,921	1.3424	3,921
Alaska	2,067	1.2671	2,619	Nebraska	3,709	1.4507	5,381
Arizona	26,298	1.4693	38,640	Nevada	5,747	1.5098	8,677
Arkansas	6,638	1.3746	9,125	New Hampshire	3,934	1.4577	5,735
California	99,493	1.5004	149,279	New Jersey	44,373	1.4569	64,647
Colorado	21,630	1.5441	33,399	New Mexico	14,210	1.3552	19,257
Connecticut	13,202	1.4324	18,911	New York	264,015	1.3437	354,757
Delaware	4,304	1.3901	5,983	North Carolina	41,983	1.479	62,093
D.C.	6,317	1.1225	7,091	North Dakota	695	1.3604	945
Florida	77,253	1.572	121,442	Ohio	60,670	1.4676	89,039
Georgia	27,922	1.5837	44,220	Oklahoma	12,188	1.4422	17,578
Hawaii	4,084	1.3831	5,649	Oregon	6,096	1.4727	8,978
Idaho	10,015	1.3894	13,915	Pennsylvania	66,341	1.5247	101,150
Illinois	43,640	1.477	64,456	Rhode Island	4,659	1.4193	6,613
Indiana	22,035	1.505	33,163	South Carolina	17,344	1.491	25,860
Iowa	6,749	1.4445	9,749	South Dakota	1,942	1.3349	2,592
Kansas	7,822	1.4513	11,352	Tennessee	20,687	1.6264	33,645
Kentucky	8,550	1.5342	13,117	Texas	263,463	1.5284	402,677
Louisiana	19,260	1.4372	27,680	Utah	8,311	1.5781	13,116
Maine	4,200	1.476	6,199	Vermont	2,222	1.4069	3,126
Maryland	23,893	1.4022	33,503	Virginia	33,503	1.4038	47,032
Massachusetts	41,136	1.4458	59,474	Washington	11,399	1.4499	16,527
Michigan	37,023	1.4902	55,172	West Virginia	6,400	1.3607	8,708
Minnesota	25,505	1.4028	35,778	Wisconsin	12,735	1.4456	18,410
Mississippi	7,099	1.4854	10,545	Wyoming	679	1.3247	899
Missouri	18,620	1.4384	26,783	<b>Total U.S.</b>	<b>1,486,973</b>		<b>2,177,095</b>

1 Quarterly Census of Employment and Wages (QCEW) collected by the U.S. Bureau of Labor Statistics, 2020.

2 U.S. Bureau of Economic Analysis multipliers, 2019.

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, 2020

State	Estimated Home Health Total Wages <sup>1</sup>	Multiplier for Earnings <sup>2</sup>	Estimated Impact of HH Payroll on Labor Income <sup>3</sup>	State	Estimated Home Health Total Wages	Multiplier for Earnings	Estimated Impact of HH Payroll on Labor Income
Alabama	\$ 605,604,564	1.4862	\$ 900,049,503	Montana	\$ 92,188,034.00	1.3909	\$ 128,224,336
Alaska	\$ 51,001,450	1.3562	\$ 69,168,166	Nebraska	\$ 149,320,031.00	1.4545	\$ 217,185,985
Arizona	\$ 904,629,395	1.6014	\$ 1,448,673,513	Nevada	\$ 301,043,002.00	1.4574	\$ 438,740,071
Arkansas	\$ 266,608,660	1.4195	\$ 378,450,993	New Hampshire	\$ 201,081,500.00	1.4893	\$ 299,470,678
California	\$ 4,479,067,516	1.6	\$ 7,166,508,026	New Jersey	\$ 1,636,909,461.00	1.5946	\$ 2,610,215,827
Colorado	\$ 884,046,339	1.6276	\$ 1,438,873,821	New Mexico	\$ 313,146,708.00	1.4089	\$ 441,192,397
Connecticut	\$ 665,475,333	1.4785	\$ 983,905,280	New York	\$ 8,561,322,854.00	1.4834	\$ 12,699,866,322
Delaware	\$ 191,676,028	1.3939	\$ 267,177,215	North Carolina	\$ 1,343,901,675.00	1.6146	\$ 2,169,863,644
D.C.	\$ 206,952,616	1.1768	\$ 243,541,839	North Dakota	\$ 33,073,550.00	1.351	\$ 44,682,366
Florida	\$ 3,433,060,506	1.5896	\$ 5,457,192,980	Ohio	\$ 1,971,228,088.00	1.5918	\$ 3,137,800,870
Georgia	\$ 1,041,214,061	1.6512	\$ 1,719,252,658	Oklahoma	\$ 426,471,497.00	1.5106	\$ 644,227,843
Hawaii	\$ 152,019,176	1.4787	\$ 224,790,756	Oregon	\$ 258,768,109.00	1.5025	\$ 388,799,084
Idaho	\$ 249,186,263	1.4395	\$ 358,703,626	Pennsylvania	\$ 2,881,119,174.00	1.5858	\$ 4,568,878,786
Illinois	\$ 1,529,137,739	1.6869	\$ 2,579,502,452	Rhode Island	\$ 189,091,028.00	1.4542	\$ 274,976,173
Indiana	\$ 776,866,201	1.5459	\$ 1,200,957,460	South Carolina	\$ 568,241,206.00	1.5636	\$ 888,501,950
Iowa	\$ 296,965,582	1.4096	\$ 418,602,684	South Dakota	\$ 70,217,613.00	1.3731	\$ 96,415,804
Kansas	\$ 298,355,860	1.4735	\$ 439,627,360	Tennessee	\$ 1,067,560,555.00	1.6479	\$ 1,759,233,039
Kentucky	\$ 431,867,027	1.4931	\$ 644,820,658	Texas	\$ 6,083,448,550.00	1.7219	\$ 10,475,090,058
Louisiana	\$ 695,406,072	1.4845	\$ 1,032,330,314	Utah	\$ 327,813,954.00	1.5817	\$ 518,503,331
Maine	\$ 187,047,950	1.4778	\$ 276,419,461	Vermont	\$ 102,874,220.00	1.3995	\$ 143,972,471
Maryland	\$ 952,957,740	1.5162	\$ 1,444,874,525	Virginia	\$ 1,082,429,645.00	1.5308	\$ 1,656,983,301
Massachusetts	\$ 1,825,298,943	1.5321	\$ 2,796,540,511	Washington	\$ 537,599,547.00	1.4933	\$ 802,797,404
Michigan	\$ 1,433,252,971	1.5685	\$ 2,248,057,285	West Virginia	\$ 236,937,809.00	1.3698	\$ 324,557,411
Minnesota	\$ 853,734,973	1.5607	\$ 1,332,424,172	Wisconsin	\$ 506,288,856.00	1.5071	\$ 763,027,935
Mississippi	\$ 332,689,922	1.4255	\$ 474,249,484	Wyoming	\$ 27,294,071.00	1.31	\$ 35,755,233
Missouri	\$ 624,382,619	1.546	\$ 965,295,529	<b>Total U.S.</b>	<b>\$52,337,876,243</b>		<b>\$ 82,038,952,588</b>

1 Quarterly Census of Employment and Wages (QCEW) collected by the U.S. Bureau of Labor Statistics, 2020.

2 U.S. Bureau of Economic Analysis multipliers, 2019.

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, 2020

State	Estimated Home Health Expenditures <sup>1</sup>	Multiplier for Output <sup>2</sup>	Estimated Impact of HH Spending on Output <sup>3</sup>	State	Estimated Home Health Expenditures	Multiplier for Output	Estimated Impact of HH Spending on Output
Alabama	\$ 528,387,337	1.9578	\$ 1,034,476,728	Montana	\$ 61,387,011	1.7585	\$ 107,949,059
Alaska	\$ 1,721,181,615	1.7083	\$ 2,940,294,553	Nebraska	\$ 129,688,182	1.875	\$ 243,165,341
Arizona	\$ 520,818,039	2.1773	\$ 1,133,977,116	Nevada	\$ 259,099,739	1.9108	\$ 495,087,781
Arkansas	\$ 577,466,649	1.83	\$ 1,056,763,968	New Hampshire	\$ 212,493,240	1.8991	\$ 403,545,912
California	\$ 3,381,082,148	2.1955	\$ 7,423,165,856	New Jersey	\$ 581,946,810	2.2049	\$ 1,283,134,521
Colorado	\$ 501,146,519	2.2398	\$ 1,122,467,973	New Mexico	\$ 2,763,626,389	1.7867	\$ 4,937,771,269
Connecticut	\$ 658,620,283	1.9437	\$ 1,280,160,244	New York	\$ 1,675,167,151	1.9881	\$ 3,330,399,813
Delaware	\$ 136,914,110	1.7657	\$ 241,749,244	North Carolina	\$ 920,476,270	2.2283	\$ 2,051,097,272
D.C.	\$ 100,359,014	1.3047	\$ 130,938,406	North Dakota	\$ 15,027,728	1.698	\$ 25,517,082
Florida	\$ 2,599,502,233	2.1511	\$ 5,591,789,253	Ohio	\$ 1,228,297,005	2.1821	\$ 2,680,266,895
Georgia	\$ 670,018,588	2.289	\$ 1,533,672,548	Oklahoma	\$ 530,635,424	1.9734	\$ 1,047,155,946
Hawaii	\$ 48,331,268	1.9583	\$ 94,647,122	Oregon	\$ 258,710,845	1.9904	\$ 514,938,066
Idaho	\$ 157,962,087	1.8502	\$ 292,261,453	Pennsylvania	\$ 1,813,769,454	2.1684	\$ 3,932,977,684
Illinois	\$ 1,522,506,146	2.3995	\$ 3,653,253,497	Rhode Island	\$ 145,871,485	1.8751	\$ 273,523,622
Indiana	\$ 493,951,422	2.0938	\$ 1,034,235,487	South Carolina	\$ 388,036,180	2.1451	\$ 832,376,410
Iowa	\$ 291,307,577	1.8119	\$ 527,820,199	South Dakota	\$ 37,838,967	1.7283	\$ 65,397,087
Kansas	\$ 305,849,823	1.9689	\$ 602,187,717	Tennessee	\$ 760,542,827	2.2925	\$ 1,743,544,431
Kentucky	\$ 379,144,597	1.9975	\$ 757,341,333	Texas	\$ 9,397,646,923	2.4613	\$ 23,130,428,372
Louisiana	\$ 10,482,608,022	1.9387	\$ 20,322,632,172	Utah	\$ 320,692,389	2.1732	\$ 696,928,700
Maine	\$ 215,398,766	1.9112	\$ 411,670,122	Vermont	\$ 149,742,182	1.7496	\$ 261,988,922
Maryland	\$ 756,441,026	2.0264	\$ 1,532,852,095	Virginia	\$ 716,155,442	2.0641	\$ 1,478,216,448
Massachusetts	\$ 1,270,473,110	2.0474	\$ 2,601,166,645	Washington	\$ 388,693,221	1.9984	\$ 776,764,533
Michigan	\$ 1,393,848,358	2.1136	\$ 2,946,037,889	West Virginia	\$ 251,051,765	1.6909	\$ 424,503,429
Minnesota	\$ 448,826,257	2.1074	\$ 945,856,454	Wisconsin	\$ 453,951,900	1.9878	\$ 902,365,587
Mississippi	\$ 351,456,606	1.8322	\$ 643,938,794	Wyoming	\$ 25,571,657	1.619	\$ 41,400,513
Missouri	\$ 492,331,247	2.0931	\$ 1,030,498,533	<b>Total U.S.</b>	<b>\$53,492,053,033</b>		<b>\$ 112,566,300,095</b>

1 CMS Medicare Cost Reports for Home Health Agencies, 2019.

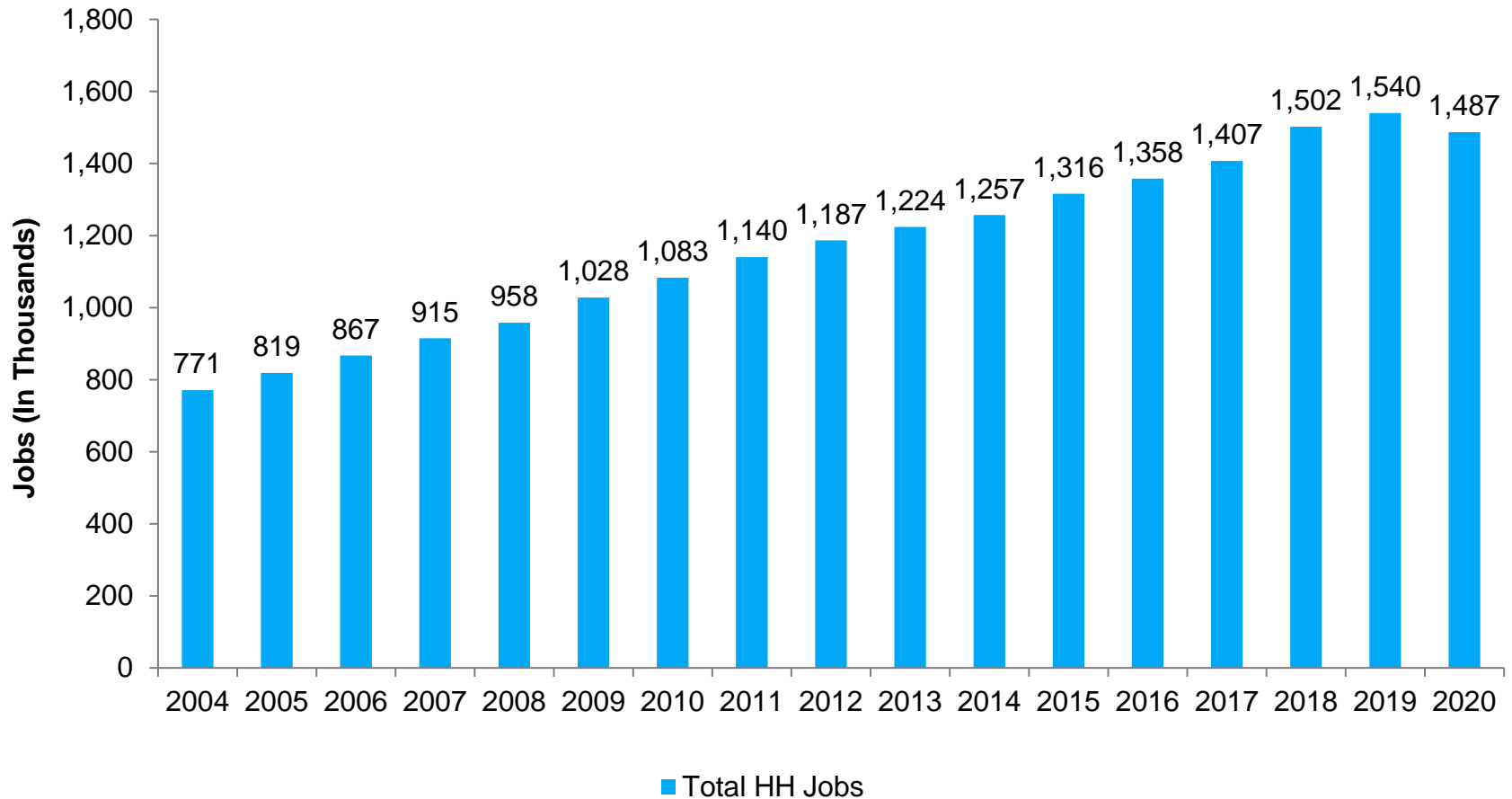
2 U.S. Bureau of Economic Analysis multipliers, 2019.

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, 2004 - 2020



Source: Quarterly Census of Employment and Wages (QCEW) collected by the U.S. Bureau of Labor Statistics. Private, NAICS 6216 Home health care services. 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, 2020

MS-DRG	% of Home Health Users Readmitted Within 30 Days	% of SNF Users Readmitted Within 30 Days
MISC disorders of nutrition, metabolism, fluids/electrolytes w MCC	25.79%	20.61%
Acute myocardial infarction, discharged alive w MCC	24.33%	24.63%
Other kidney & urinary tract diagnoses w MCC	23.95%	22.18%
Renal failure w MCC	23.39%	22.27%
Heart failure & shock w MCC	22.58%	23.75%
Pulmonary edema & respiratory failure	22.09%	22.40%
Renal failure w CC	21.27%	18.42%
Kidney & urinary tract infections w MCC	20.75%	16.41%
Infectious & parasitic diseases w O.R. procedure w MCC	20.46%	25.42%
Simple pneumonia & pleurisy w MCC	19.77%	19.45%
Septicemia or severe sepsis w/o MV >96 hours w MCC	19.56%	21.81%
MISC disorders of nutrition, metabolism, fluids/electrolytes w/o MCC	18.28%	14.94%
Intracranial hemorrhage or cerebral infarction w MCC	18.05%	20.05%
Kidney & urinary tract infections w/o MCC	16.33%	13.42%
Septicemia or severe sepsis w/o mv >96 hours w/o MCC	15.51%	15.60%
Respiratory infections & inflammations w MCC	15.36%	19.44%
Hip & femur procedures except major joint w MCC	14.12%	16.22%
Intracranial hemorrhage or cerebral infarction w CC or TPA in 24 hrs	10.29%	13.06%
Hip & femur procedures except major joint w CC	7.60%	10.49%
Major hip and knee joint replacement or reattachment of lower extremity w/o MCC	5.09%	8.93%
<b>Average Rate Across All MS-DRGs**</b>	<b>17.30%</b>	<b>17.97%</b>

\*\*Includes all MS-DRGs, including those not listed

\*Analysis includes Medicare Part A claims only.

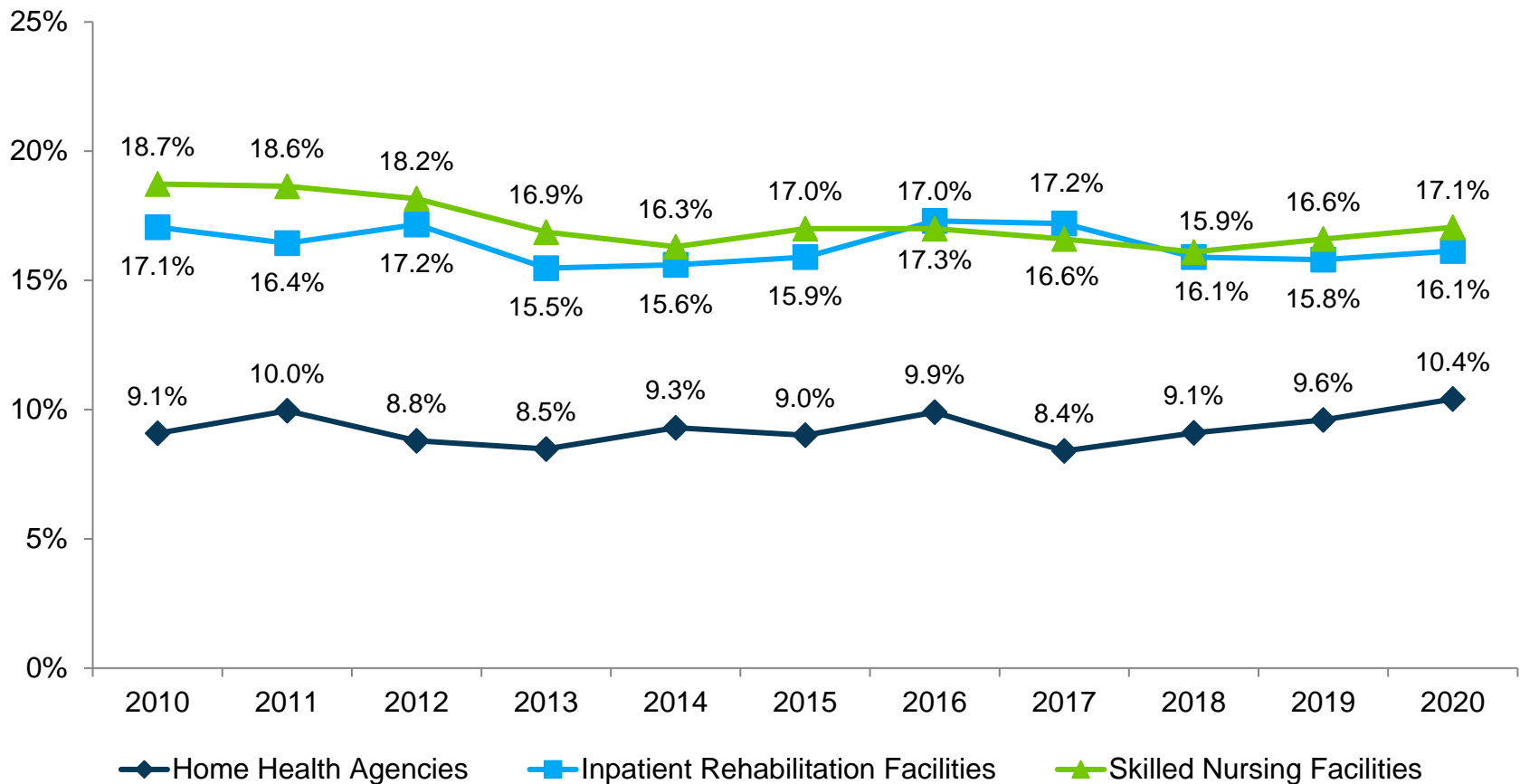
Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2020.

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, 2010 - 2020



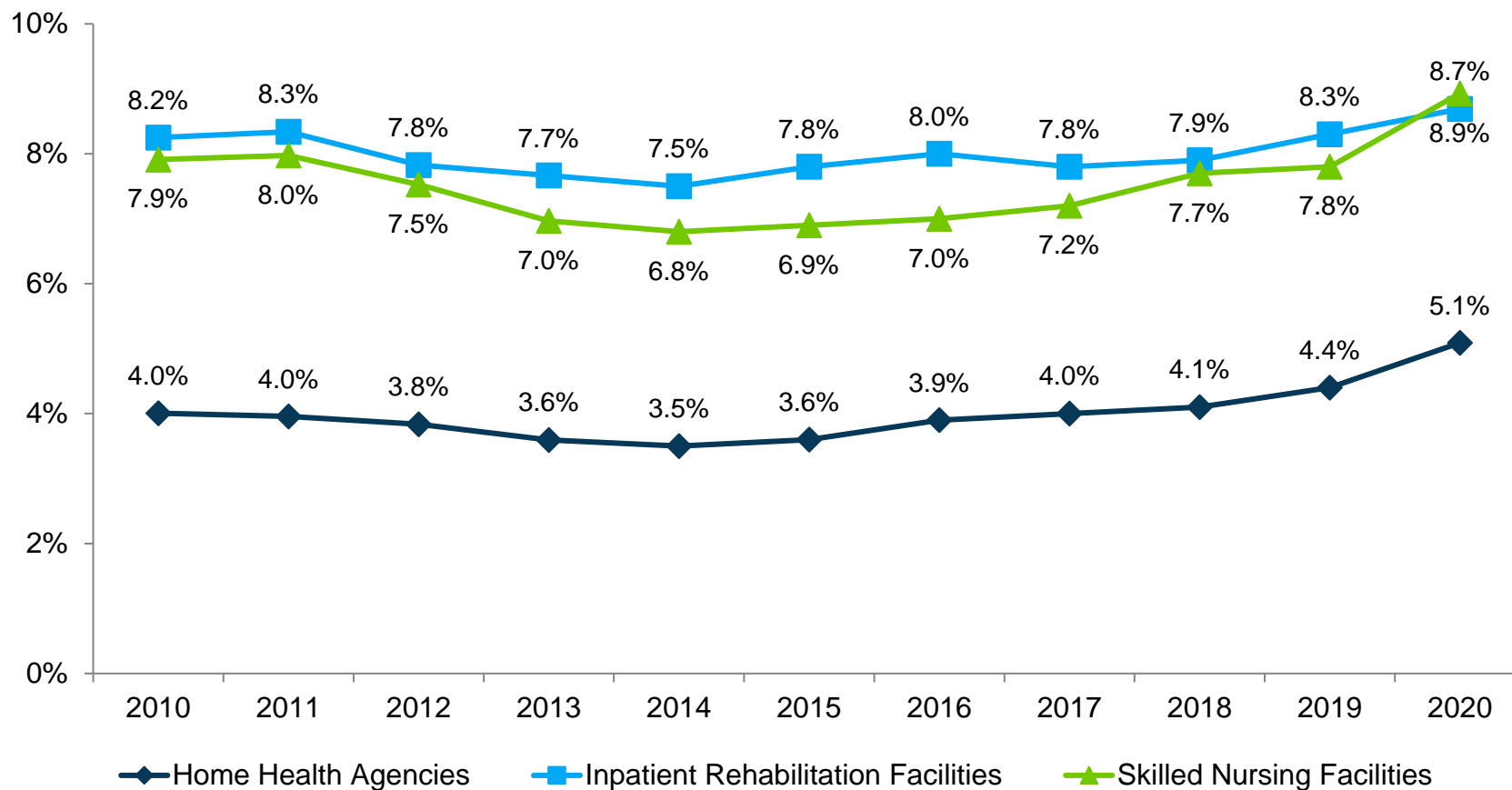
Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2010 – 2020.

\*Analysis includes Medicare Part A claims only.

MS-DRG 469: Major joint replacement or reattachment of lower extremity with major complication or comorbidity.

# 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, 2010 – 2020



Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2010 – 2020.

\*Analysis includes Medicare Part A claims only.

MS-DRG 470: Major joint replacement or reattachment of lower extremity with out major complication or comorbidity.

# Outcomes: Quality of Home Health Care

Table 6.4: National Averages for How Often Home Health Team Met Quality Measures Related to Patient Care, 2012 - 2020

Measure	2012	2013	2014	2015	2016	2017	2018	2019	2020
Checked patients for depression	97%	98%	98%	98%	98%	98%	98%	98%	97%
Checked patients' risk of falling	94%	98%	98%	98%	99%	100%	100%	100%	100%
For diabetic patients, got doctor's orders, gave and educated about foot care	93%	94%	95%	95%	96%	97%	98%	98%	96%
Taught patients (or their family caregivers) about their drugs	92%	93%	93%	94%	96%	98%	98%	99%	99%
Began care in timely manner	92%	92%	92%	92%	92%	93%	94%	95%	96%
Determined whether patients received a flu shot for the current flu season	69%	72%	73%	71%	69%	76%	78%	79%	79%
Determined whether patients received a pneumococcal vaccine	68%	71%	73%	72%	73%	80%	81%	82%	82%

"Checked patients for pain", "Checked patients for the risk of developing pressure sores", "Treated heart failure symptoms", "Treated patients' pain", "Included treatments to prevent pressure sores in the plan of care", and "Took doctor-ordered action to prevent pressure sores" were removed since 2017, therefore excluded. Please refer to past iterations for legacy data.

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 2020 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	93.1%	99.4%	92.5%	94.8%	88.5%	62.8%	73.2%
AL	97.5%	99.8%	98.2%	99.4%	98.6%	79.2%	80.3%
AR	98.5%	99.8%	97.3%	98.9%	97.4%	79.8%	83.9%
AZ	97.0%	99.5%	95.4%	97.9%	97.2%	77.3%	81.4%
CA	97.7%	99.5%	96.7%	98.3%	94.7%	80.6%	83.9%
CO	98.0%	99.6%	96.3%	98.5%	97.0%	83.6%	86.9%
CT	96.5%	99.2%	93.2%	98.6%	93.4%	79.0%	82.4%
DC	95.9%	99.3%	92.9%	94.4%	92.4%	81.8%	81.1%
DE	96.1%	99.5%	97.4%	99.1%	93.4%	79.7%	81.7%
FL	96.7%	99.5%	96.7%	98.7%	97.6%	75.6%	77.1%
GA	96.5%	99.8%	97.4%	99.2%	96.6%	78.8%	80.9%
HI	97.8%	99.6%	97.5%	99.1%	89.4%	74.6%	75.7%
IA	98.8%	99.6%	95.1%	98.6%	93.2%	81.5%	87.8%
ID	98.6%	99.7%	95.9%	98.8%	98.2%	80.4%	83.4%
IL	97.9%	99.6%	97%	98.5%	94.9%	74.4%	78.0%
IN	97.9%	99.7%	96.2%	98.9%	95.2%	77.8%	83.2%
KS	98.1%	99.6%	95.1%	98.4%	97.4%	84.4%	88.4%
KY	98.3%	99.8%	97.9%	99.2%	98.1%	79.2%	84.0%



# 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 2020 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	97.9%	99.8%	98.1%	99.0%	98.5%	77.8%	81.7%
MA	96.7%	99.4%	94.3%	98.6%	94.9%	76.8%	80.9%
MD	97.2%	99.8%	97.9%	99.4%	96.4%	82.5%	83.1%
ME	97.3%	99.7%	94.5%	99.1%	91.3%	77.4%	85.3%
MI	98.2%	99.7%	95.8%	98.2%	92.9%	78.7%	82.6%
MN	96.8%	99.3%	95.1%	96.9%	91.7%	81.5%	91.1%
MO	98.1%	99.5%	96.3%	98.6%	94.5%	82.6%	87.5%
MS	98.8%	99.6%	97.9%	99.2%	98.8%	77.5%	80.5%
MT	95.8%	99.4%	93.2%	97.5%	93.3%	78.6%	87.8%
NC	97.1%	99.7%	96.5%	99.2%	96.3%	82.7%	84.8%
ND	98.7%	99.9%	97.7%	99.6%	95.7%	82.2%	92.6%
NE	96.6%	99.6%	96.0%	97.9%	97.3%	85.8%	88.0%
NH	96.8%	99.7%	95.4%	99.2%	97.0%	81.2%	88.4%
NJ	97.0%	99.7%	96.7%	99.2%	88.7%	76.7%	78.7%
NM	96.1%	99.1%	94.7%	97.5%	94.6%	78.9%	82.7%
NV	98.0%	99.6%	96.9%	98.0%	94.8%	69.7%	75.0%
NY	96.2%	99.6%	94.7%	98.8%	96.6%	78.7%	78.3%

# 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 2020 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	98.1%	99.6%	96.3%	98.3%	95.4%	78.7%	84.4%
OK	97.8%	99.7%	96.7%	98.6%	96.7%	81.6%	83.6%
OR	94.7%	99.7%	95.1%	98.5%	89.4%	79.1%	88.6%
PA	97.5%	99.6%	96.1%	98.2%	95.5%	79.7%	84.9%
RI	96.9%	99.5%	92.6%	98.9%	97.5%	81.2%	86.0%
SC	96.7%	99.8%	96.9%	99.3%	97.7%	83.4%	86.0%
SD	99.5%	99.8%	95.2%	99.2%	98.0%	84.3%	88.9%
TN	96.6%	99.7%	97.5%	99.2%	97.7%	80.1%	82.7%
TX	97.8%	99.6%	96.9%	98.4%	96.1%	78.0%	81.6%
UT	98.0%	99.5%	94.6%	98.6%	98.1%	86.9%	90.2%
VA	97.2%	99.7%	96.4%	99.0%	96.1%	81.8%	86.1%
VT	98.0%	99.5%	95.8%	98.7%	94.6%	79.1%	86.4%
WA	97.7%	99.9%	95.6%	99.1%	94.4%	80.3%	86.5%
WI	98.2%	99.7%	96.0%	98.6%	94.3%	82.2%	91.4%
WV	97.3%	99.8%	97.3%	99.3%	98.3%	78.3%	83.1%
WY	96.0%	99.6%	89.9%	94.5%	92.2%	75.0%	81.0%

# Outcomes: Quality of Home Health Care

Table 6.8: National Averages for Patient Outcomes while in Home Health Care, 2012 – 2020

Measure	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wounds improved or healed after operation	89%	89%	89%	89%	90%	91%	91%	92%	92%
Got better at bathing	66%	67%	68%	69%	71%	74%	77%	80%	82%
Had less pain when moving around	67%	68%	68%	68%	70%	74%	78%	81%	N/A**
Breathing improved	64%	65%	65%	66%	70%	73%	77%	81%	83%
Got better at walking or moving around	59%	61%	63%	64%	66%	71%	75%	78%	80%
Got better at getting in and out of bed	55%	57%	59%	59%	62%	68%	74%	79%	81%
Got better at taking drugs correctly by mouth	49%	51%	53%	53%	56%	61%	66%	71%	75%
Had to be admitted to hospital	17%	16%	16%	16%	16%	16%	16%	16%	15%
Needed any urgent, unplanned care in the hospital emergency room – without being admitted to the hospital	12%	12%	12%	12%	12%	13%	13%	13%	13%

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

\*\* Measure is removed in 2020

# Outcomes: Quality of Home Health Care

Table 6.9: State Averages for Patient Outcomes while in Home Health Care in 2020 by State (AK-KY)

State	Wounds improved or healed after operation	Got better at bathing	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	86.8%	58.9%	64.6%	59.8%	62.7%	49.5%	16.2%	18.3%
AL	95.4%	89.5%	89.3%	87.4%	89.2%	85.5%	16.3%	12.8%
AR	93.0%	86.9%	85.0%	84.4%	85.7%	80.7%	16.1%	14.6%
AZ	89.7%	81.3%	83.9%	77.8%	80.1%	73.6%	14.5%	14.4%
CA	91.8%	78.9%	81.4%	73.4%	70.6%	67.9%	12.4%	11.4%
CO	92.2%	82.6%	82.6%	80.6%	83.0%	72.5%	13.5%	14.9%
CT	91.8%	77.9%	79.4%	77.4%	79.5%	71.9%	16.6%	14.6%
DC	91.7%	81.4%	81.0%	77.3%	81.9%	76.1%	14.8%	12.0%
DE	92.5%	85.0%	84.3%	82.3%	86.4%	79.9%	15.9%	13.5%
FL	95.2%	85.7%	85.1%	82.3%	84.5%	76.2%	14.4%	11.6%
GA	93.4%	85.6%	87.1%	83.0%	84.7%	78.1%	17.1%	13.8%
HI	83.5%	74.8%	82.5%	73.2%	78.6%	61.7%	13.3%	17.5%
IA	87.7%	82.1%	80.3%	79.0%	80.5%	76.2%	16.9%	14.4%
ID	94.7%	82.6%	83.2%	81.0%	83.8%	71.7%	11.8%	14.8%
IL	91.2%	80.3%	80.3%	76.4%	76.4%	73.2%	15.8%	11.8%
IN	91.1%	82.3%	81.9%	79.3%	81.5%	75.2%	17.1%	13.7%
KS	92.0%	83.2%	83.9%	80.8%	84.0%	73.8%	16.7%	13.1%
KY	92.4%	85.9%	84.7%	83.4%	85.2%	80.0%	16.7%	14.5%

# Outcomes: Quality of Home Health Care

Table 6.10: State Averages for Patient Outcomes while in Home Health Care in 2020 by State (LA-NY)

State	Wounds improved or healed after operation	Got better at bathing	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	95.1%	85.9%	86.6%	83.9%	83.8%	82.5%	15.1%	14.0%
MA	92.9%	82.8%	81.8%	82.2%	84.1%	77.3%	16.6%	12.6%
MD	94.0%	86.8%	88.1%	84.7%	86.7%	79.2%	15.5%	13.6%
ME	92.0%	84.3%	81.8%	83.2%	85.9%	78.7%	14.8%	17.1%
MI	91.3%	82.7%	82.6%	80.6%	81.5%	75.5%	15.7%	12.9%
MN	87.2%	70.7%	73.8%	71.5%	74.5%	60.1%	15.9%	13.9%
MO	91.8%	85.1%	84.1%	83.0%	85.2%	78.7%	17%	13.2%
MS	93.8%	88.4%	88.3%	86.0%	86.4%	83.6%	15.3%	13.8%
MT	89.4%	71.8%	72.0%	72.0%	75.9%	58.9%	15.2%	13.9%
NC	92.5%	84.7%	86.1%	83.1%	85.6%	77.6%	16.1%	14.7%
ND	90.2%	84.8%	85.8%	79.0%	84.2%	74.5%	17.8%	11.8%
NE	86.9%	80.4%	81.4%	79.0%	80.3%	71.2%	15.6%	12.6%
NH	91.2%	86.3%	82.8%	84.6%	87.1%	80.3%	16.0%	15.1%
NJ	93.0%	84.2%	86.8%	82.2%	85.4%	78.6%	18.1%	10.8%
NM	91.9%	76.8%	75.8%	71.5%	75.2%	68.6%	13.2%	14.7%
NV	92.0%	76.7%	76.2%	69.7%	72.7%	70.2%	14.3%	12.5%
NY	92.4%	81.6%	84.1%	79.0%	83.1%	77.5%	18.0%	10.8%

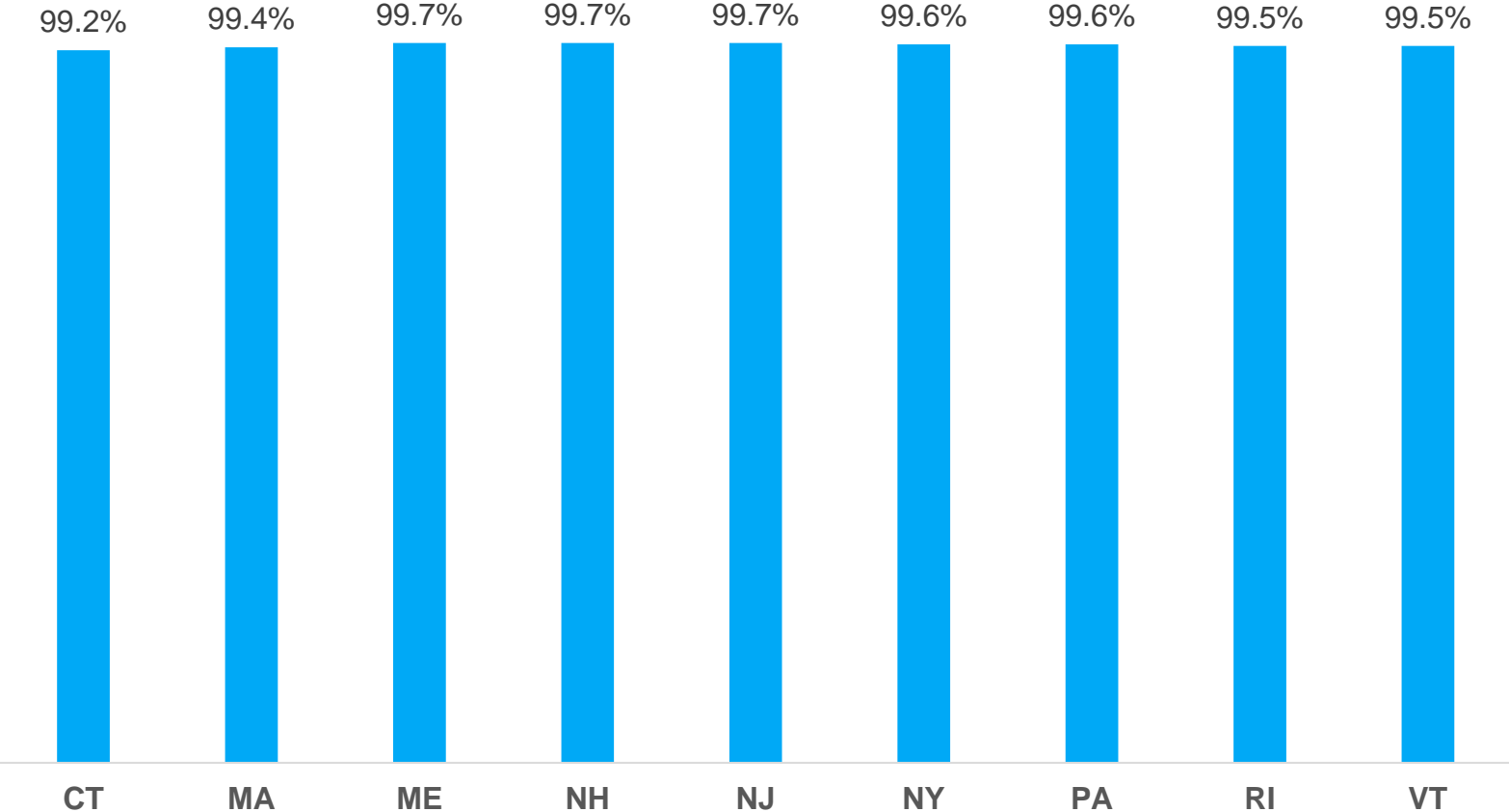
# Outcomes: Quality of Home Health Care

Table 6.11: State Averages for Patient Outcomes while in Home Health Care in 2020 by State (OH-WY)

State	Wounds improved or healed after operation	Got better at bathing	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	90.5%	82.0%	81.1%	80.4%	82.4%	77.0%	16.5%	14.0%
OK	94.8%	83.5%	80.4%	80.8%	81.2%	78.0%	13.7%	14.3%
OR	90.5%	71.0%	75.6%	70.4%	73.6%	57.8%	13.8%	17.3%
PA	92.6%	83.0%	82.4%	81.4%	83.7%	76.2%	17.6%	12.5%
RI	95.2%	83.4%	82.4%	81.1%	84.4%	76.4%	15.5%	12.0%
SC	93.8%	86.4%	87.1%	84.3%	86.5%	81.4%	15.0%	14.0%
SD	86.1%	81.9%	80.9%	78.1%	82.7%	74.1%	16.1%	12.8%
TN	92.0%	86.6%	87.2%	84.3%	86.0%	80.7%	16.6%	13.4%
TX	90.5%	77.3%	75.3%	73.6%	73.7%	70.0%	13.6%	12.8%
UT	94.1%	85.2%	83.7%	82.9%	84.8%	75.8%	10.5%	12.4%
VA	92.6%	83.0%	84.2%	80.9%	83.2%	76.0%	16.0%	14.0%
VT	93.3%	83.9%	79.8%	82.7%	84.1%	77.3%	14.6%	15.1%
WA	91.0%	78.5%	82.8%	78.0%	81.7%	68.0%	14.4%	15.8%
WI	89.9%	80.0%	82.4%	78.7%	81.8%	70.8%	16.2%	16.0%
WV	93.1%	88.4%	89.5%	85.9%	87.0%	85.2%	18.9%	16.1%
WY	88.3%	72.5%	66.6%	66.9%	72.2%	59.8%	15.5%	16.0%

# Outcomes: Quality of Home Health Care

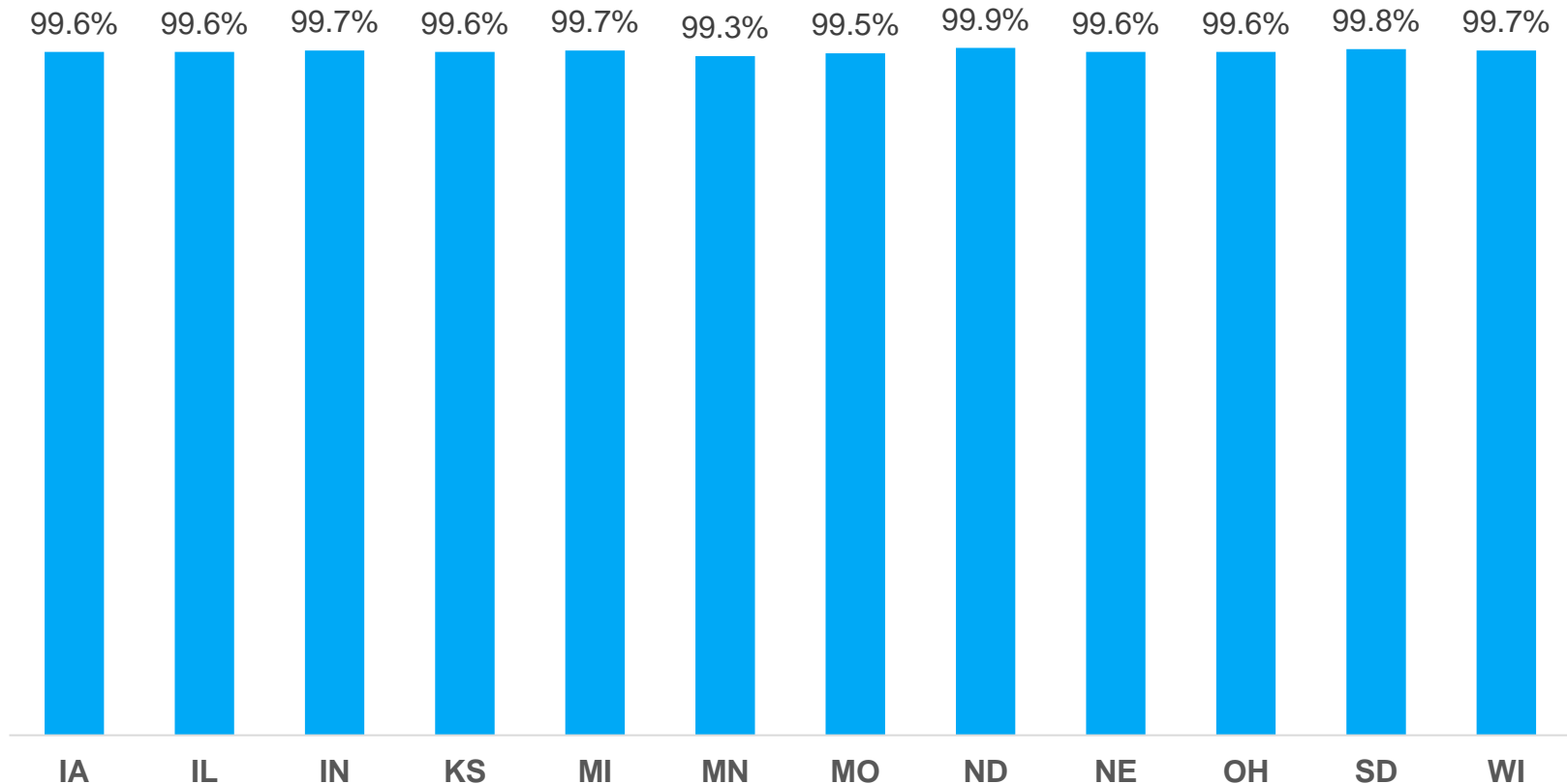
Chart 6.12: Performance on “How Often The Home Health Team Checked Patients’ Risk Of Falling” Measure in 2020, for States in Northeastern Region



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 2020, for States in Midwestern Region

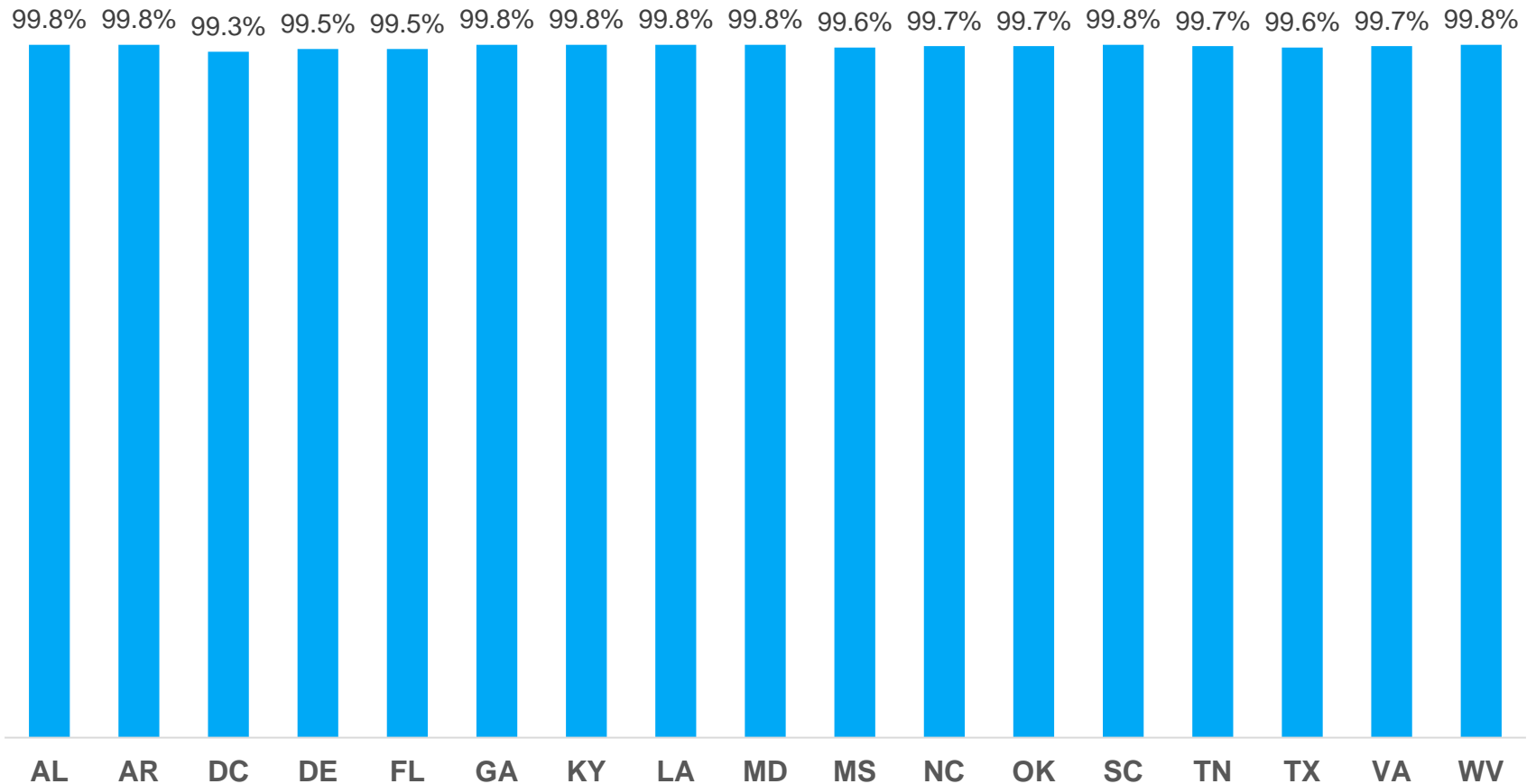


Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare  
Note: U.S. Census Bureau defines which states are in the Midwestern Region; includes IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI.



# Outcomes: Quality of Home Health Care

Chart 6.14: Performance on “How Often The Home Health Team Checked Patients’ Risk Of Falling” Measure in 2020, for States in Southern Region

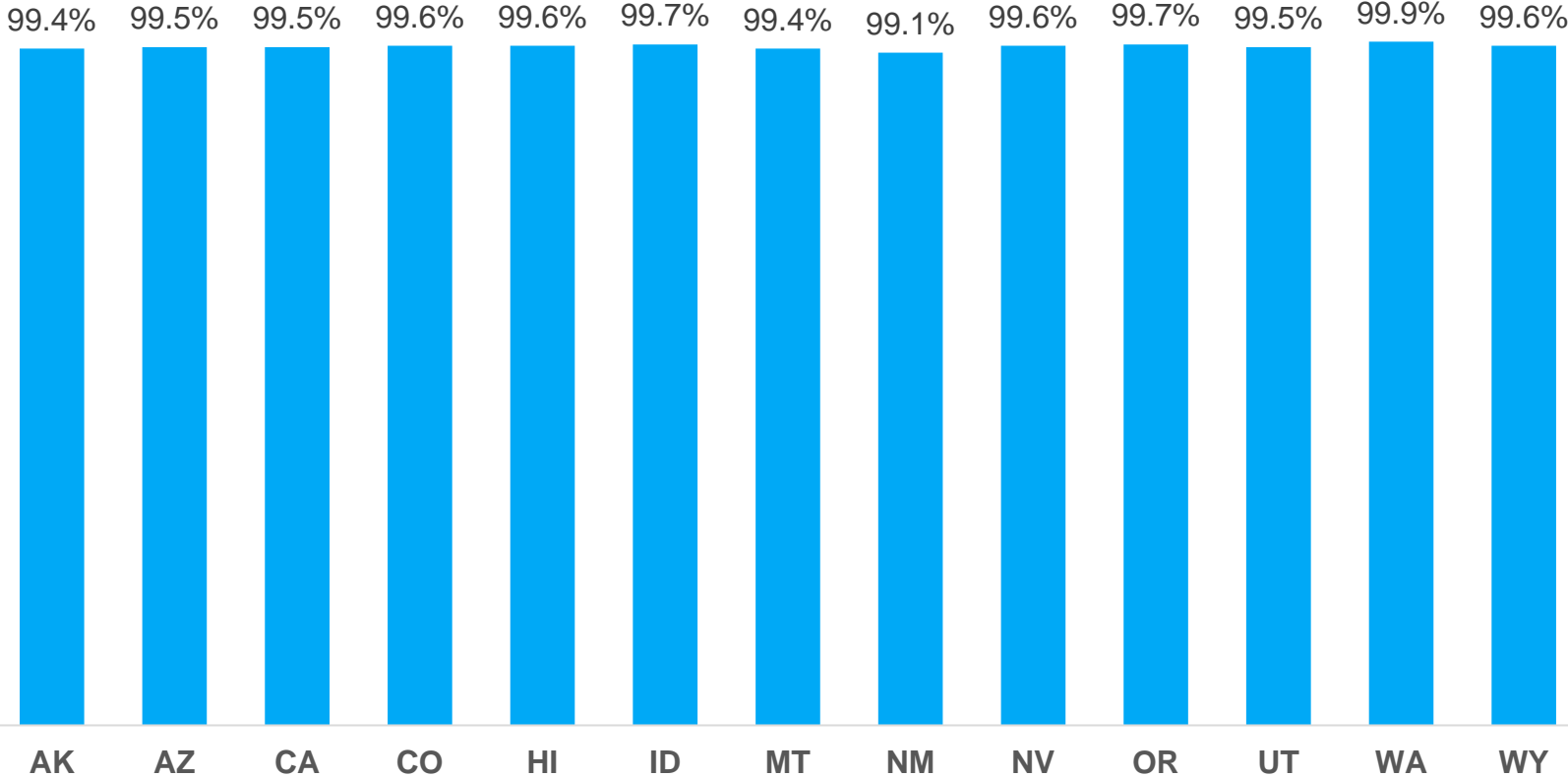


Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

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

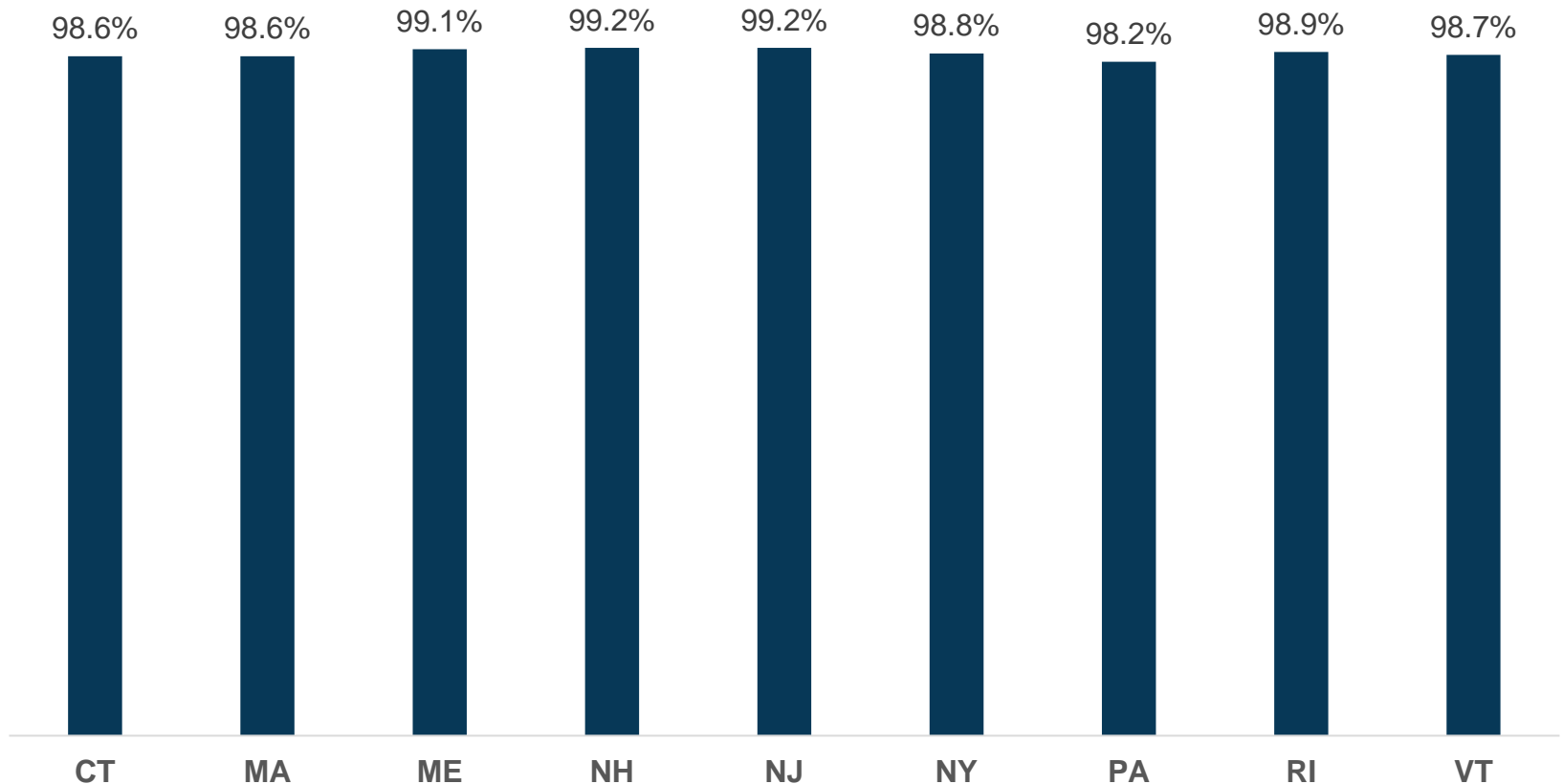
Chart 6.15: Performance on “How Often The Home Health Team Checked Patients’ Risk Of Falling” Measure in 2020, for States in Western Region



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 2020, for States in Northeastern Region

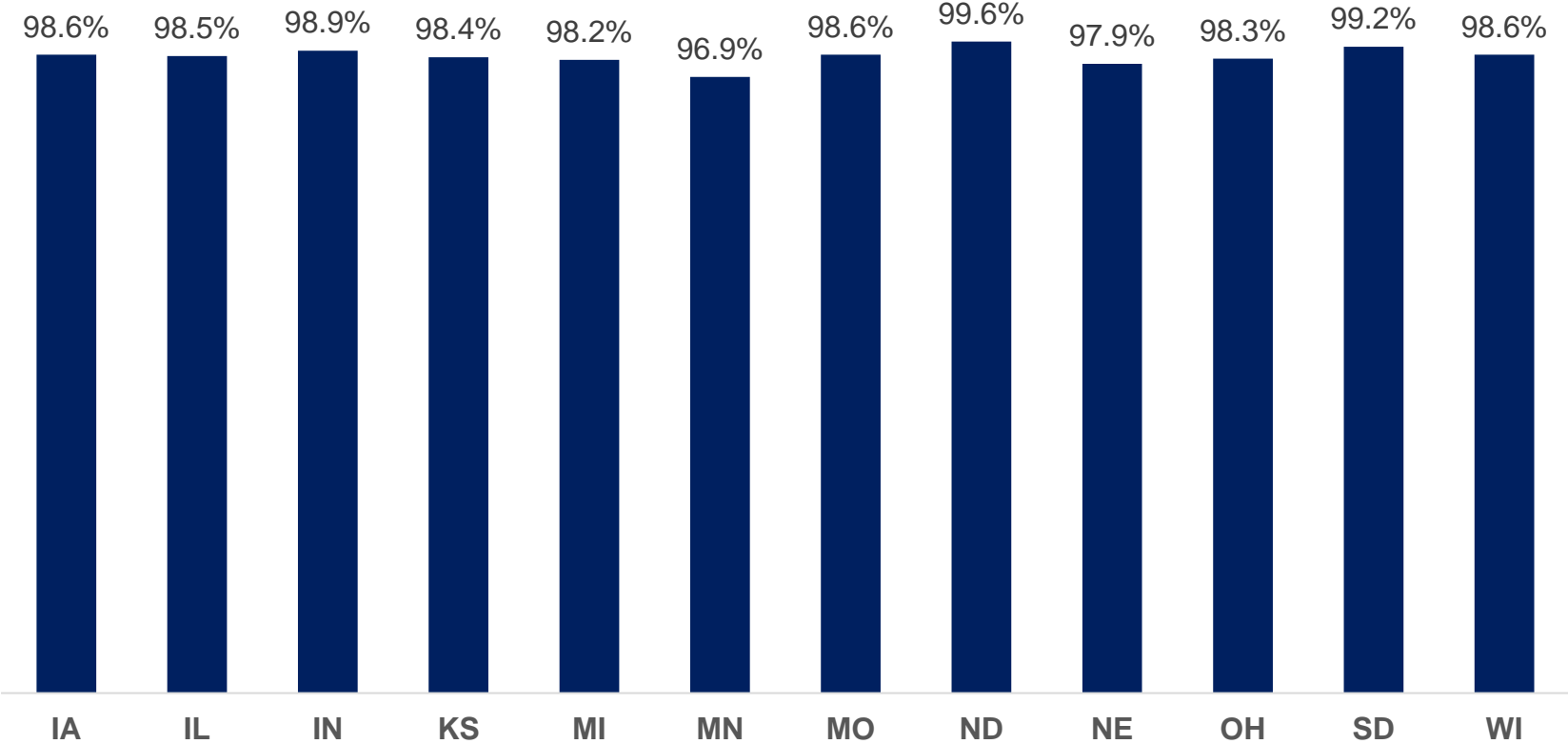


Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

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

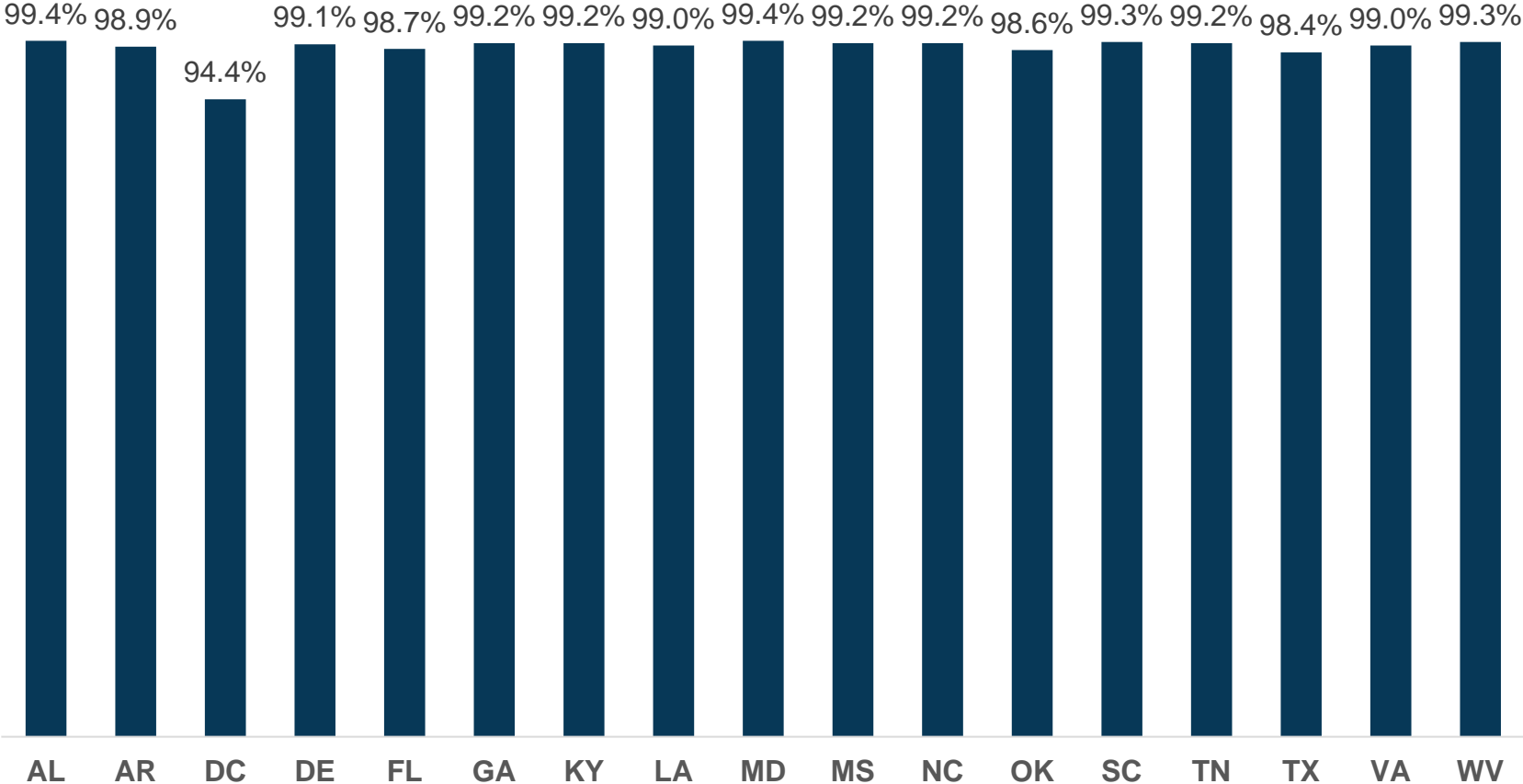
Chart 6.17: Performance on “How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs” Measure in 2020, for States in Midwestern Region



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.

# Outcomes: Quality of Home Health Care

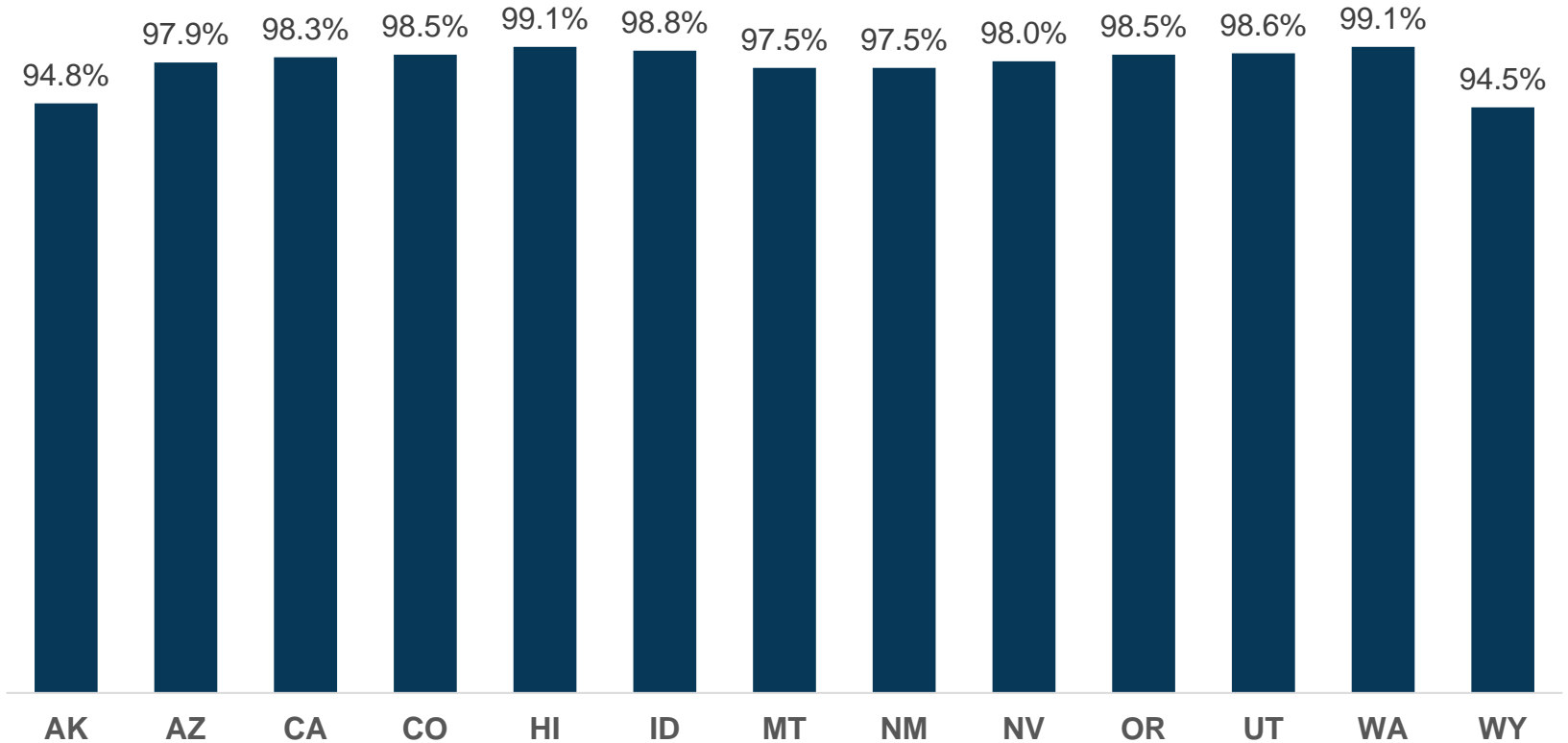
Chart 6.18: Performance on “How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs” Measure in 2020, for States in Southern Region



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

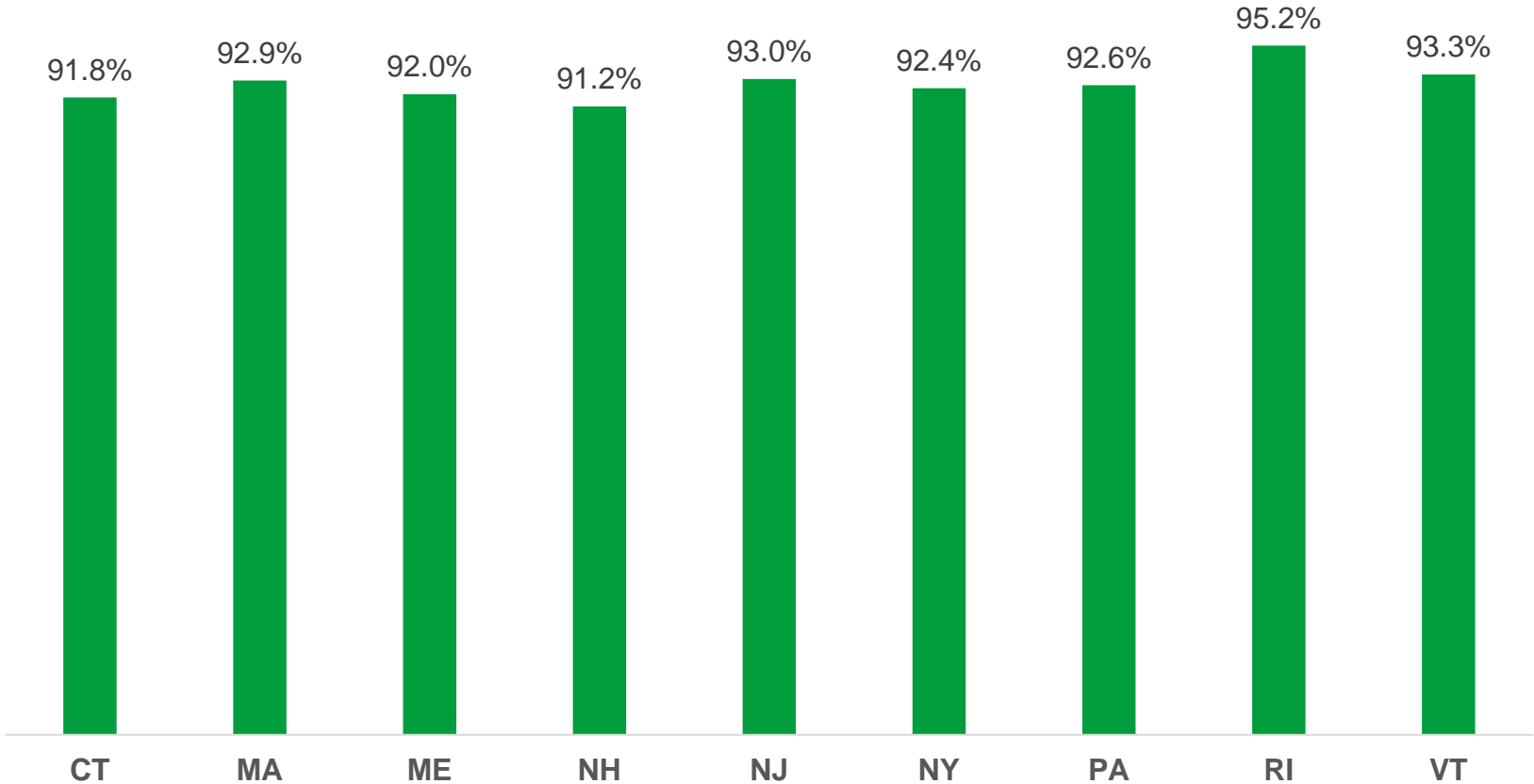
Chart 6.19: Performance on “How Often The Home Health Team Taught Patients (or Their Family Caregivers) About Their Drugs” Measure in 2020, for States in Western Region



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

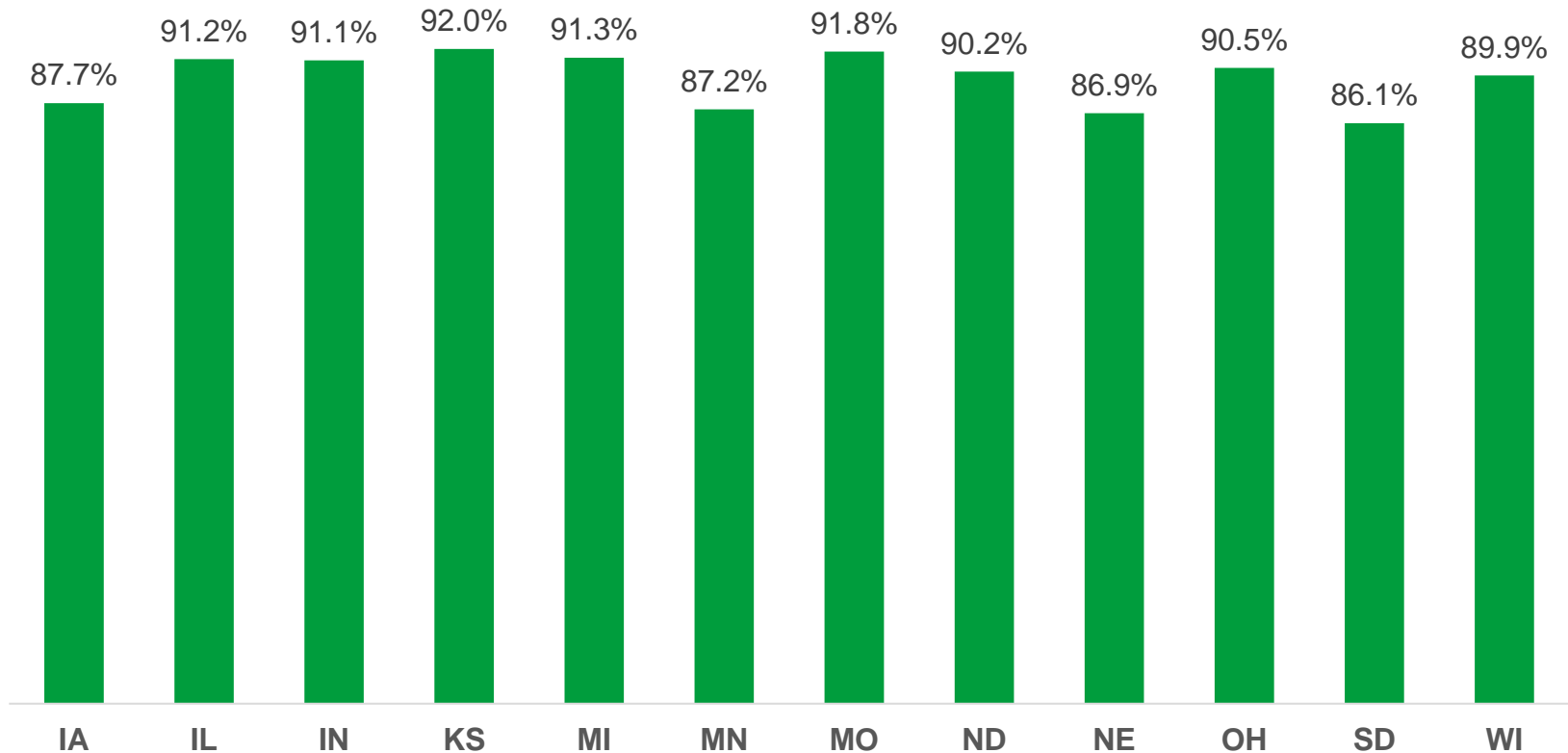
Chart 6.20: Performance on “How Often Patients’ Wounds Improved or Healed After An Operation” Measure in 2020, for States in Northeastern Region



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 2020, for States in Midwestern Region



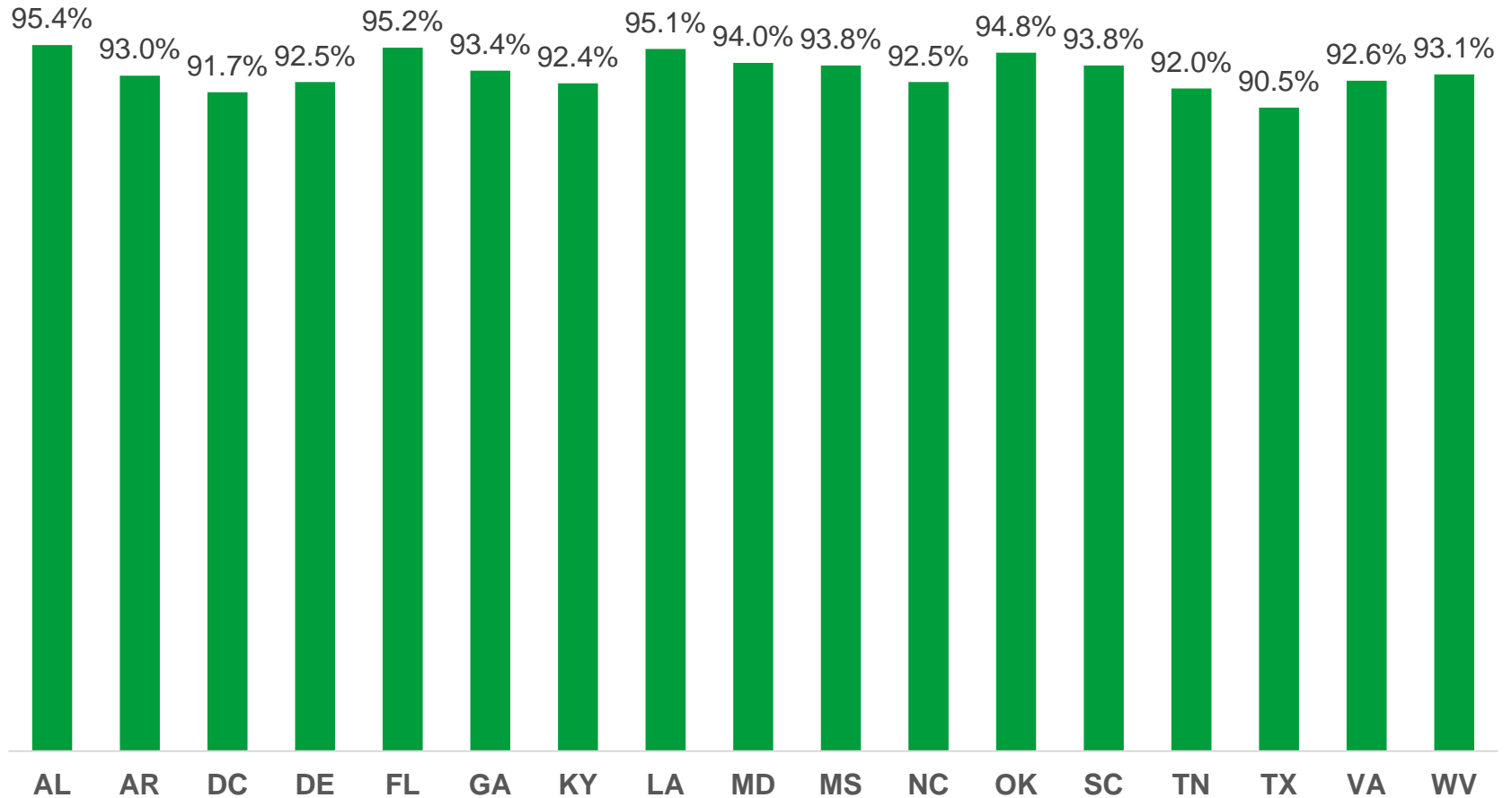
Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare

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.



# Outcomes: Quality of Home Health Care

Chart 6.22: Performance on “How Often Patients’ Wounds Improved or Healed After An Operation” Measure in 2020, for States in Southern Region

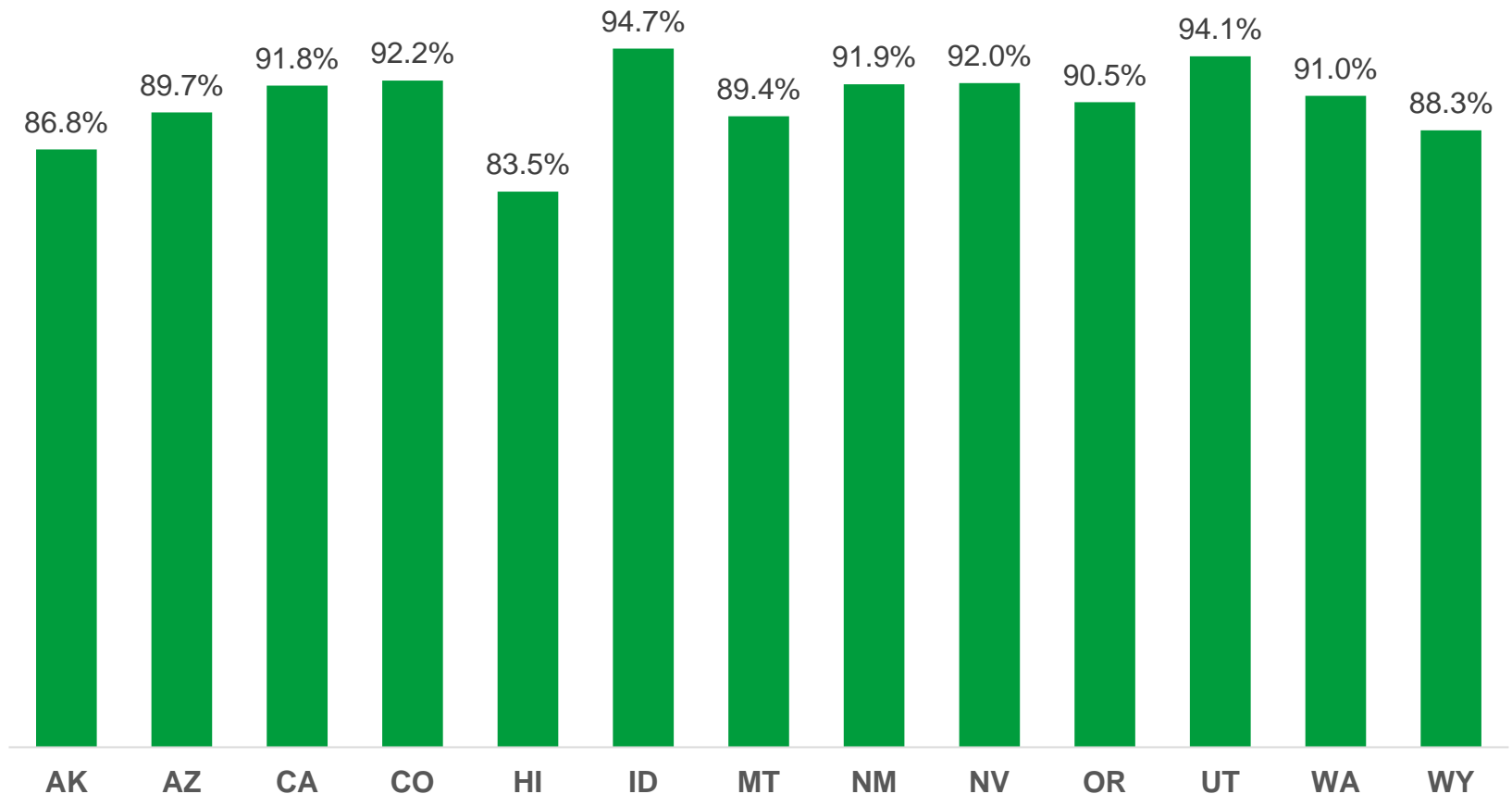


Source: Centers for Medicare and Medicaid Services, Medicare Home Health Compare.

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 2020, for States in Western Region



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.

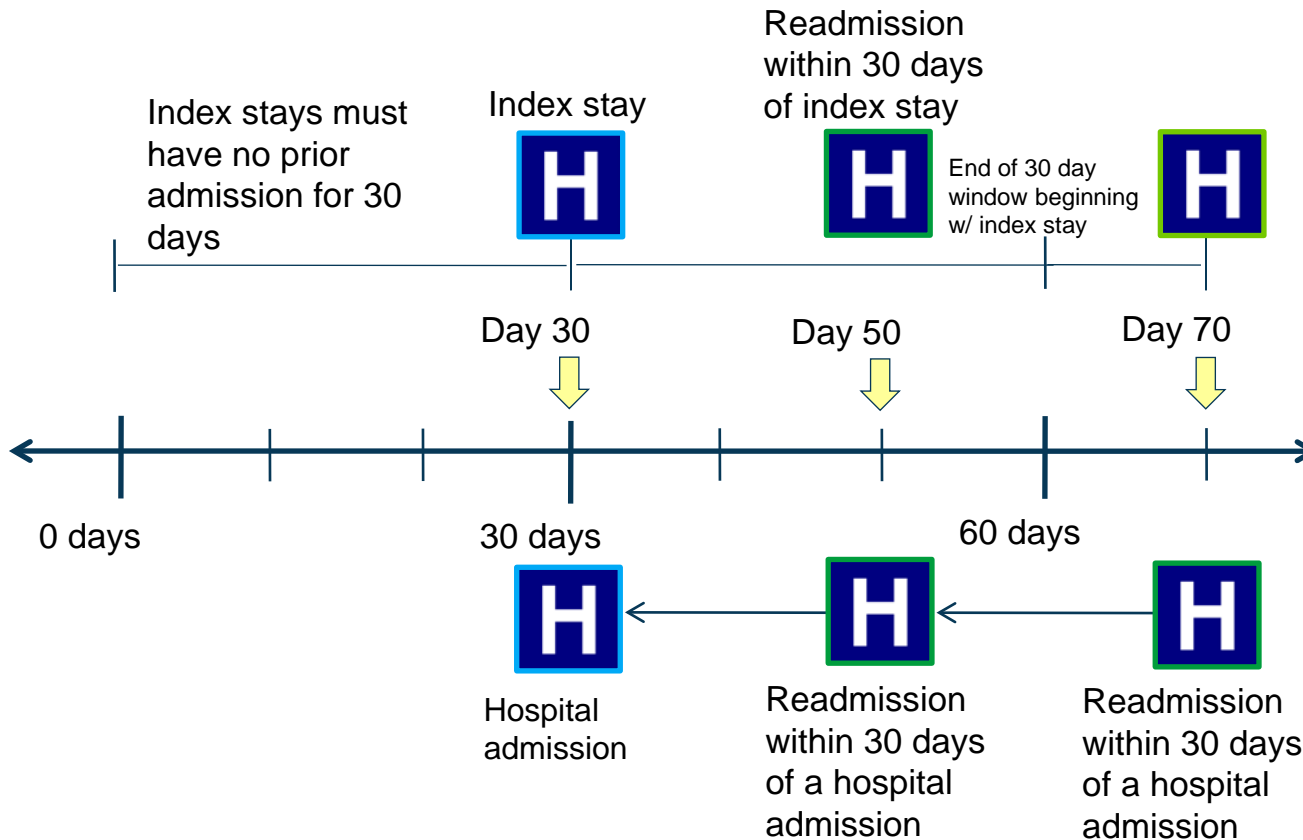


## Appendix: Readmission Rate Methodology



# 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.



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

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