



# Home Health Chartbook 2015: Prepared for the Alliance for Home Health Quality and Innovation

October 2015  
[avalere.com](http://avalere.com)

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## 2015 Chartbook

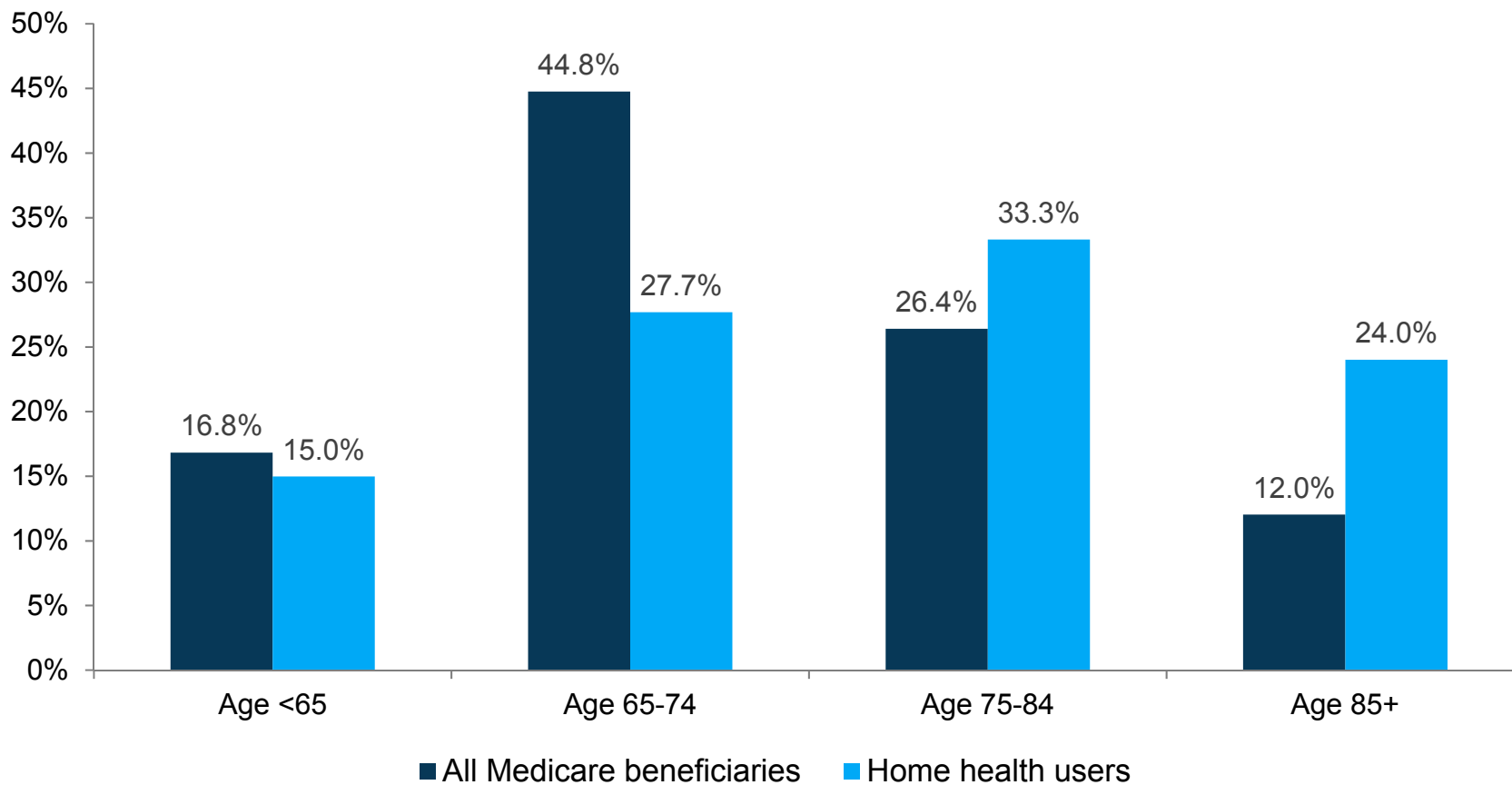
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## Section 1: Demographics of Home Health Users

# Demographics of Home Health Users

Chart 1.1: Age Distribution of Home Health Users and All Medicare Beneficiaries, 2013

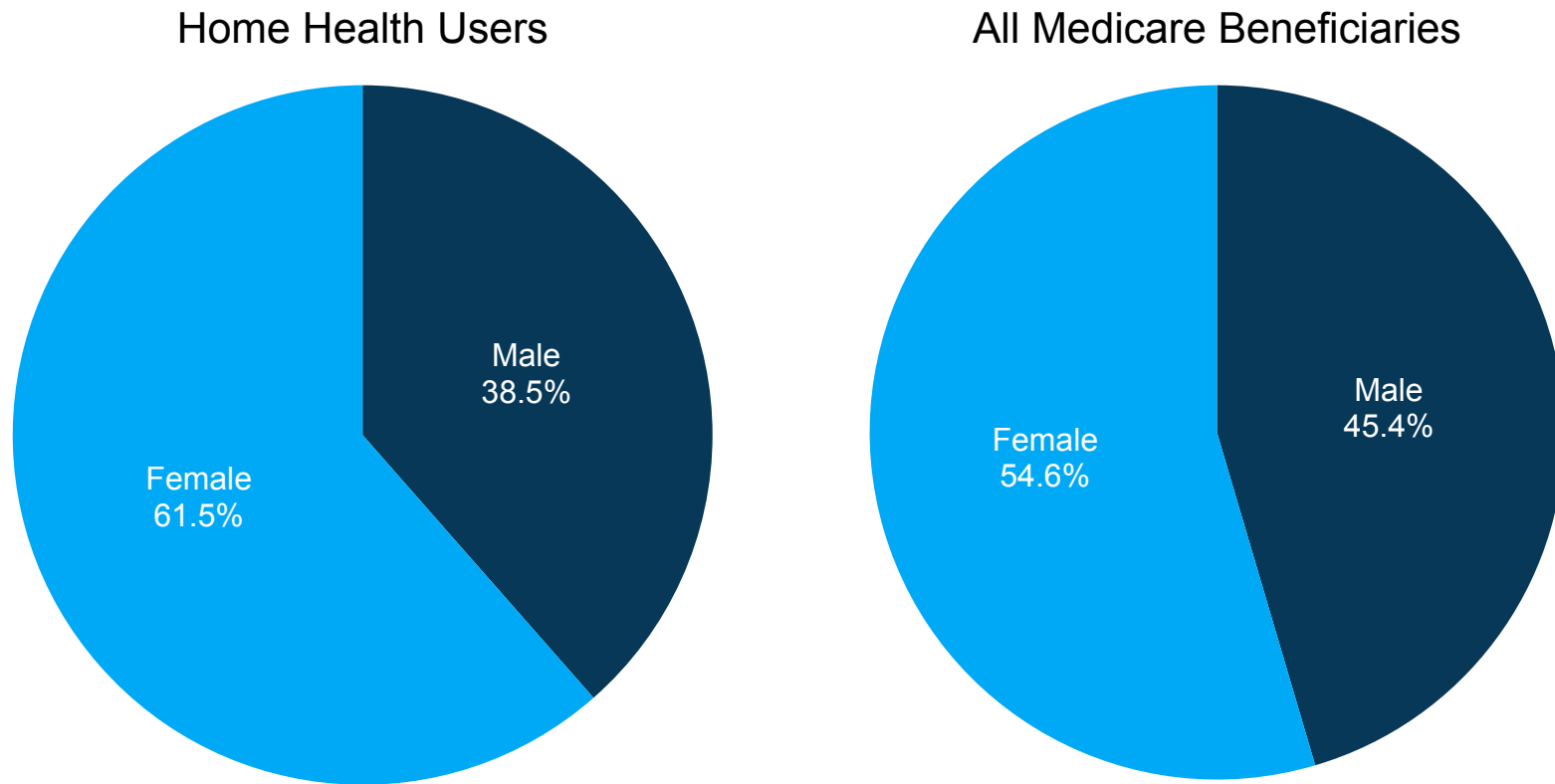


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users

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Chart 1.2: Gender Distribution of Home Health Users and All Medicare Beneficiaries, 2013



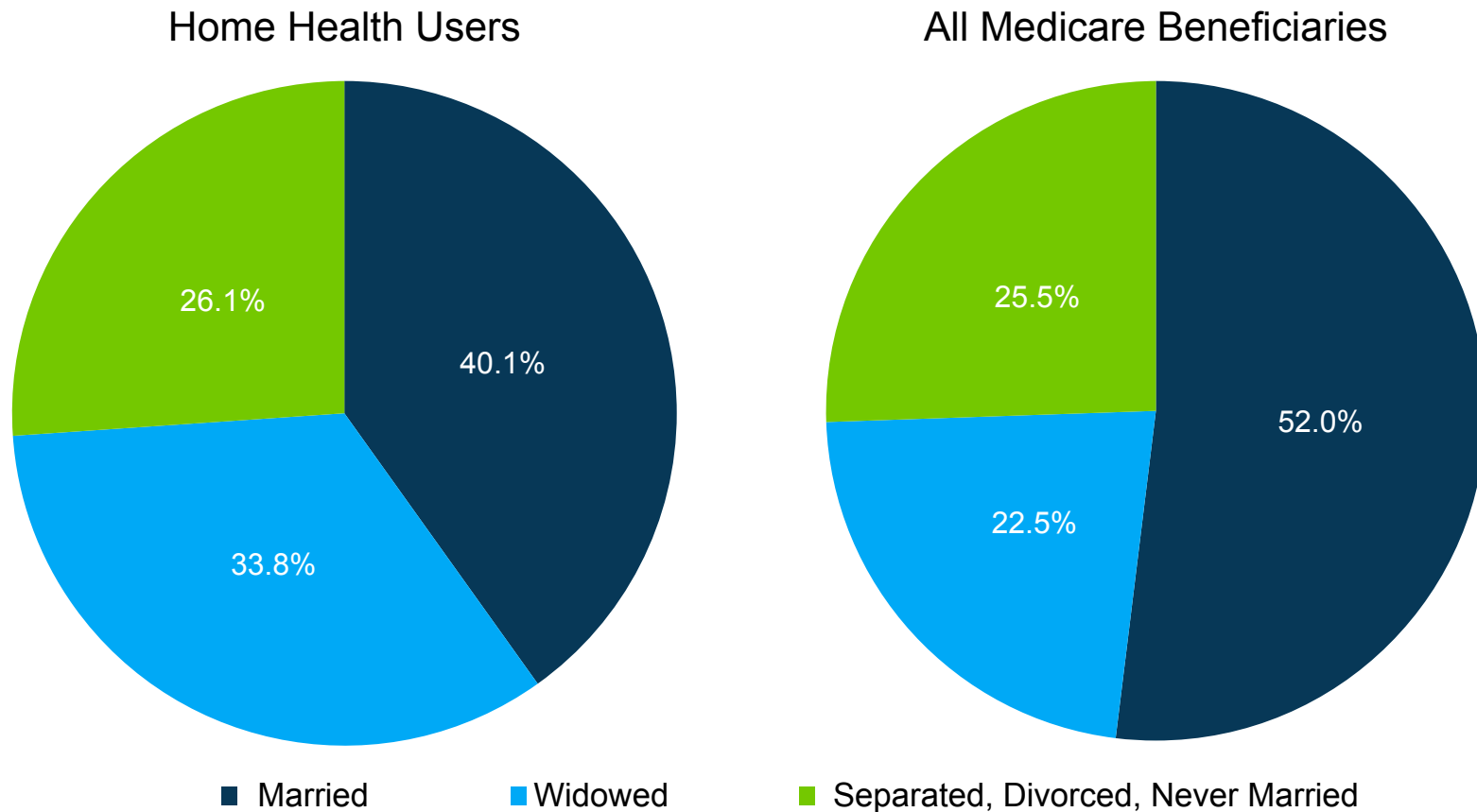
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.



# Demographics of Home Health Users

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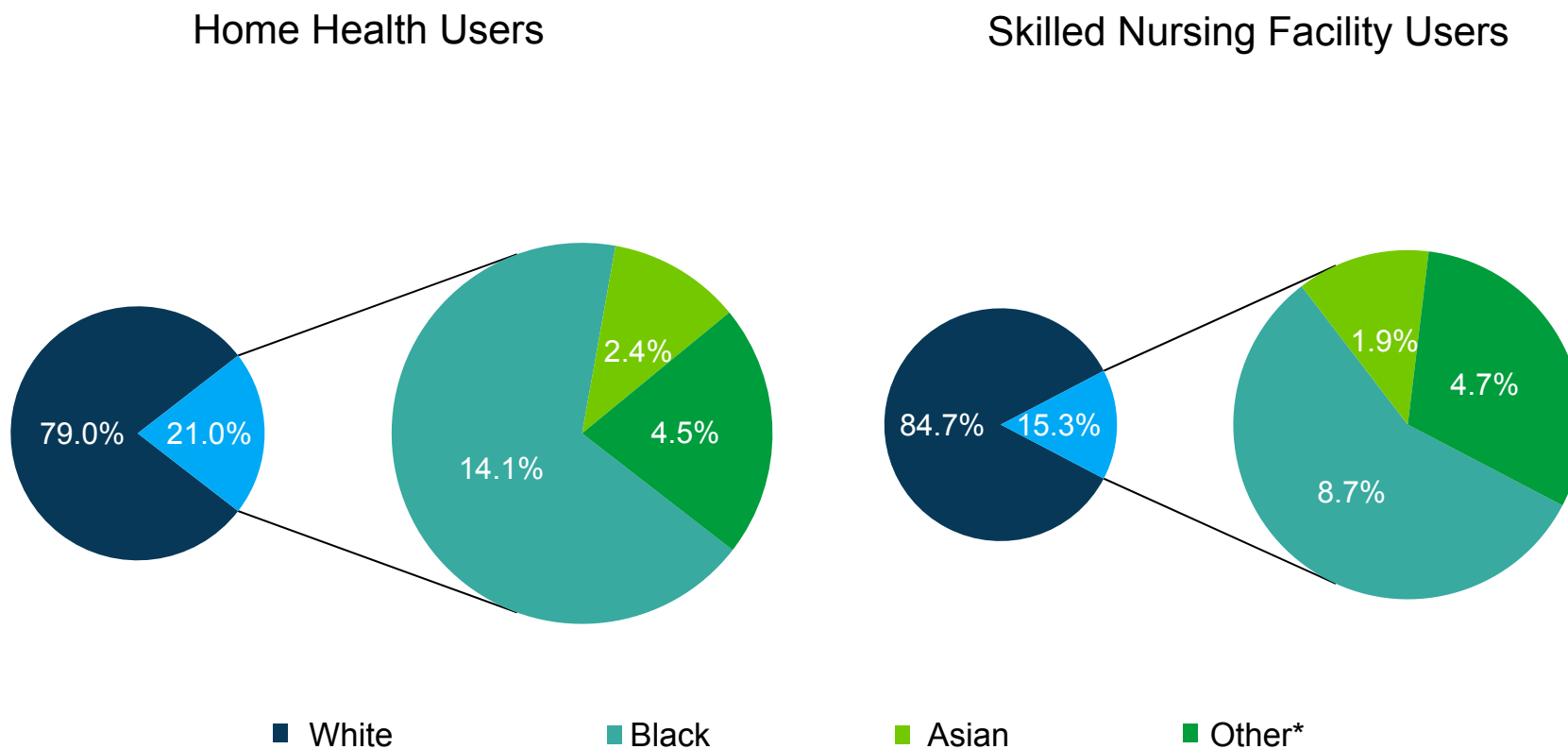
Chart 1.3: Marital Status of Home Health Users and All Medicare Beneficiaries, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users

Chart 1.4: Race of Medicare Home Health Users and Skilled Nursing Facility Users, 2013

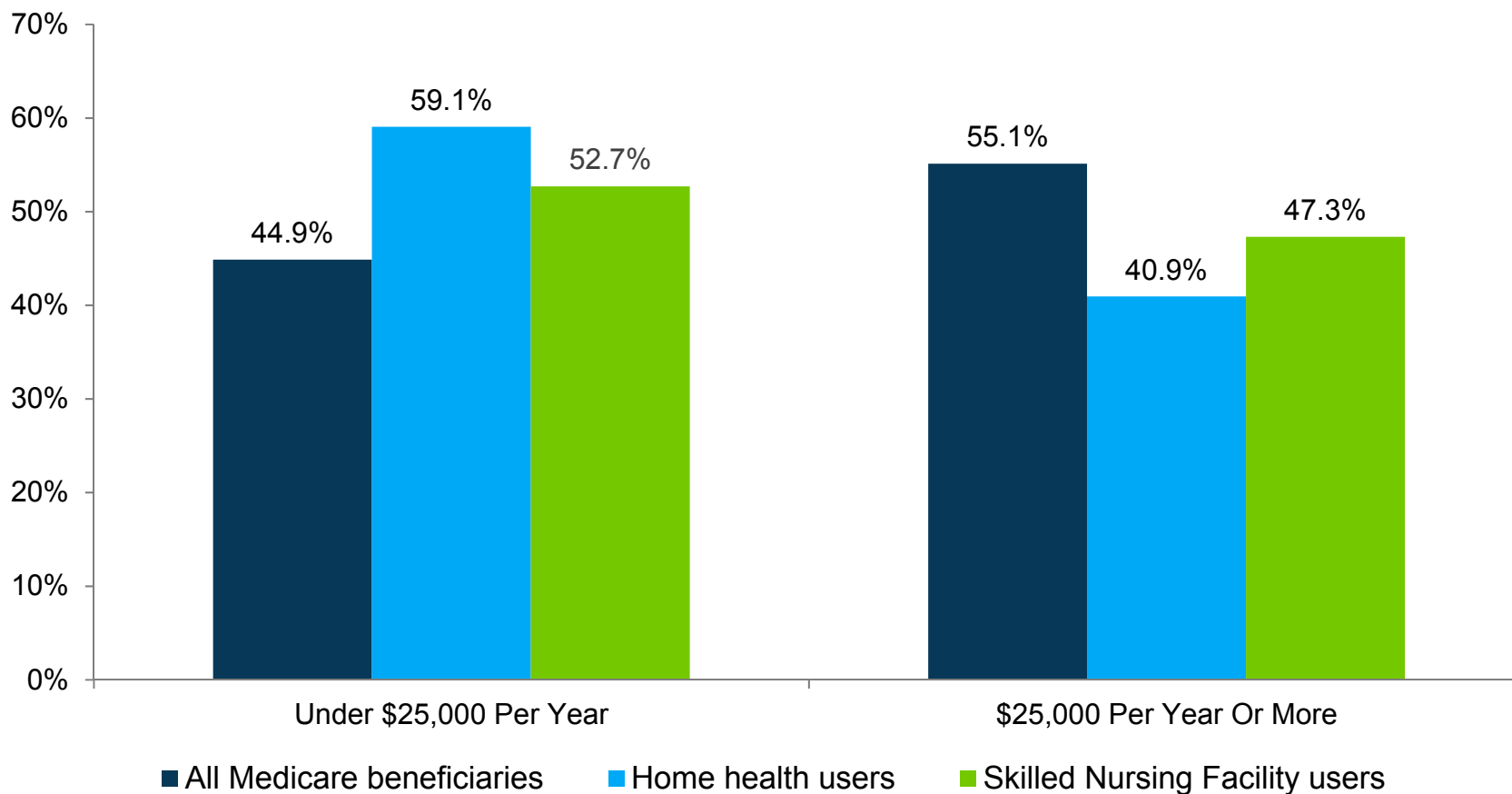


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

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

# Demographics of Home Health Users

Chart 1.5: Income Distribution of Home Health Users, Skilled Nursing Facility Users, and All Medicare Beneficiaries, 2013

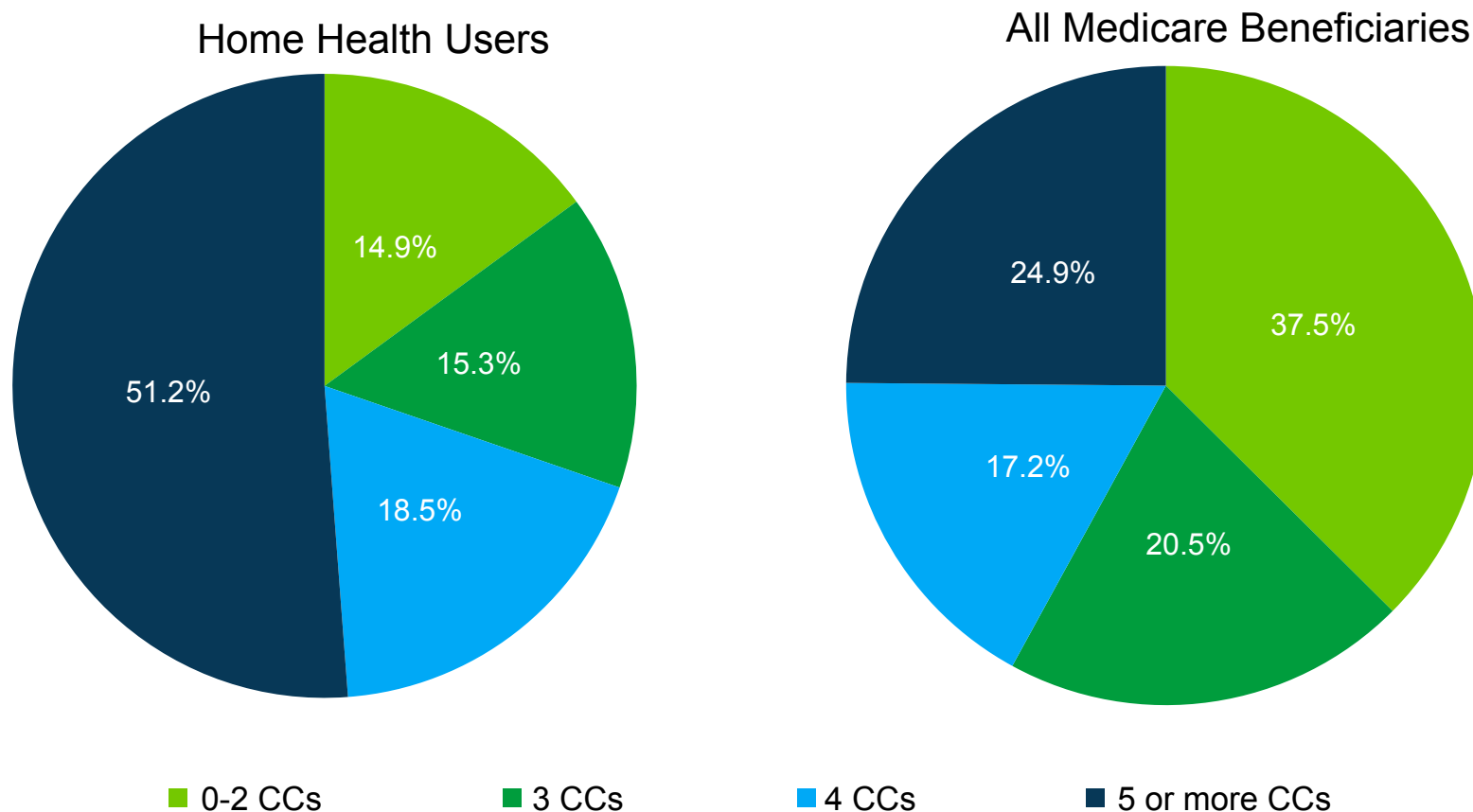


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.



# Demographics of Home Health Users

Chart 1.6: Percentage of All Medicare Beneficiaries and Home Health Users by Number of Chronic Conditions (CCs), 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.  
Totals may not sum to 100 percent due to rounding.

# Demographics of Home Health Users

Table 1.7: Selected Characteristics of Medicare Home Health Users and All Medicare Beneficiaries, 2013

	All Medicare Home Health Users	All Medicare Beneficiaries
Age 85+	24.0%	12.0%
Live alone	36.7%	28.8%
Have 3 or more chronic conditions	85.1%	62.5%
Have 2 or more ADL limitations*	31.9%	12.0%
Report fair or poor health	48.7%	27.2%
Are in somewhat or much worse health than last year	41.9%	22.2%
Have incomes at or under 200% of the Federal Poverty Level (FPL)**	67.2%	52.1%
Have incomes under 100% of the Federal Poverty Level (FPL)**	31.2%	21.3%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*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 2013, 100 percent of FPL for a household of 1 was \$11,490, a household of 2 was \$15,510, a household of 3 was \$19,530, and household of 4 was \$23,550. 200 percent of FPL was double each amount.

# Demographics of Home Health Users\*

Table 1.8: 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, 2013

Living Expense	One-Person Elderly Household	Two-Person Elderly Household	All Elderly Household Sizes
Housing	\$6,119	\$8,050	\$7,189
Food	\$2,467	\$4,311	\$3,535
Transportation	\$1,646	\$4,212	\$2,942
Health Care (out-of-pocket costs)	\$2,094	\$3,639	\$2,684
<b>Total</b>	<b>\$12,326</b>	<b>\$20,212</b>	<b>\$16,350</b>

Source: Avalere analysis of the 2013 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.

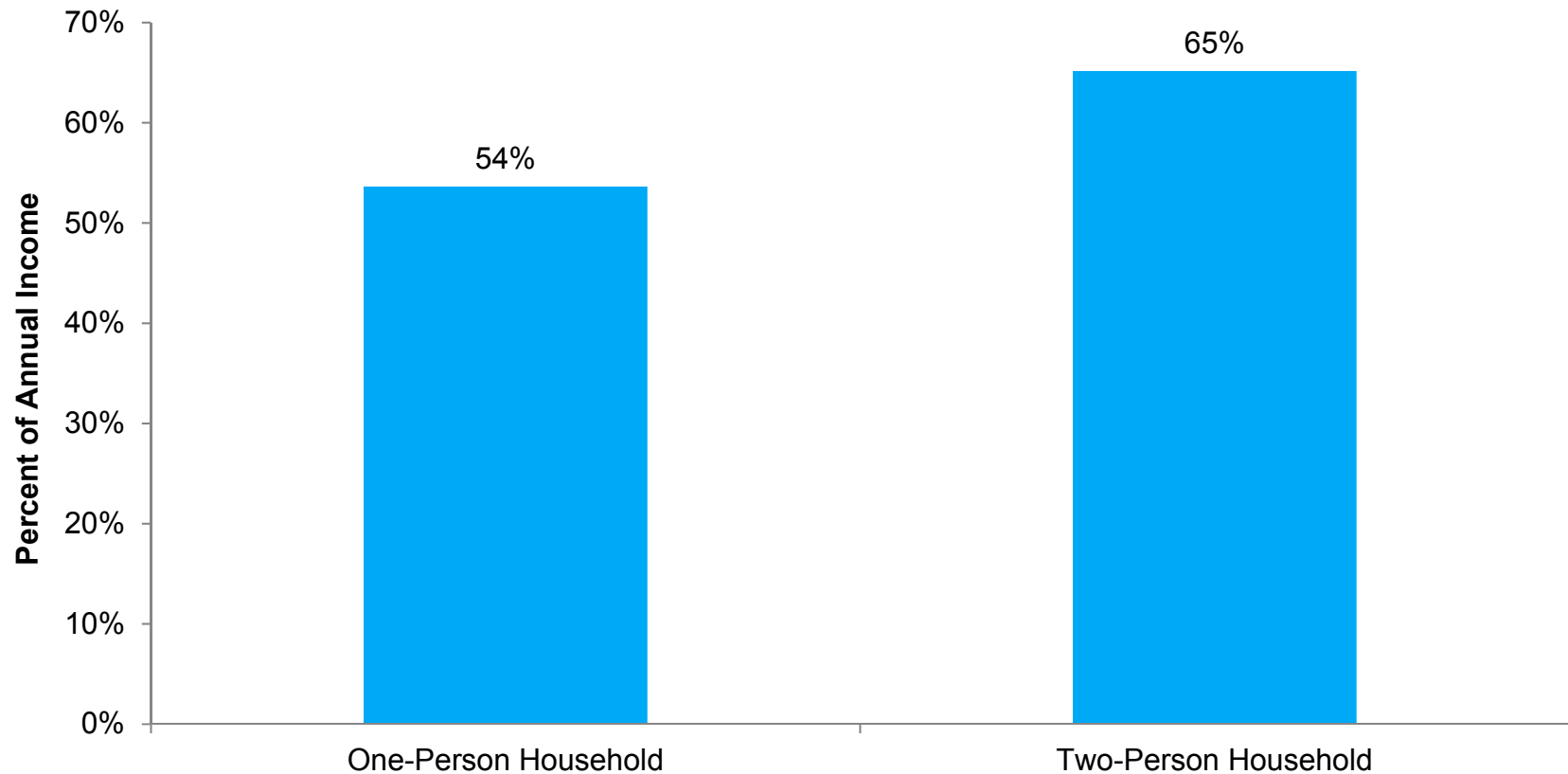
\*This analysis includes, but is not limited to, home health users.

\*\*In 2013, 200 percent of the Federal Poverty Level was \$22,980 for a one-person household and \$31,020 for a two-person household.

# Demographics of Home Health Users\*

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Chart 1.9: 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, 2013



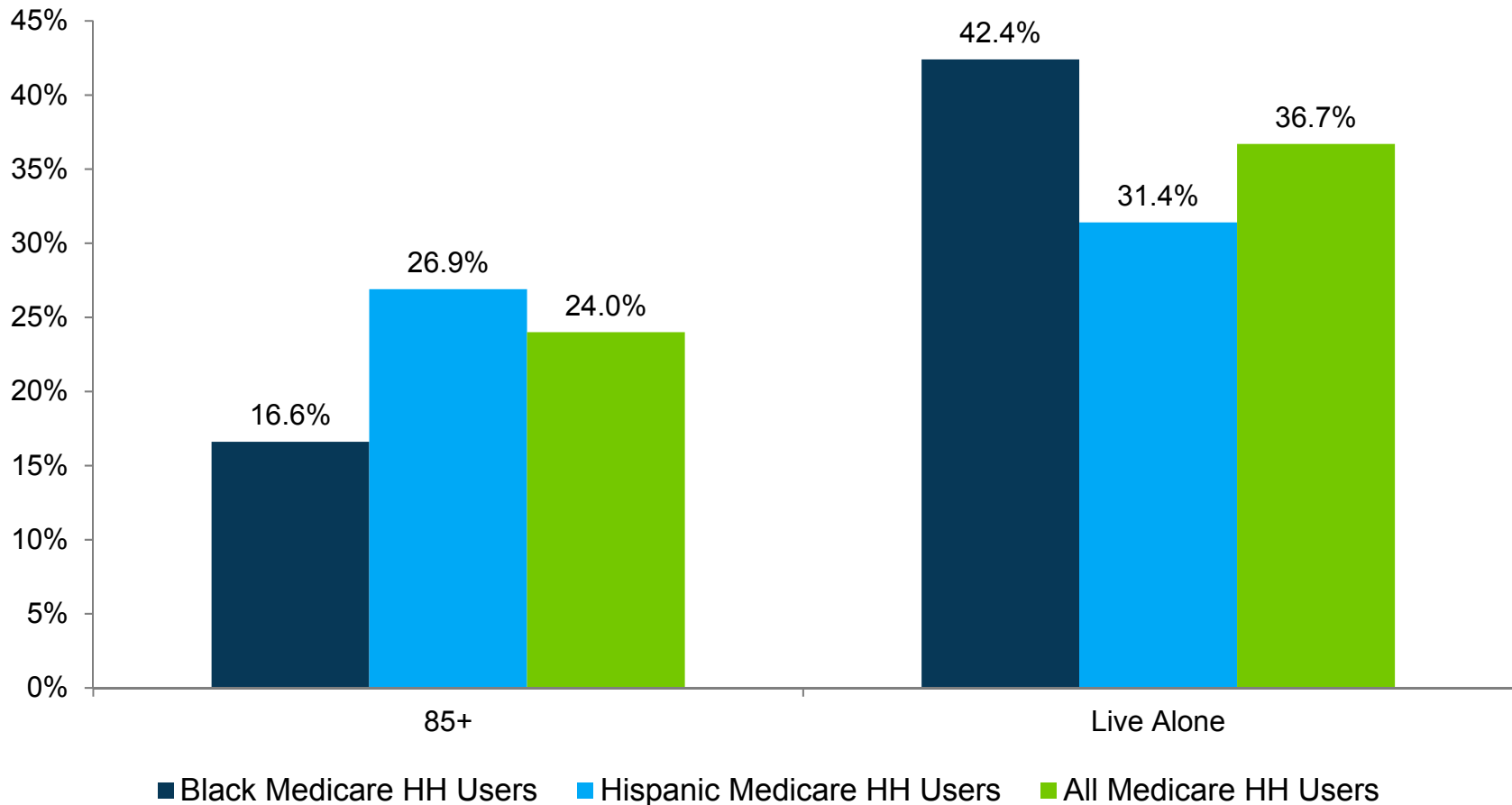
Source: Avalere analysis of the 2013 Bureau of Labor Statistics Consumer Expenditure Survey. The 2013 average annual living expenses are for one-person or two-person households, respectively, under 200 percent of the Federal Poverty Level with at least one individual 65 years or older.

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

\*\*In 2013, 200 percent of the Federal Poverty Level was \$22,980 for a one-person household and \$31,020 for a two-person household.

# Demographics of Home Health Users by Race and Ethnicity

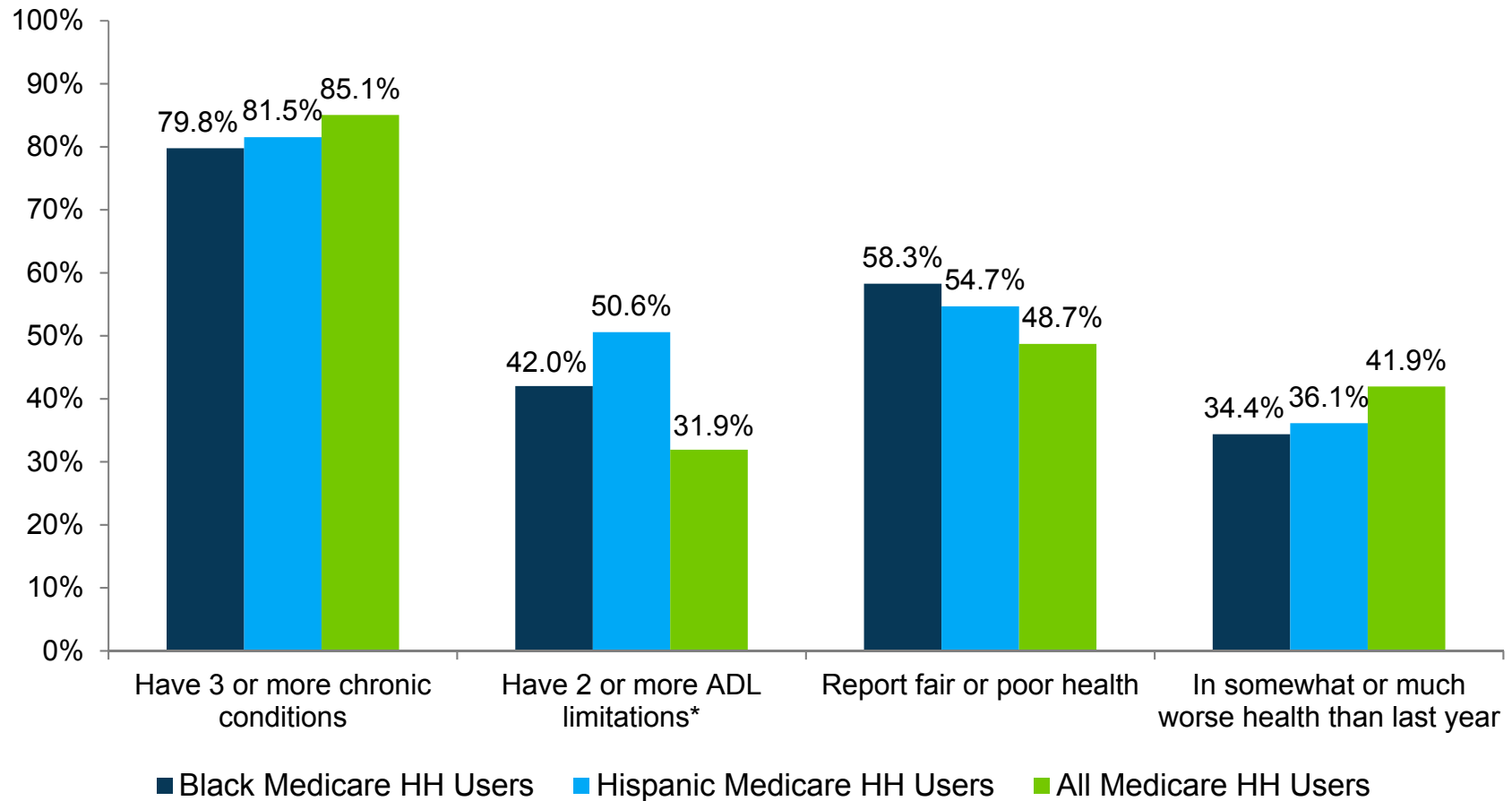
Chart 1.10: Selected Characteristics of All Medicare Home Health Users by Race and Ethnicity, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users by Race and Ethnicity

Chart 1.11: Health Status of Home Health Users by Race and Ethnicity, 2013

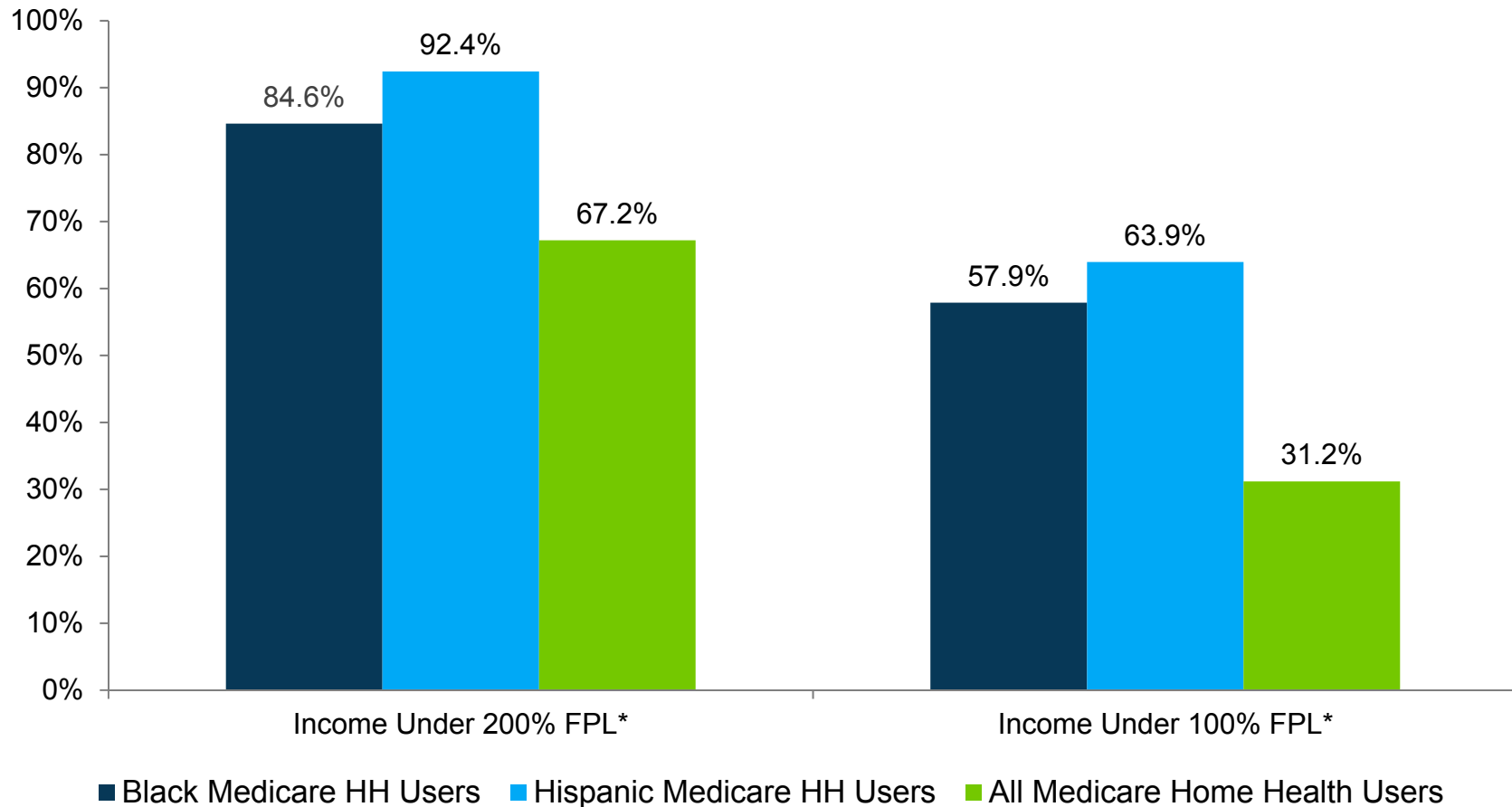


Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*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 1.12: Income by Federal Poverty Level (FPL) of Home Health Users by Race and Ethnicity, 2013



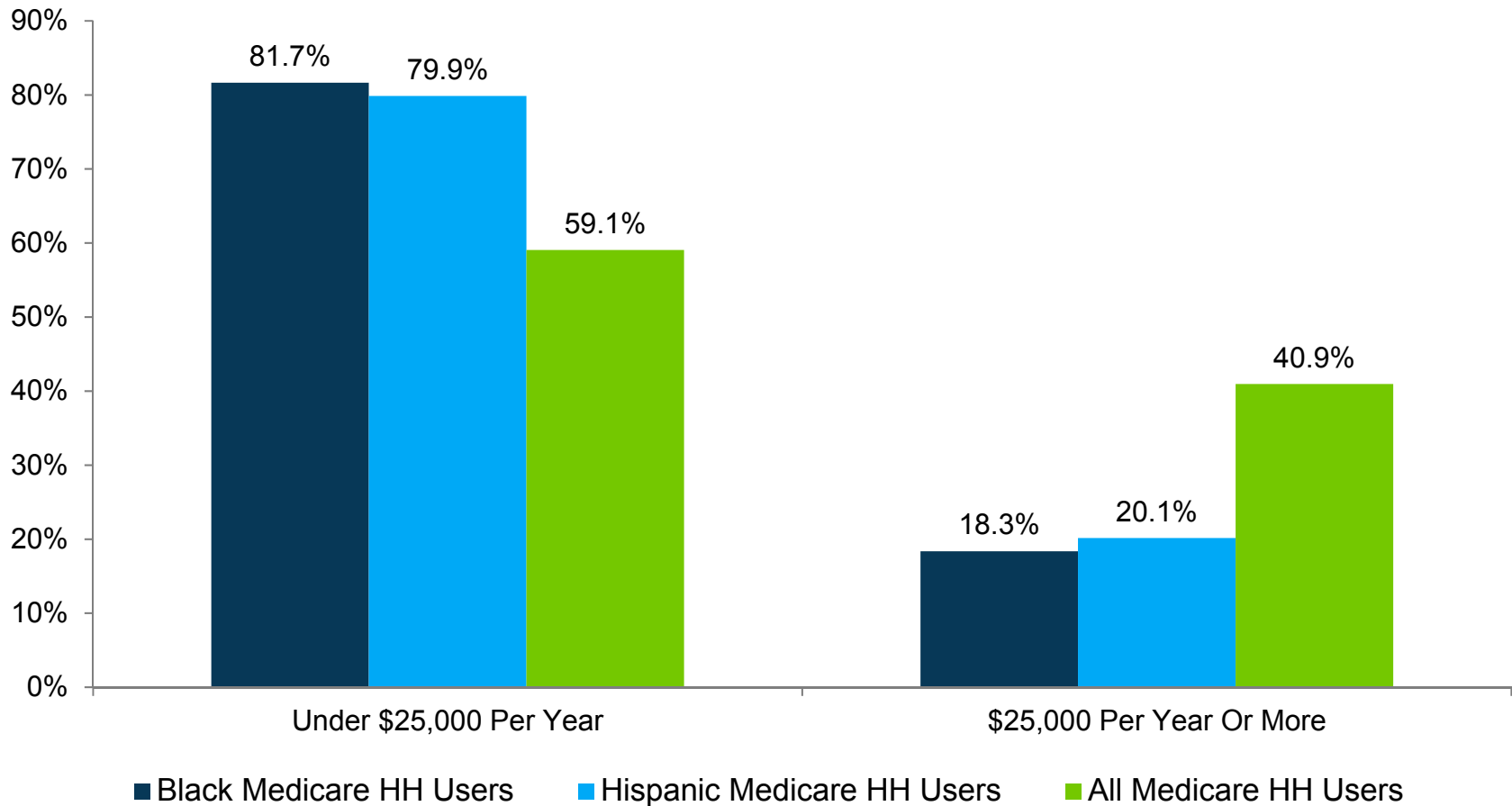
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*In 2013, FPL for a household of 1 was \$11,490, a household of 2 was \$15,510, a household of 3 was \$19,530, and household of 4 was \$23,550. 200 percent of FPL is double those amounts.



# Demographics of Home Health Users by Race and Ethnicity

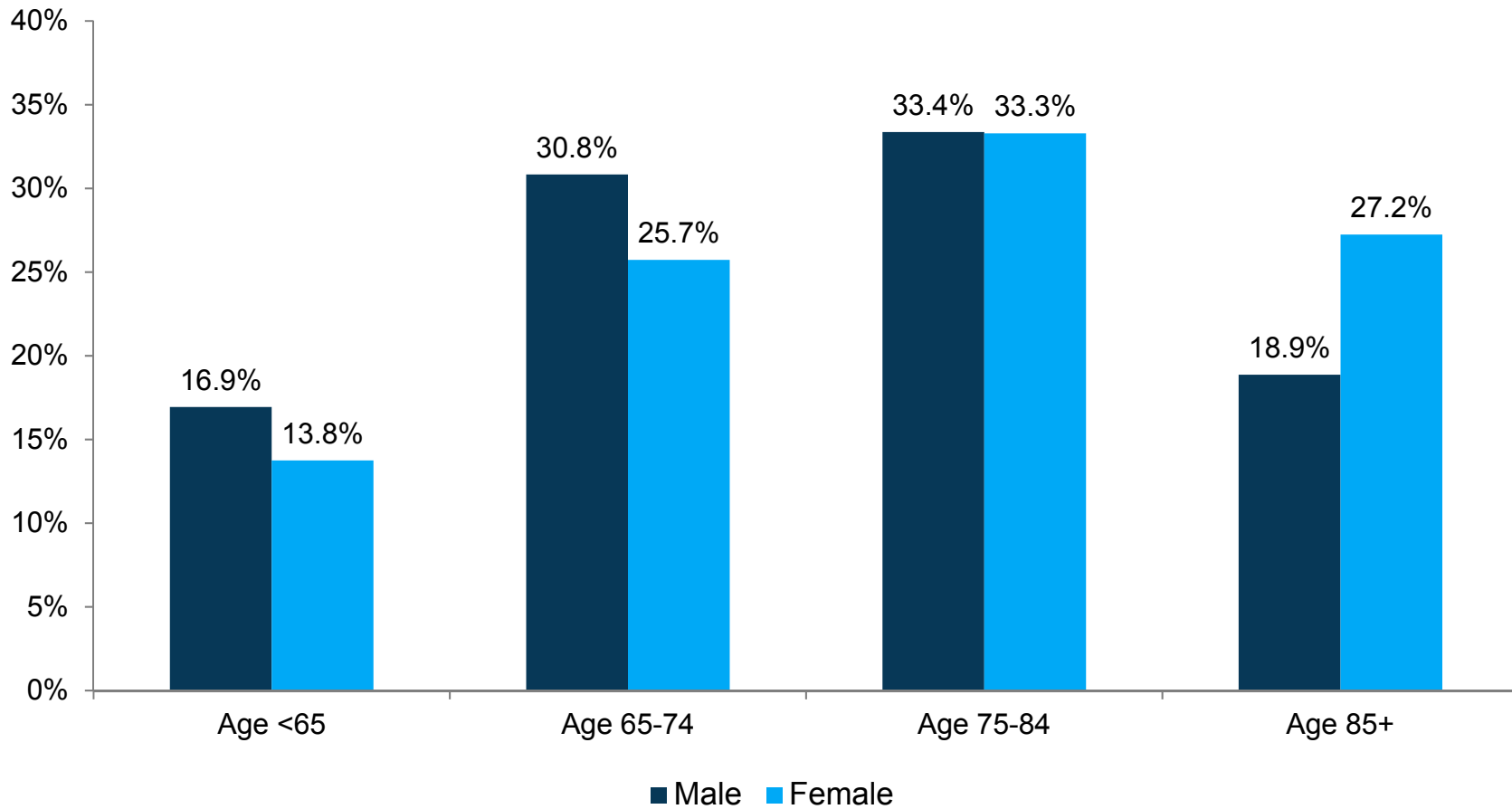
Chart 1.13: Income Distribution of Home Health Users by Race and Ethnicity, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users by Sex

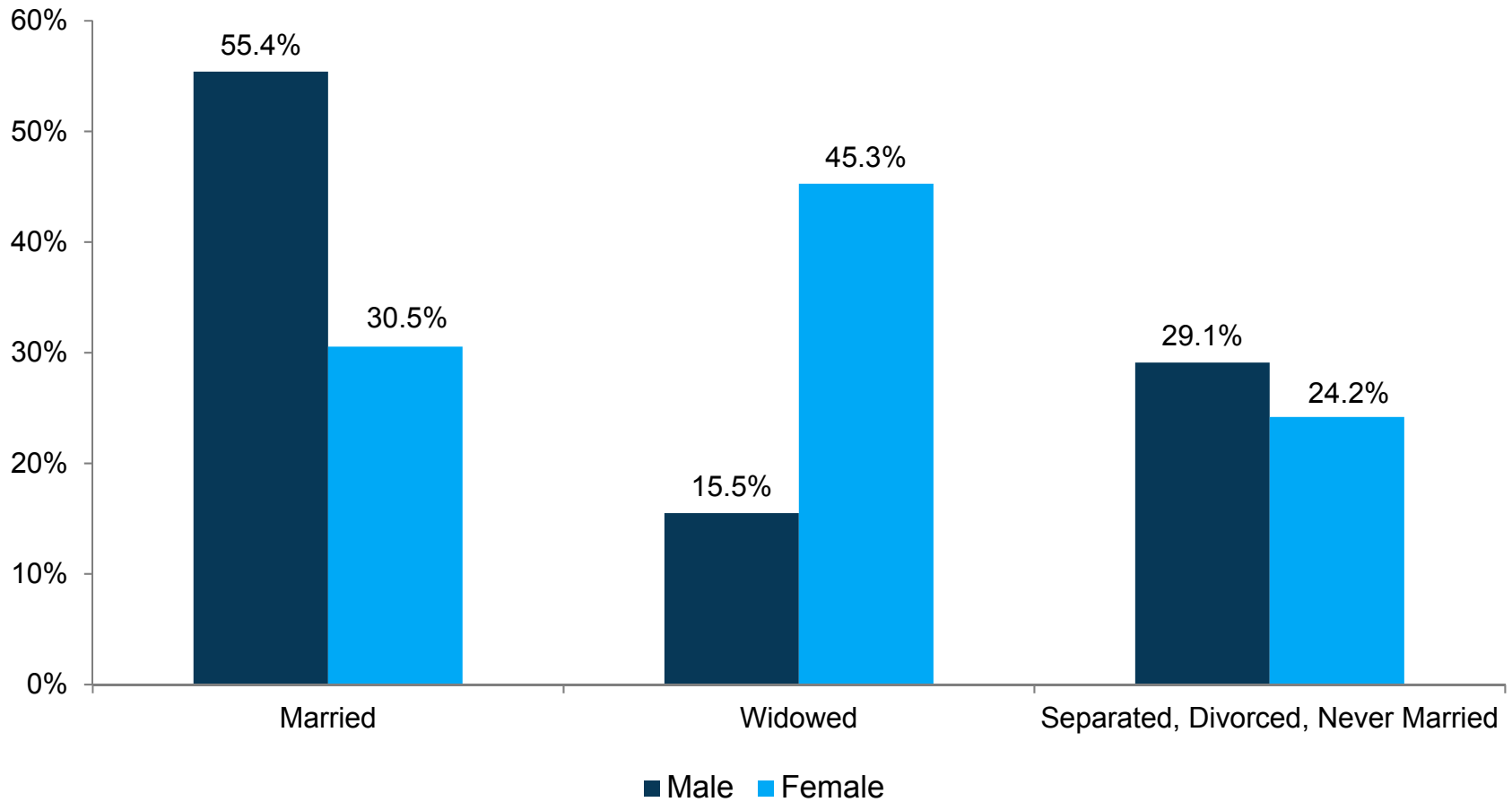
Chart 1.14: Age Distribution of Home Health Users by Sex, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users by Sex

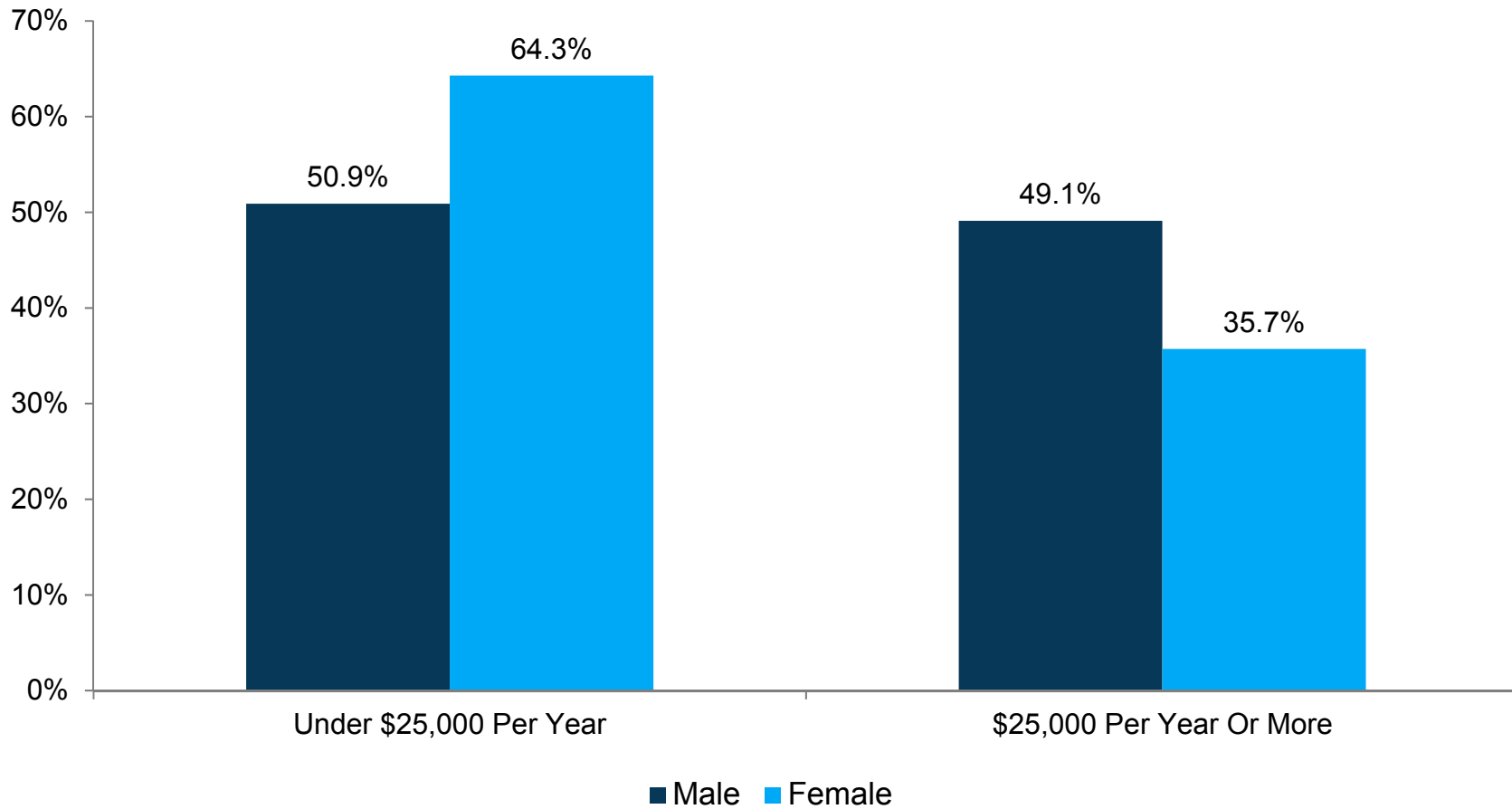
Chart 1.15: Marital Status of Home Health Users by Sex, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users by Sex

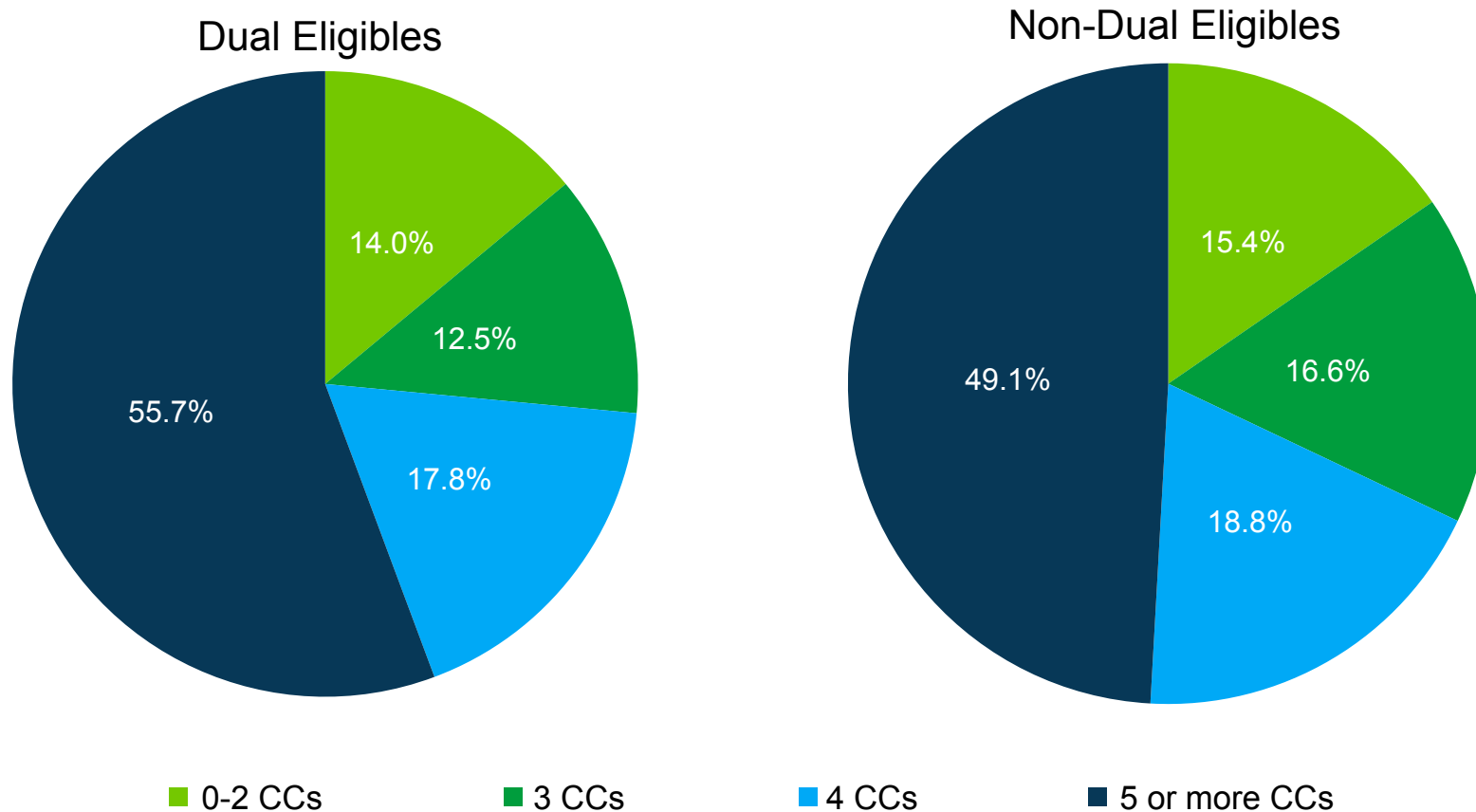
Chart 1.16: Income Distribution of Home Health Users by Sex, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

# Demographics of Home Health Users by Dual Eligible Status

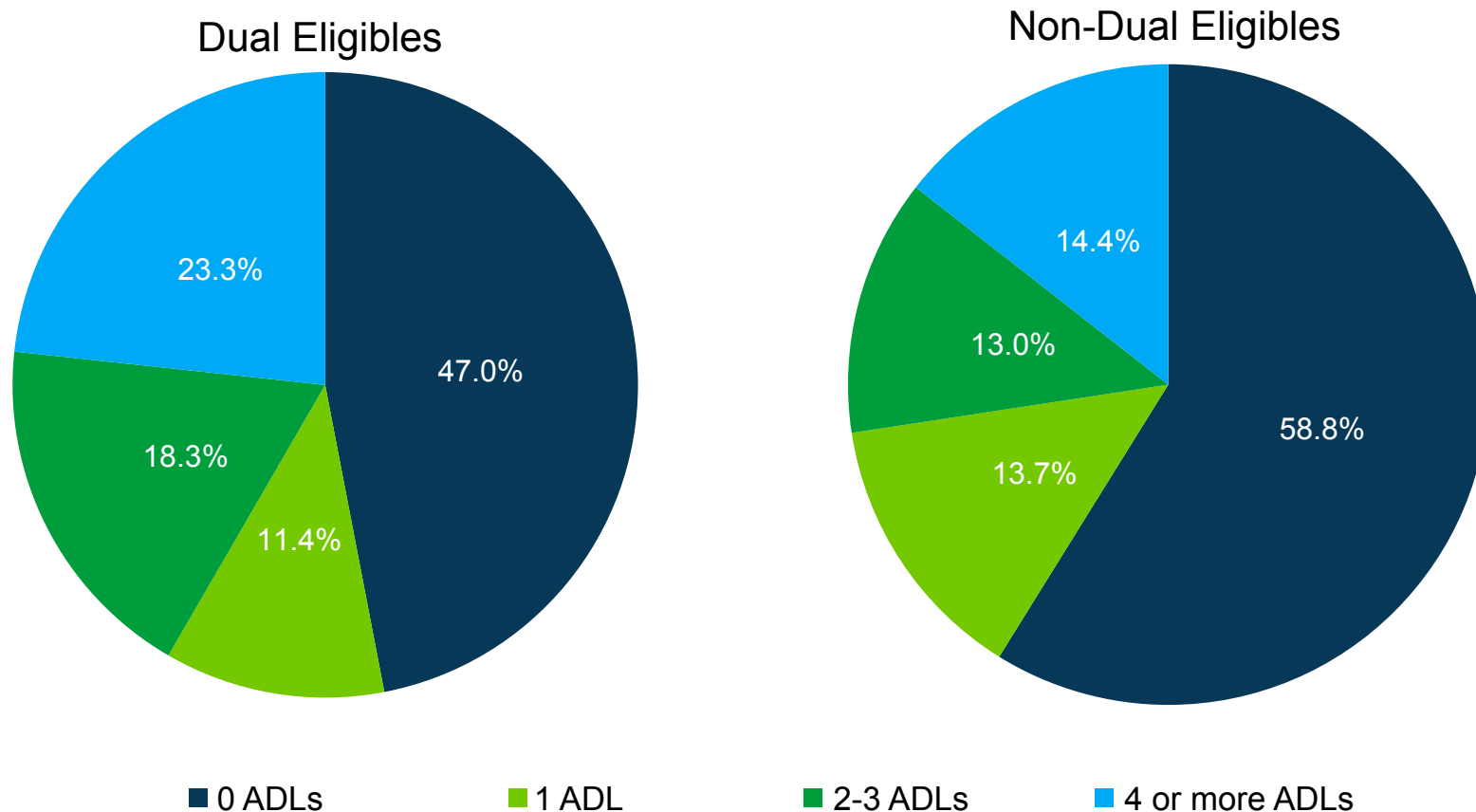
Chart 1.17: Percentage of Home Health Users by Dual Eligible Status and Number of Chronic Conditions (CCs), 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.  
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 1.18: Percentage of Home Health Users by Dual Eligible Status and Number of Activities of Daily Living (ADLs) with Which They Require Assistance, 2013



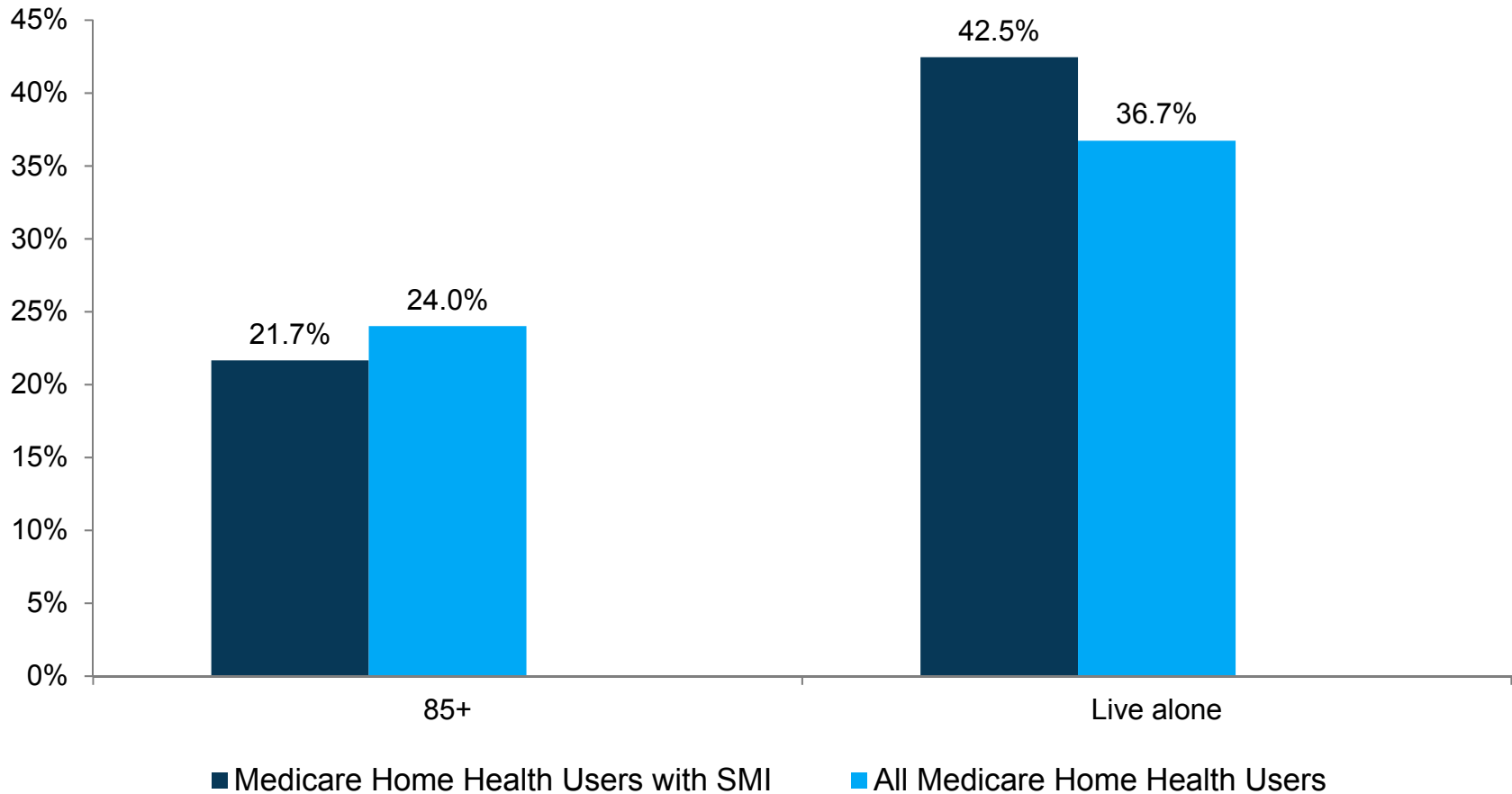
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

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 1.19: Selected Characteristics of All Medicare Home Health Users and Medicare Home Health Users with SMI, 2013



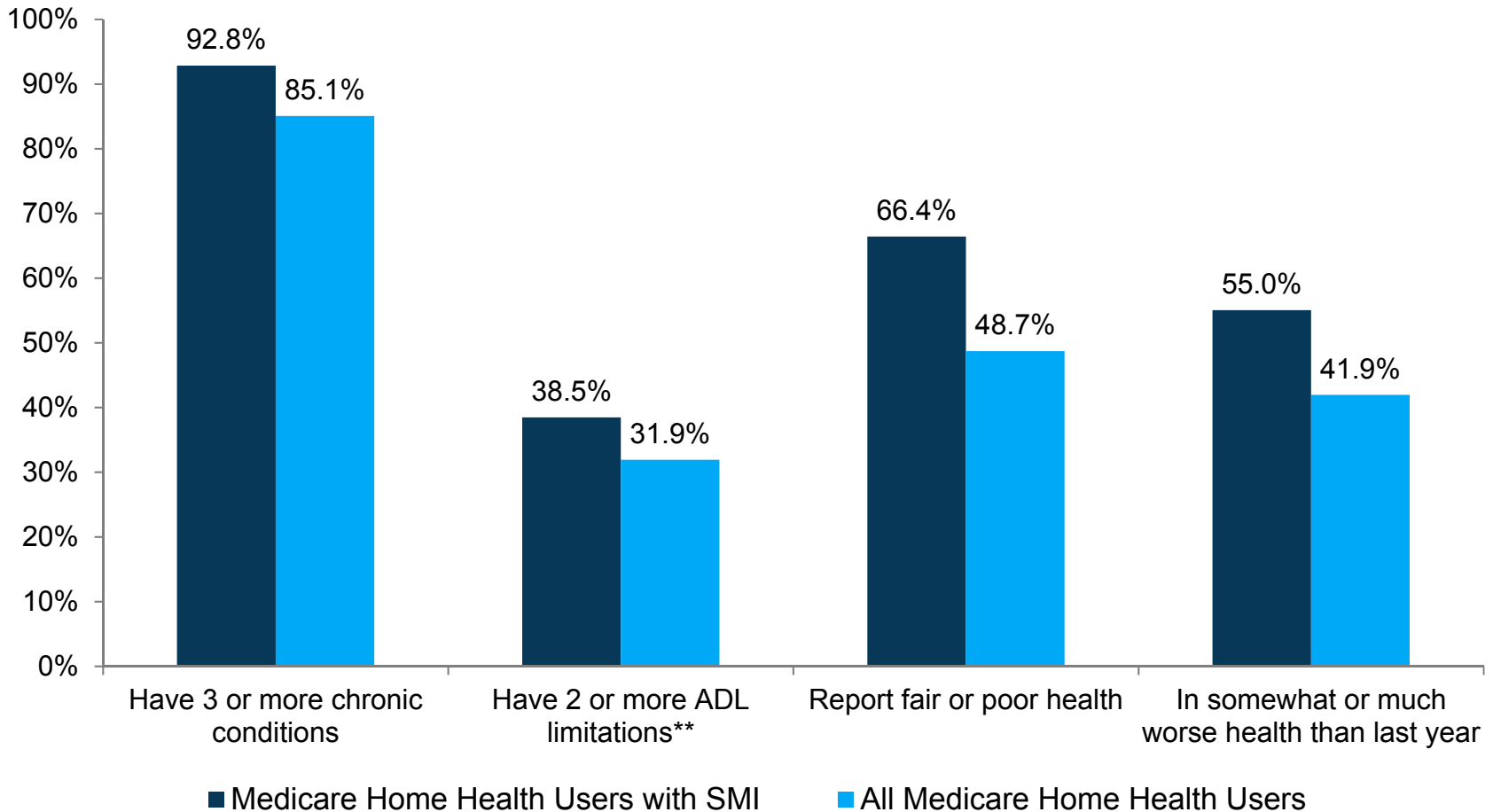
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*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 1.20: Selected Characteristics of All Medicare Home Health Users and Medicare Home Health Users with SMI, 2013



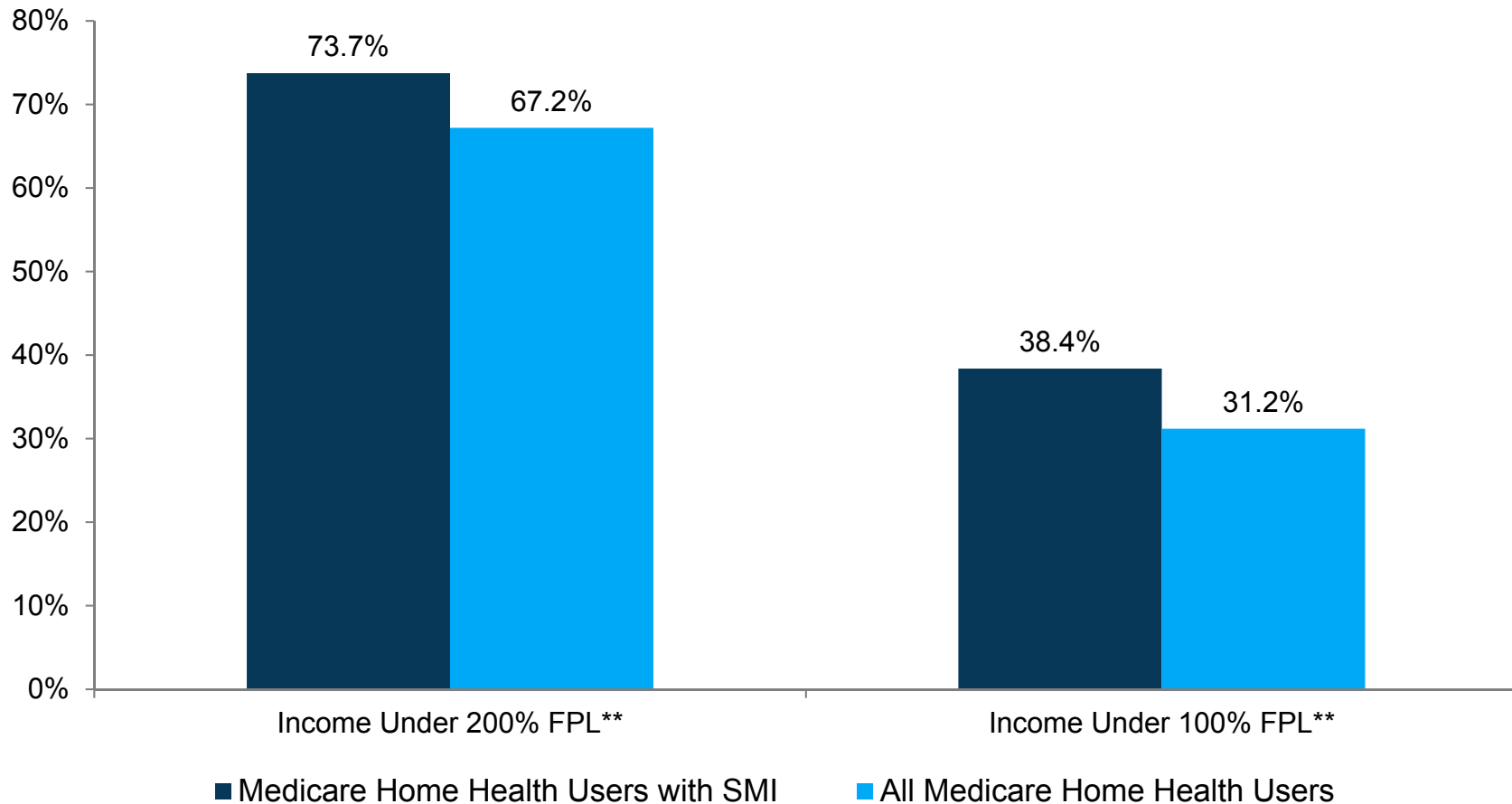
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*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 1.21: Selected Characteristics of Medicare Home Health Users with SMI and All Medicare Home Health Users, 2013



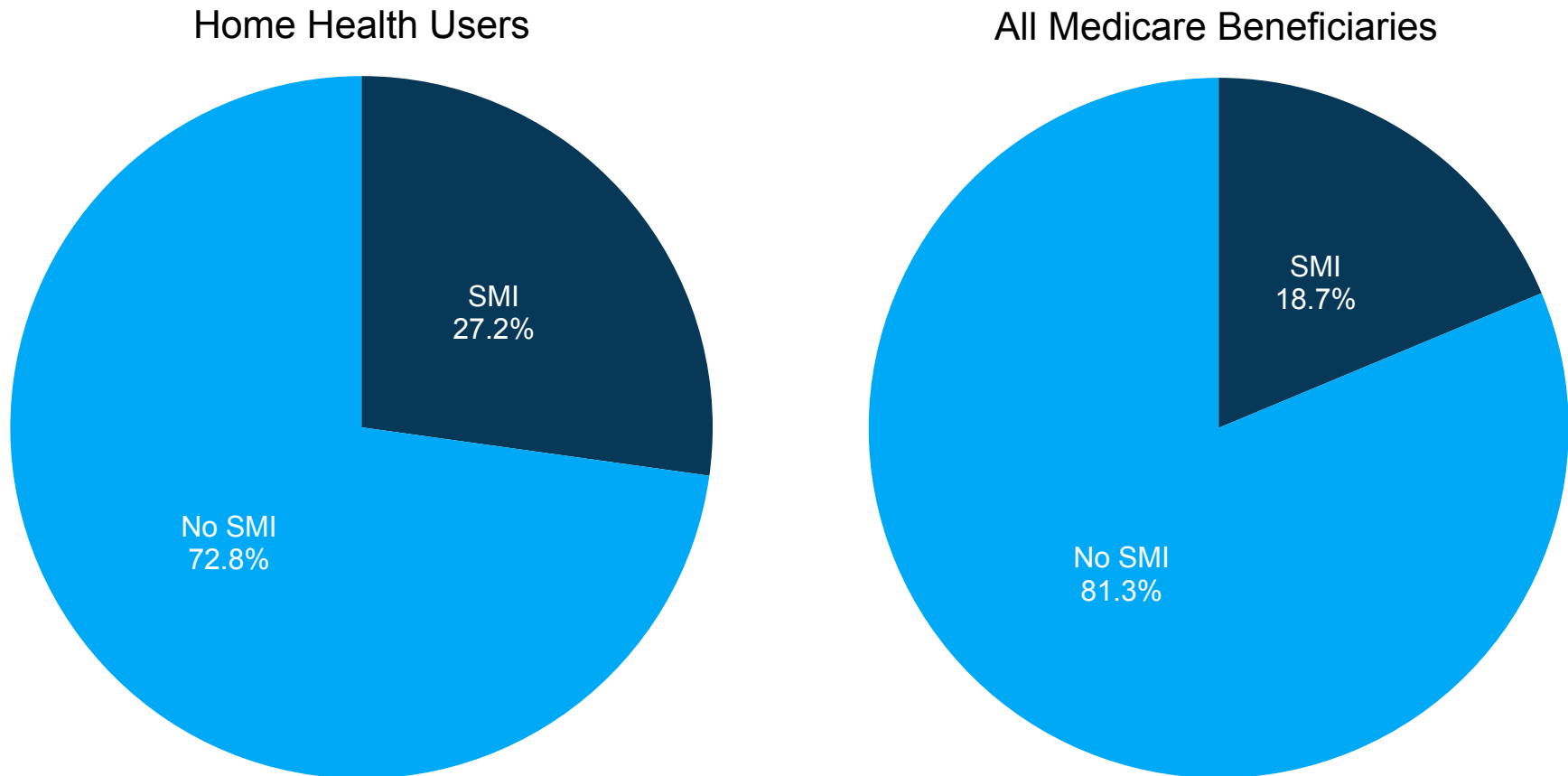
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

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

\*\*In 2013, Federal Poverty Level (FPL) for a household of 1 was \$11,490, a household of 2 was \$15,510, a household of 3 was \$19,530, and household of 4 was \$23,550. 200 percent of FPL is double those amounts.

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

Chart 1.22: Percentage of Medicare Home Health Users with SMI Compared to the Percentage of Medicare Beneficiaries with SMI, 2013



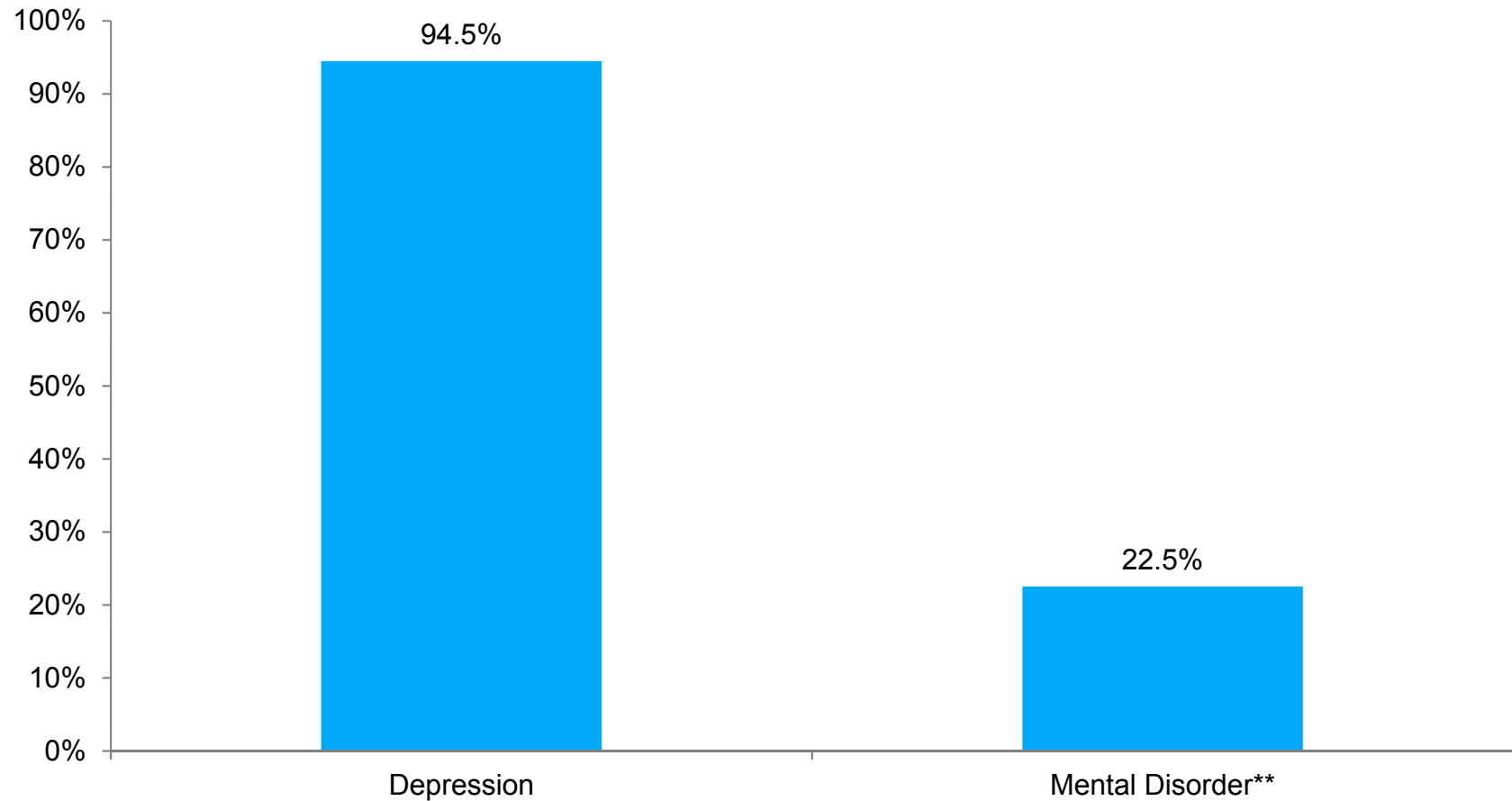
Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*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)\*

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Chart 1.23: Breakdown of Medicare Home Health Users with SMI by Type of SMI, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*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 1.24: Selected characteristics of Medicare Home Health Users, 2010 – 2013

	2010	2011	2012	2013
Have 3 or more chronic conditions	86.0%	83.2%	85.9%	85.1%
Have 2 or more ADL limitations*	22.5%	28.7%	34.2%	31.9%
Have incomes under 200% of the Federal Poverty Level (FPL)**	62.6%	64.5%	67.9%	67.2%
Have incomes under 100% of the Federal Poverty Level (FPL)**	30.2%	34.8%	32.6%	31.2%
Are dual eligibles***	N/A	29.9%	29.9%	31.7%
Have SMI****	N/A	26.3%	27.0%	27.2%

Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care files, 2010 – 2013.

\*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 was \$10,830 in 2010, \$10,890 in 2011, \$11,170 in 2012 and \$11,490 in 2013 . 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, 2013

<b>MS-DRG</b>	<b>Number of Home Health Part A Claims, 2013</b>	<b>Percent of Total Home Health Part A Claims, 2013</b>
Major joint replacement or reattachment of lower extremity w/o mcc	190,046	9.98%
Septicemia or severe sepsis w/o mv 96+ hours w mcc	61,440	3.23%
Heart failure & shock w cc	42,687	2.24%
Heart failure & shock w mcc	39,931	2.10%
Hip & femur procedures except major joint w cc	34,074	1.79%
Simple pneumonia & pleurisy w cc	32,256	1.69%
Intracranial hemorrhage or cerebral infarction w cc	30,319	1.59%
Kidney & urinary tract infections w/o mcc	29,592	1.55%
Chronic obstructive pulmonary disease w mcc	28,843	1.52%
Simple pneumonia & pleurisy w mcc	27,974	1.47%
Cellulitis w/o mcc	27,451	1.44%
Renal failure w cc	27,332	1.44%
Septicemia or severe sepsis w/o mv 96+ hours w/o mcc	23,212	1.22%
Chronic obstructive pulmonary disease w cc	22,555	1.18%
Spinal fusion except cervical w/o mcc	19,947	1.05%
Esophagitis, gastroent & misc digest disorders w/o mcc	19,876	1.04%
Pulmonary edema & respiratory failure	19,237	1.01%
Renal failure w mcc	18,293	0.96%
G.I. Hemorrhage w cc	18,143	0.95%
Major small & large bowel procedures w cc	17,919	0.94%
<b>Total for Top 20 MS-DRGs</b>	<b>731,127</b>	<b>38.41%</b>

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

Data for beneficiaries with a Part A home health episode and a prior short-term acute care hospital stay in 2013.

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 9 (ICD-9) Diagnoses for All Home Health Claims, 2013

ICD-9 Diagnosis	Number of Medicare Home Health Claims, 2013	Percent of Total Medicare Home Health Claims, 2013
Diabetes mellitus	595,314	8.64%
Care involving use of rehabilitation procedures	532,060	7.73%
Other orthopedic aftercare	483,191	7.02%
Other and unspecified aftercare	412,282	5.99%
Heart failure	394,759	5.73%
Essential hypertension	306,401	4.45%
Chronic ulcer of skin	276,739	4.02%
Chronic bronchitis	219,656	3.19%
Osteoarthritis and allied disorders	205,472	2.98%
Late effects of cerebrovascular disease	191,617	2.78%
Disorders of muscle, ligament, and fascia	142,259	2.07%
Cardiac dysrhythmias	137,817	2.00%
Symptoms involving nervous and musculoskeletal systems	103,397	1.50%
Hypertensive heart disease	101,009	1.47%
Other complications of procedures, not elsewhere classified	96,996	1.41%
Other disorders of urethra and urinary tract	90,107	1.31%
Other cellulitis and abscess	85,288	1.24%
Other forms of chronic ischemic heart disease	84,986	1.23%
Fitting and adjustment of other device	79,796	1.16%
Pneumonia, organism unspecified	78,579	1.14%
<b>Total for Top 20 Primary ICD-9 Diagnoses</b>	<b>4,617,725</b>	<b>67.05%</b>

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

# 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, 2013

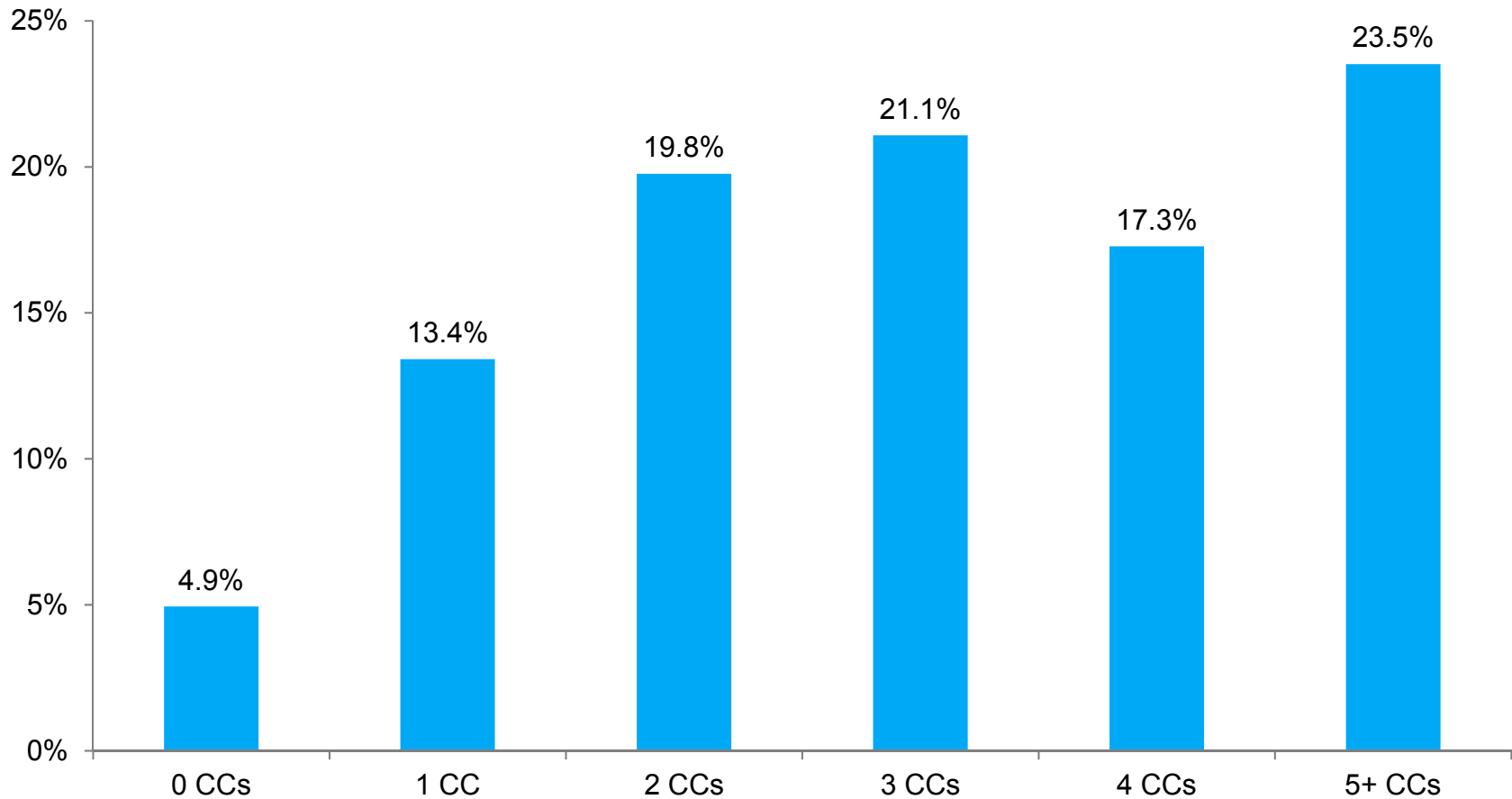
State	Percent of HH Users with 3+ CCs	Percent of Medicare Beneficiaries with 3+ CCs	State	Percent of HH Users with 3+ CCs	Percent of Medicare Beneficiaries with 3+ CCs
Alabama	87.72%	26.28%	Montana	88.11%	31.09%
Alaska	84.50%	26.02%	Nebraska	87.41%	29.83%
Arizona	85.29%	14.89%	Nevada	81.99%	15.13%
Arkansas	87.64%	26.09%	New Hampshire	89.82%	38.33%
California	86.04%	16.42%	New Jersey	87.82%	21.69%
Colorado	84.05%	18.47%	New Mexico	86.12%	22.52%
Connecticut	87.35%	24.50%	New York	87.42%	19.13%
Delaware	90.42%	33.12%	North Carolina	87.30%	26.59%
D.C.	85.01%	25.16%	North Dakota	92.28%	42.87%
Florida	84.99%	20.40%	Ohio	90.42%	24.44%
Georgia	86.13%	22.60%	Oklahoma	90.20%	29.08%
Hawaii	85.22%	10.87%	Oregon	85.54%	17.14%
Idaho	85.64%	23.74%	Pennsylvania	88.75%	21.89%
Illinois	91.37%	33.95%	Rhode Island	87.66%	21.99%
Indiana	90.39%	28.27%	South Carolina	86.46%	26.41%
Iowa	89.81%	32.15%	South Dakota	89.43%	37.15%
Kansas	87.49%	29.35%	Tennessee	87.09%	20.51%
Kentucky	88.90%	28.75%	Texas	89.48%	23.41%
Louisiana	89.71%	28.21%	Utah	80.24%	17.22%
Maine	90.82%	36.04%	Vermont	89.05%	39.90%
Maryland	88.49%	25.11%	Virginia	86.84%	26.58%
Massachusetts	89.41%	29.53%	Washington	84.96%	21.11%
Michigan	90.42%	31.66%	West Virginia	90.88%	32.00%
Minnesota	86.45%	25.12%	Wisconsin	89.71%	23.77%
Mississippi	88.39%	30.49%	Wyoming	83.51%	25.56%
Missouri	89.47%	28.62%			

Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

Note: Having a chronic condition is defined as having a Medicare claim with a chronic condition listed in 2013. Medicare beneficiaries without any claims in 2013 are categorized as having no chronic conditions in 2013. Chronic conditions are defined by the Centers for Medicare and Medicaid Services' Chronic Conditions Data Warehouse.

# Clinical Profile of Medicare Beneficiaries Aged 65+

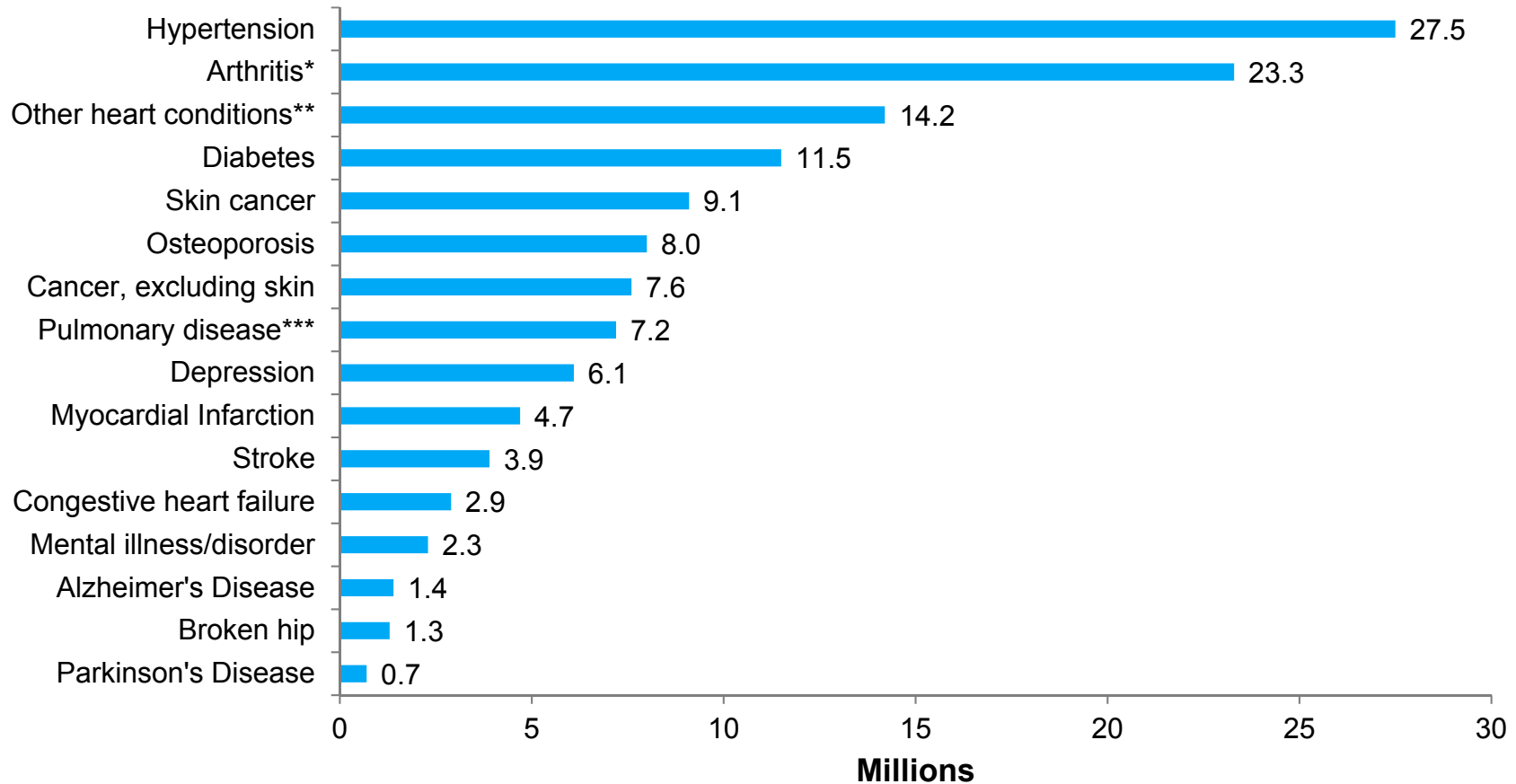
Chart 2.4: Percentage of Medicare Beneficiaries Aged 65+ with Chronic Conditions by Number of Chronic Conditions, 2013



Source: Avalere analysis of the Medicare Current Beneficiary Survey, Access to Care file 2013.

# Clinical Profile of Medicare Beneficiaries Aged 65+

Chart 2.5: Number of Medicare Beneficiaries Aged 65+ with Chronic Conditions by Type of Condition, in Millions, 2013



Source: Medicare Current Beneficiary Survey, Access to Care file, 2013.

\*Includes rheumatoid and non-rheumatoid arthritis.

\*\*Includes coronary artery disease, peripheral vascular disease, peripheral artery disease.

\*\*\*Includes chronic lung disease, asthma, and chronic obstructive pulmonary disease (COPD).



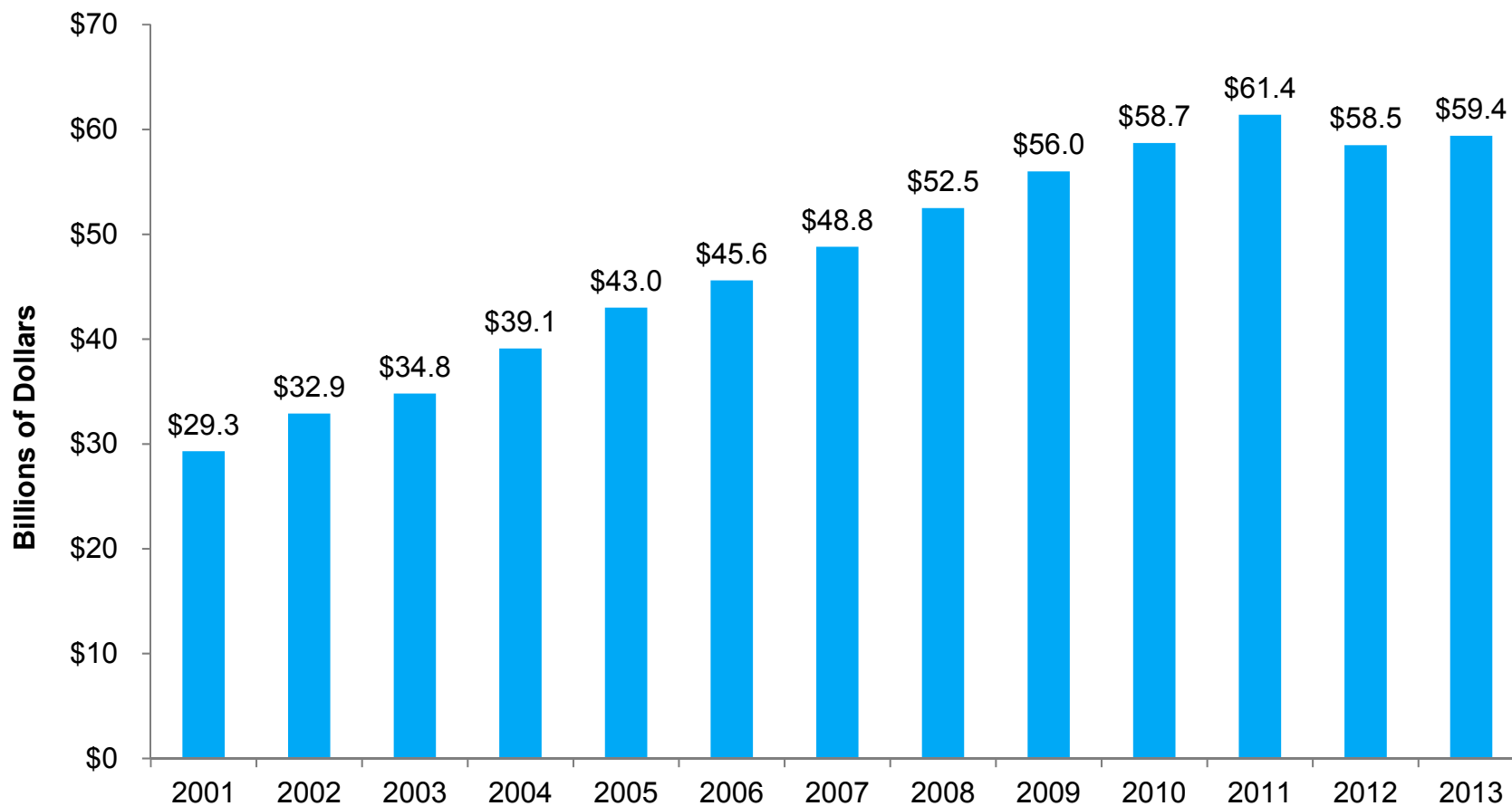


## Section 3: Post-Acute Care Market Overview

# Post-Acute Care Market Overview

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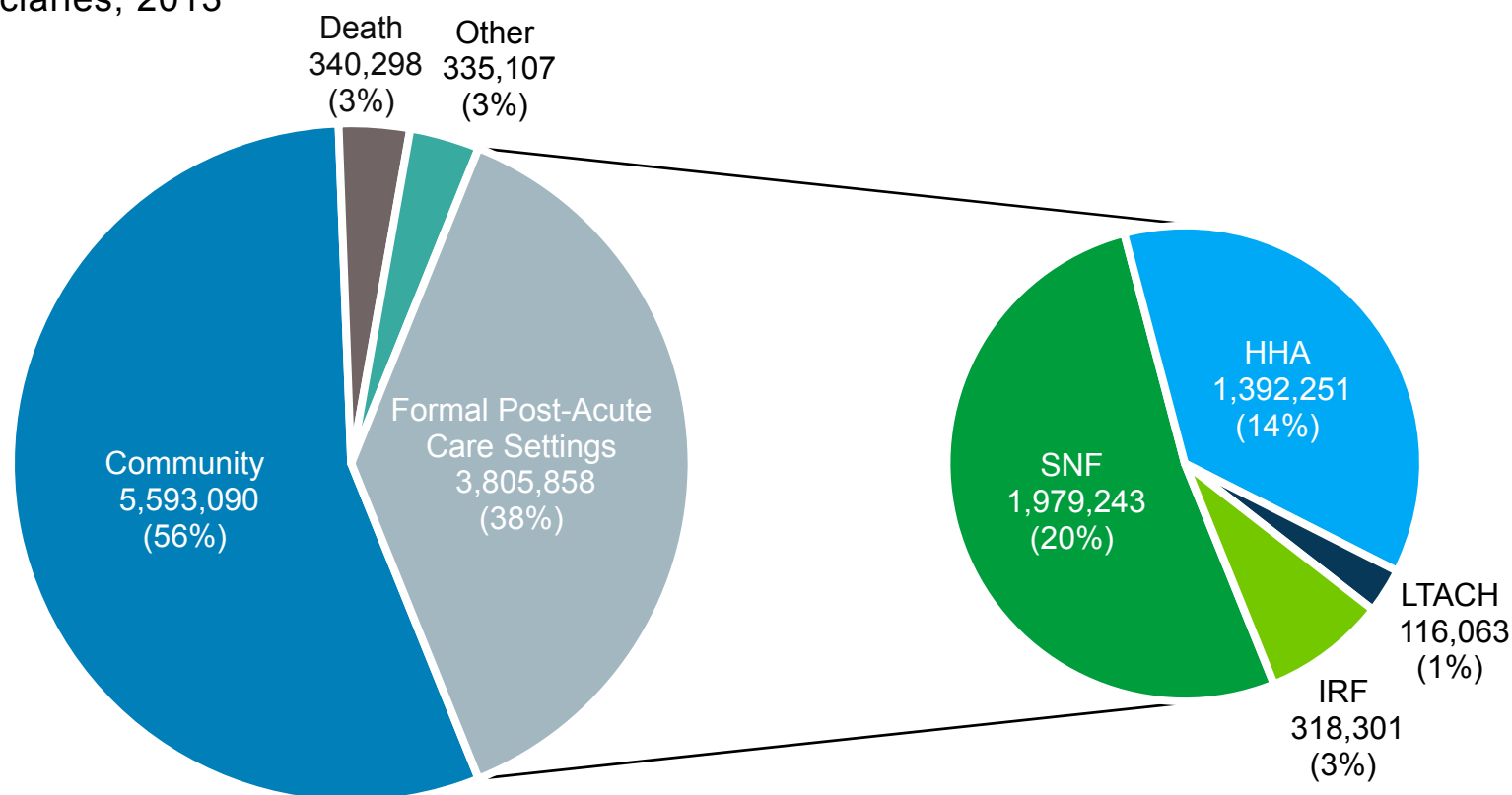
Chart 3.1: Total Medicare Post-acute Care Expenditures, Billions of Dollars, 2001-2013



Source: Medicare Payment Advisory Commission. A Data Book: Health Care Spending and the Medicare Program, June 2015.

# Post-Acute Care Market Overview

Chart 3.2: Initial Patient Destinations Following an Inpatient Hospital Stay for Medicare Beneficiaries, 2013



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

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.

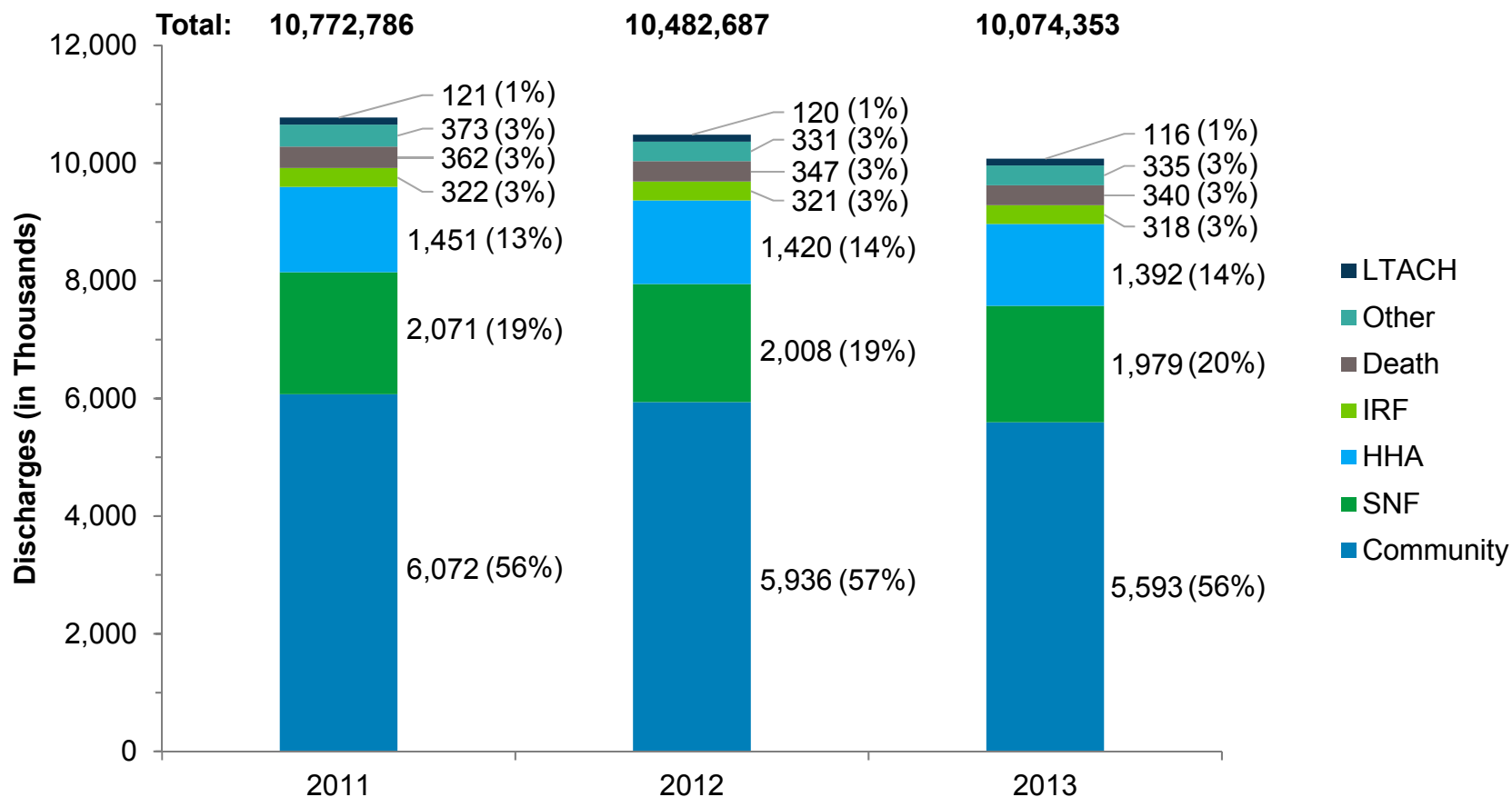
Formal Post-Acute Care Settings: Settings designated as post-acute care by Medicare. Includes skilled nursing facilities (SNF), home health agencies (HHA), inpatient rehabilitation facilities (IRF), and long-term acute care hospitals (LTACH).

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, 2011 – 2013



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

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.

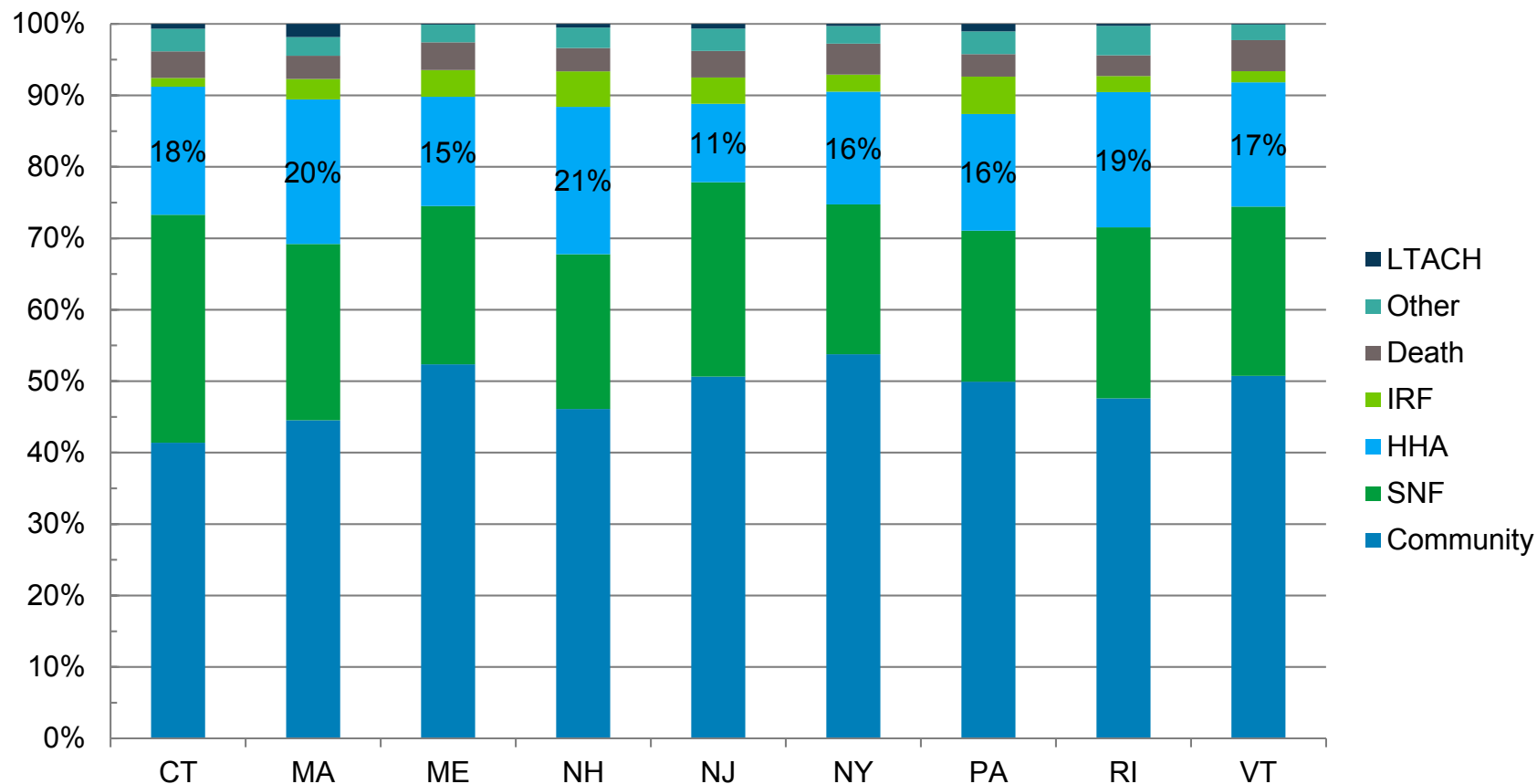
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Other: Hospice, a different Inpatient Hospital, or other Inpatient Hospitals such as Inpatient Psychiatric Facilities.

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 2013, for States in Northeastern Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

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).

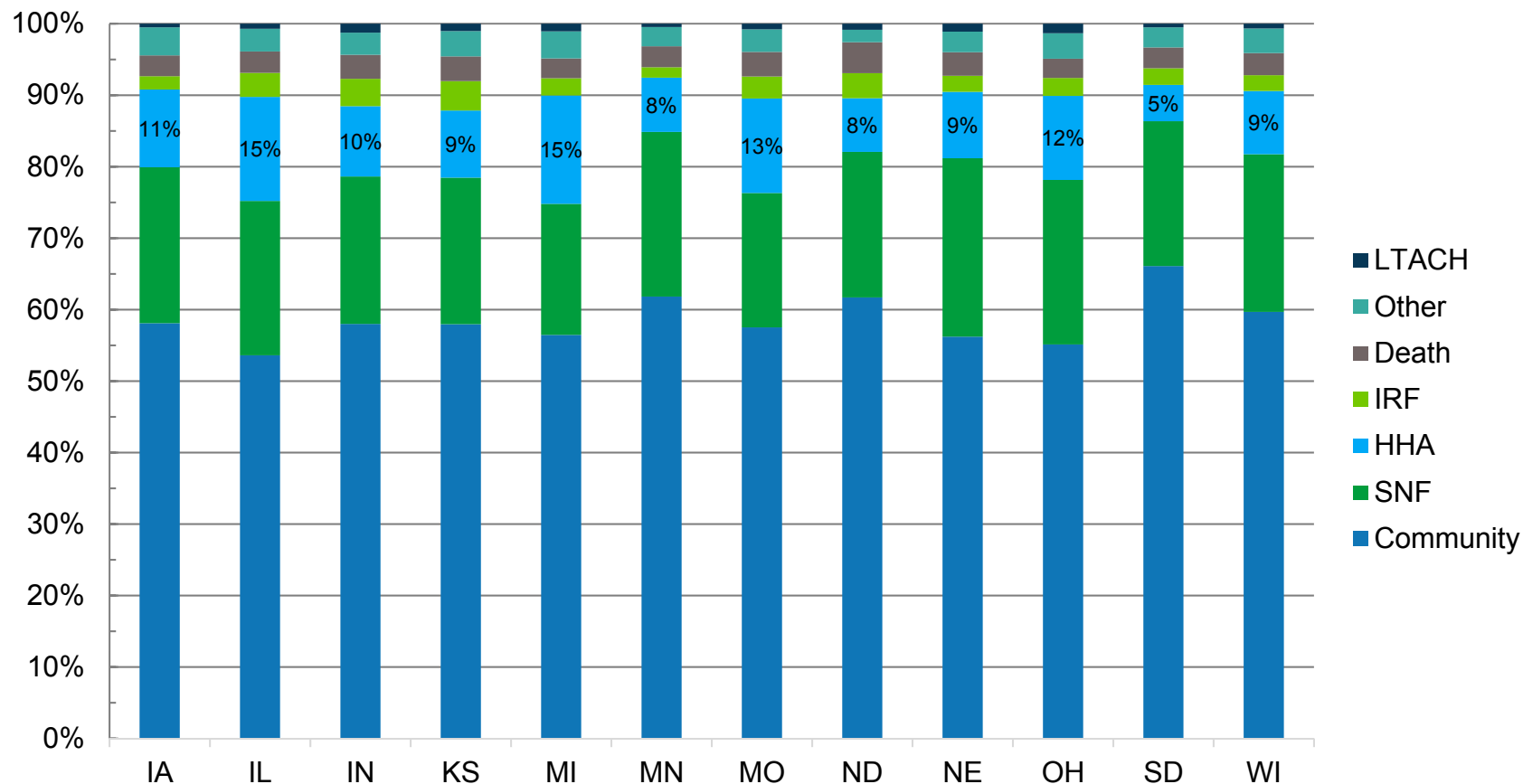
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.

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 2013, for States in Midwestern Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

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).

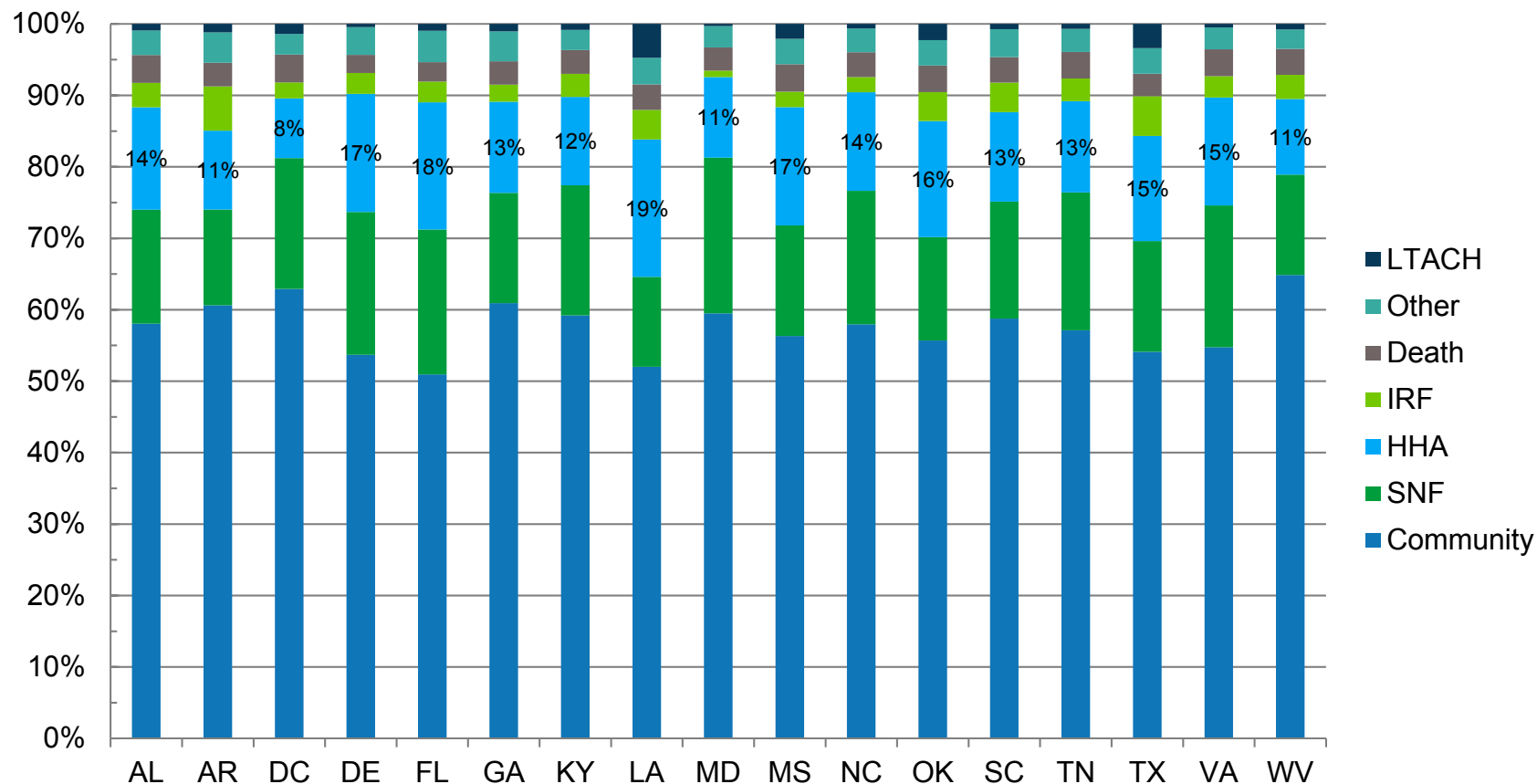
Community: Discharges to the community without skilled home health care; includes individuals living at home, assisted living facilities, and retirement communities.

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 2013, for States in Southern Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

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 2013, for States in Western Region



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

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).

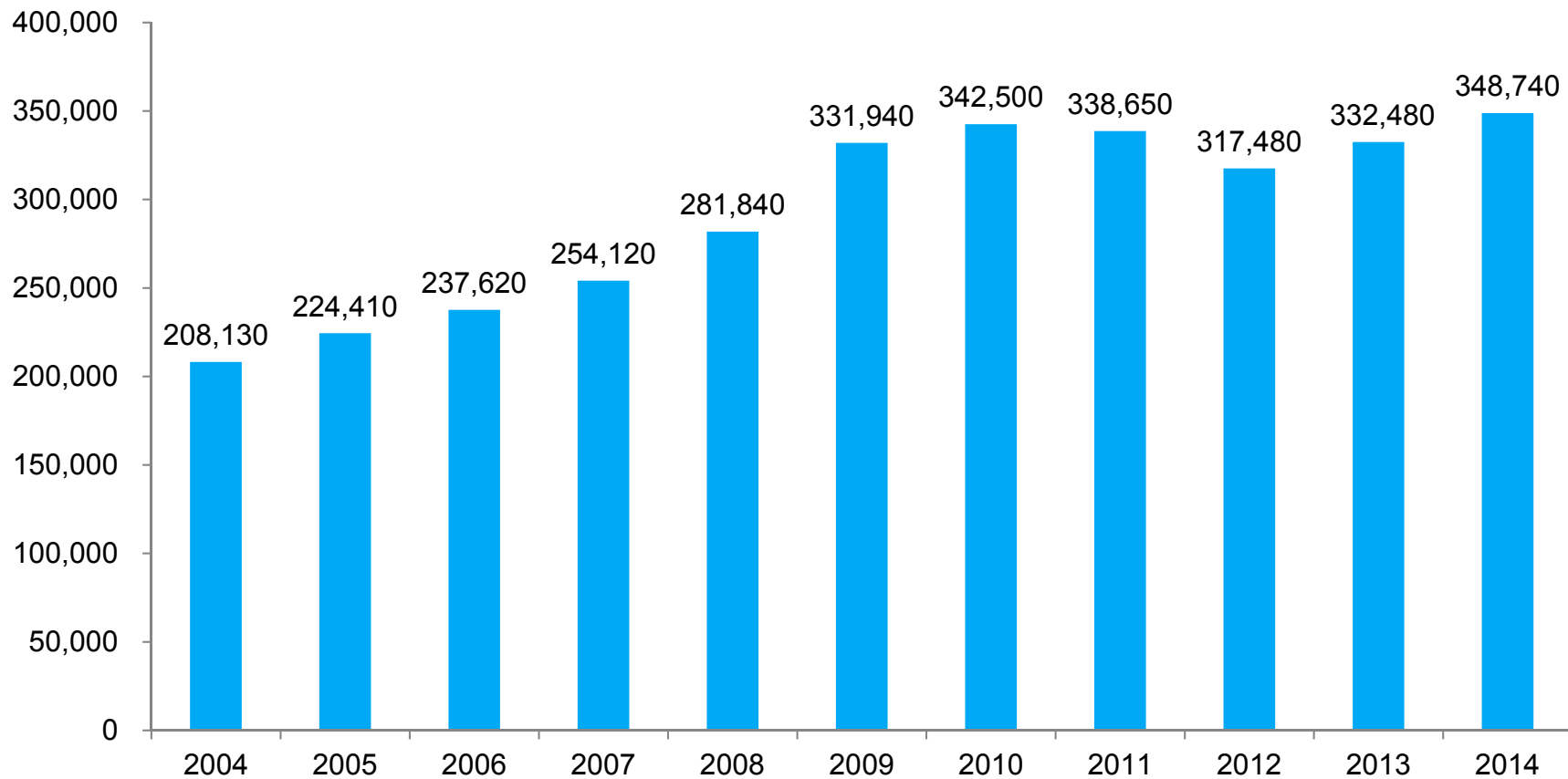
Other: Hospice, a different Inpatient Hospital, or other Inpatient Hospitals such as Inpatient Psychiatric Facilities.



## Section 4: Home Health Care Services Industry Workforce

# Home Health Care Services Industry Workforce

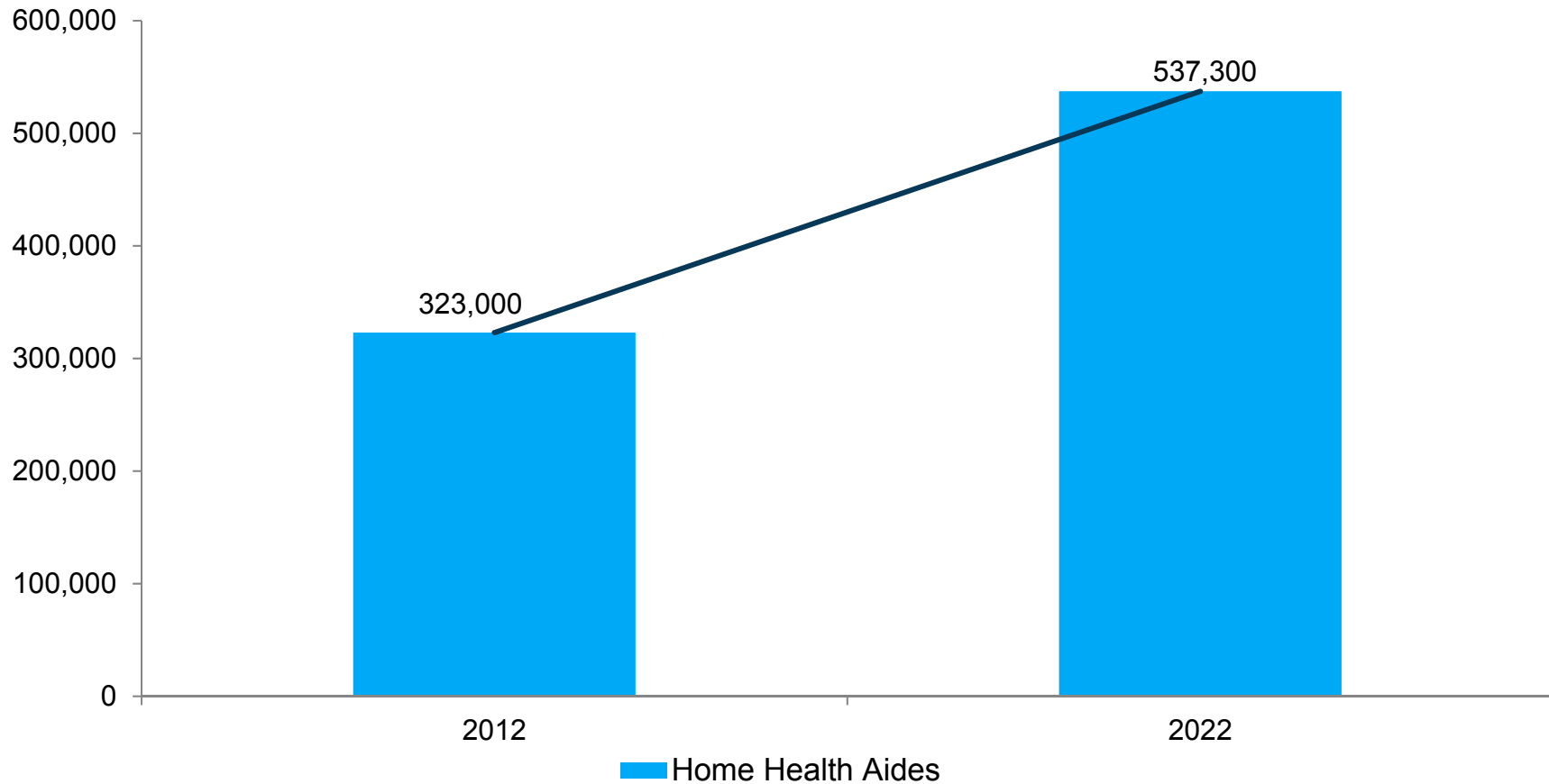
Chart 4.1: Total Number of Home Health Aides Employed in the Home Health Care Services Industry, 2004-2014



Source: Bureau of Labor Statistics, U.S. Department of Commerce.

# Home Health Care Services Industry Workforce

Chart 4.2: Number of Home Health Aides Employed in the Home Health Care Services Industry, 2012 and 2022 (Projected)



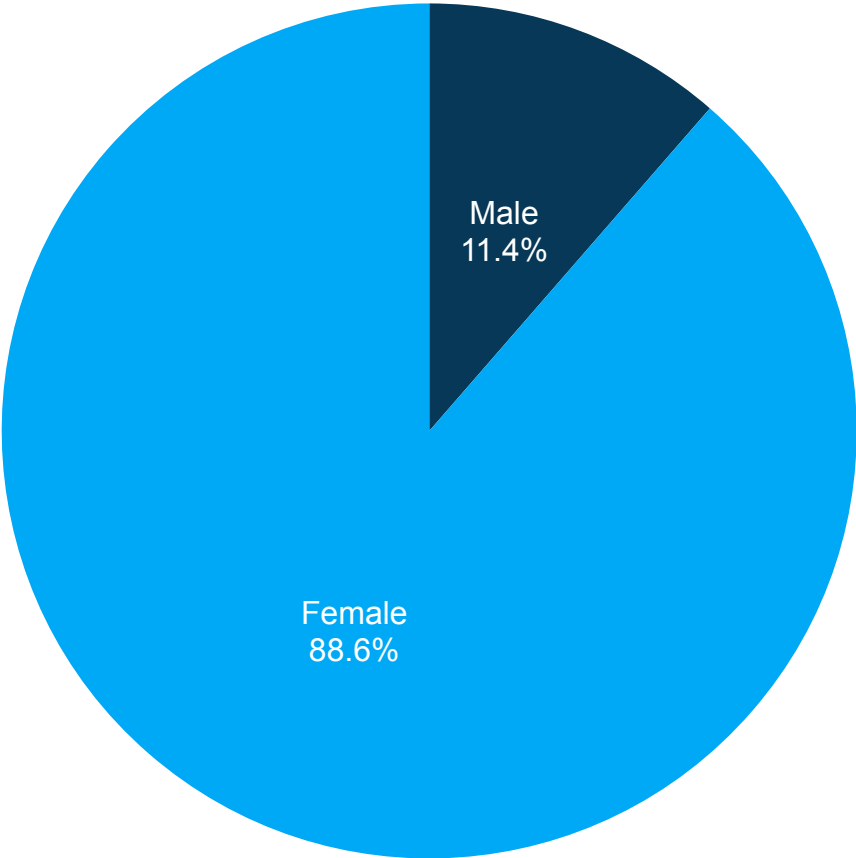
Source: Bureau of Labor Statistics Employment Projections program, U.S. Department of Commerce.



# Home Health Care Services Industry Workforce

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Chart 4.3: Breakdown of Persons Employed in Home Health Care Services by Gender, 2014



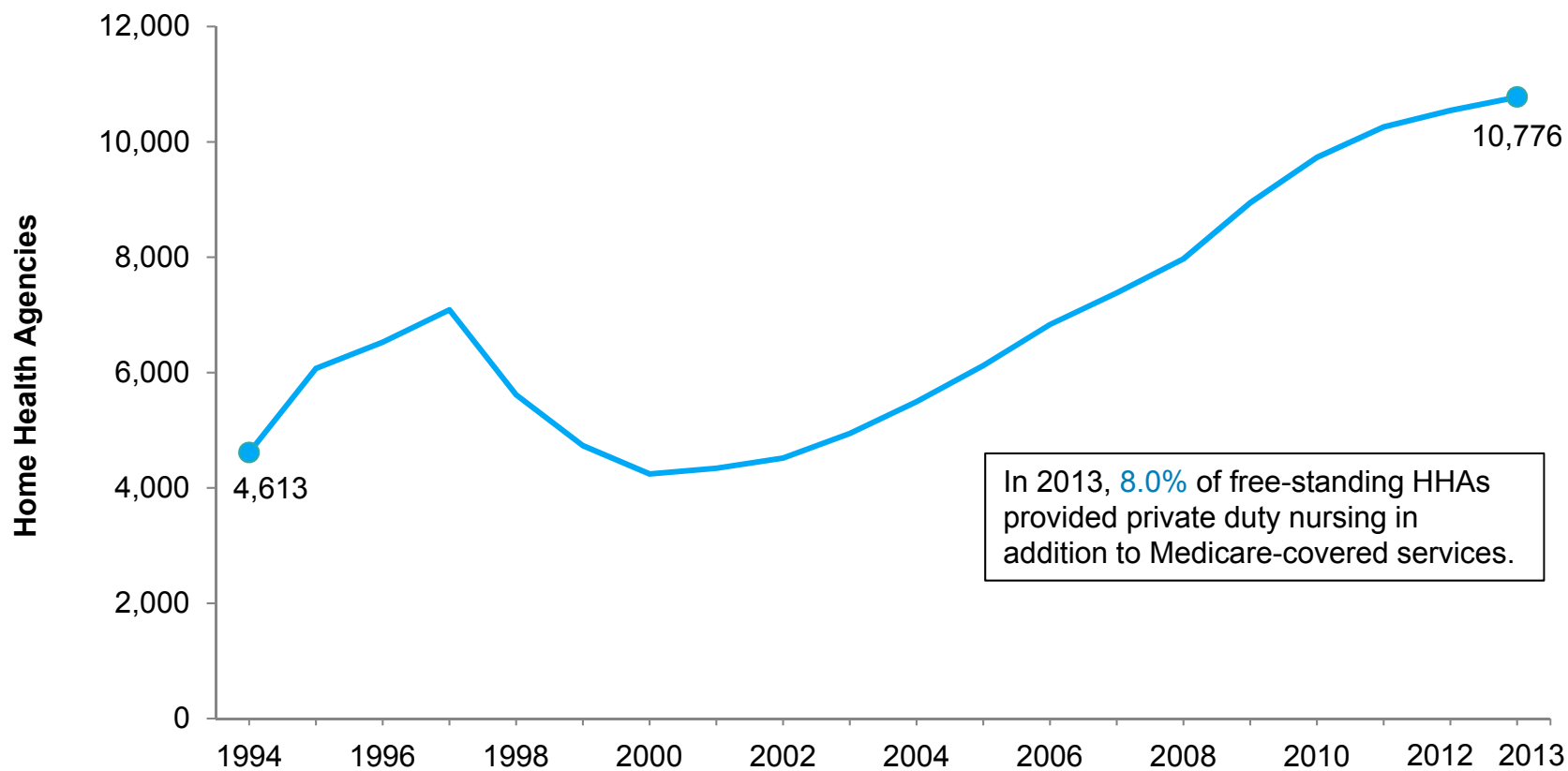
Source: Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, 2014.



## Section 5: Organizational Trends in Home Health

# Organizational Trends in Home Health

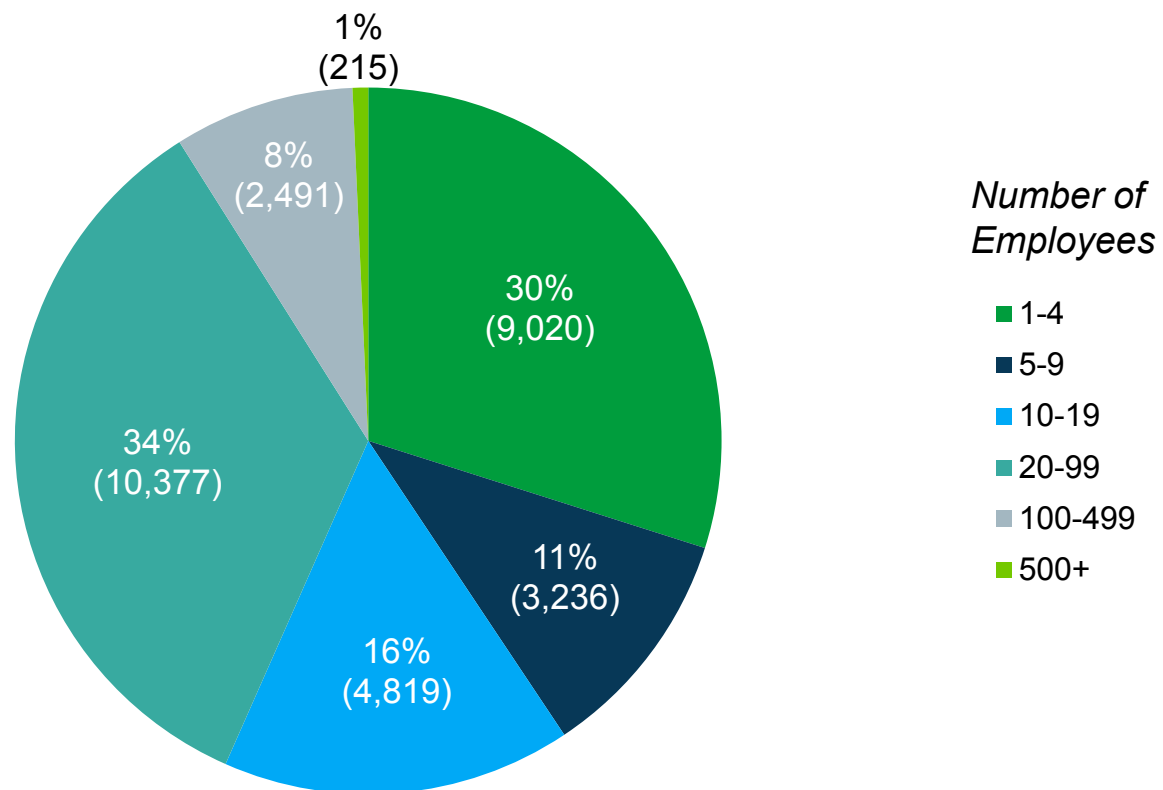
Chart 5.1: Number of Medicare-Certified Free-Standing Home Health Agencies (HHAs), 1994-2013



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

# Organizational Trends in Home Health

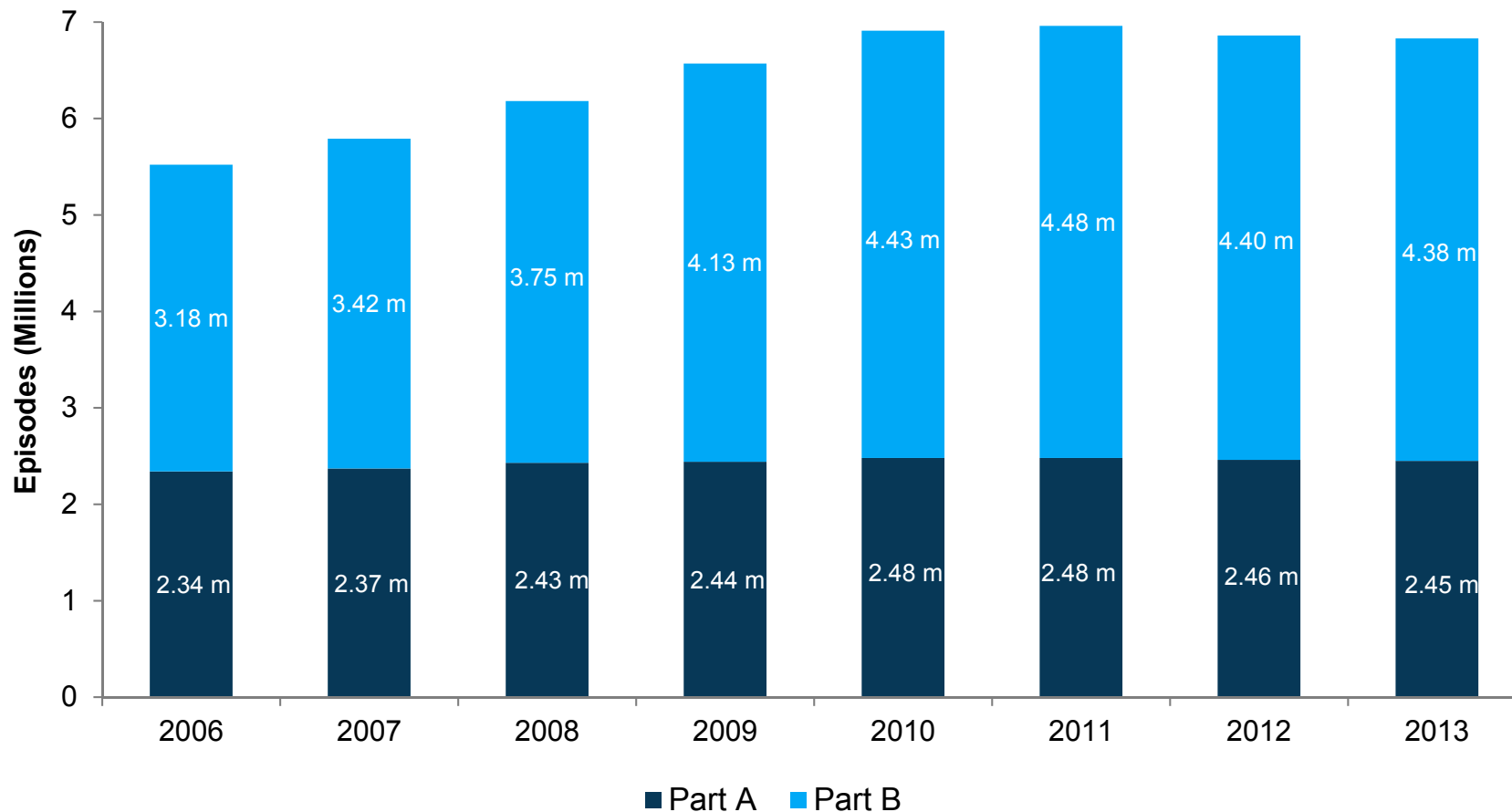
Chart 5.2: Percentage (and Number) of Home Health Care Services Firms by Number of Employees, 2013



Source: Census Bureau. 2013 County Business Patterns. Home Health Care Services firms are identified by NAICS code 621610.

# Organizational Trends in Home Health

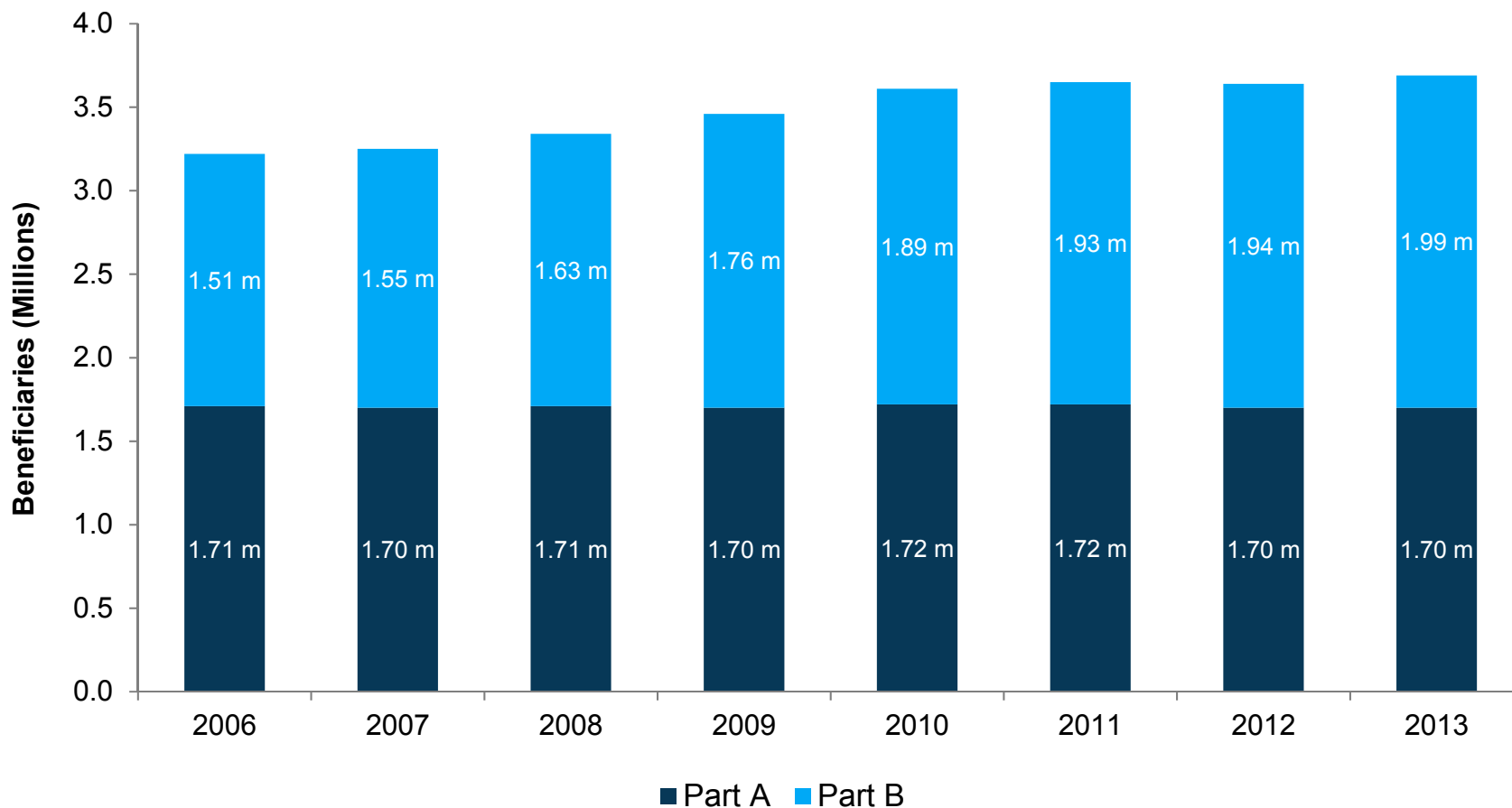
Chart 5.3: Number of Medicare Part A and Part B Home Health Episodes, in Millions, 2006-2013



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2013.

# Organizational Trends in Home Health

Chart 5.4: Number of Medicare Part A and Part B Beneficiaries with a Home Health Episode, in Millions, 2006-2013



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2013.

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 5.5: Number of Medicare Beneficiaries with a Home Health Episode, by State, 2013

State	Number of Beneficiaries	State	Number of Beneficiaries	State	Number of Beneficiaries
Alabama	71,590	Kentucky	58,092	North Dakota	4,076
Alaska	2,512	Louisiana	73,755	Ohio	118,274
Arizona	39,755	Maine	19,929	Oklahoma	66,198
Arkansas	35,692	Maryland	63,481	Oregon	22,455
California	295,935	Massachusetts	110,318	Pennsylvania	146,015
Colorado	34,765	Michigan	152,784	Rhode Island	13,683
Connecticut	51,477	Minnesota	35,481	South Carolina	53,939
Delaware	13,079	Mississippi	56,294	South Dakota	4,481
District of Columbia	6,316	Missouri	66,515	Tennessee	79,376
Florida	346,434	Montana	6,557	Texas	334,104
Georgia	87,149	Nebraska	15,385	Utah	20,367
Hawaii	2,857	Nevada	25,674	Vermont	9,963
Idaho	13,083	New Hampshire	21,652	Virginia	95,259
Illinois	195,778	New Jersey	98,335	Washington	42,423
Indiana	62,187	New Mexico	17,108	West Virginia	23,181
Iowa	26,934	New York	185,774	Wisconsin	36,909
Kansas	25,423	North Carolina	111,401	Wyoming	3,738
				<b>Total U.S.*</b>	<b>3,518,691</b>

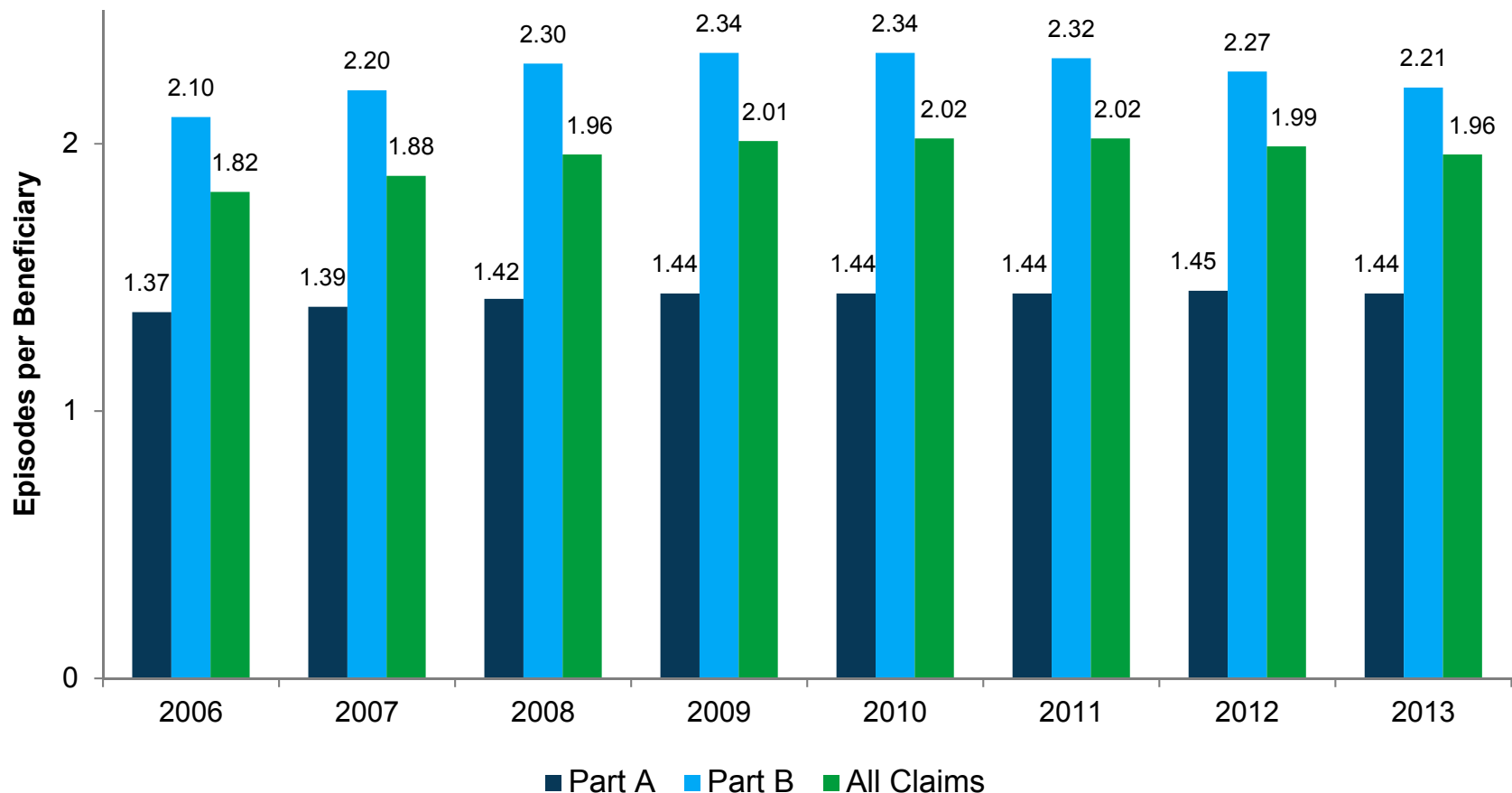
Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2013.

\*Total includes 14,749 other or unknown beneficiaries (i.e. beneficiaries from US territories or beneficiaries not attributed to a specific state).



# Organizational Trends in Home Health

Chart 5.6: Number of Home Health Episodes per Medicare Home Health User by Part A, Part B, and all Claims, 2006-2013



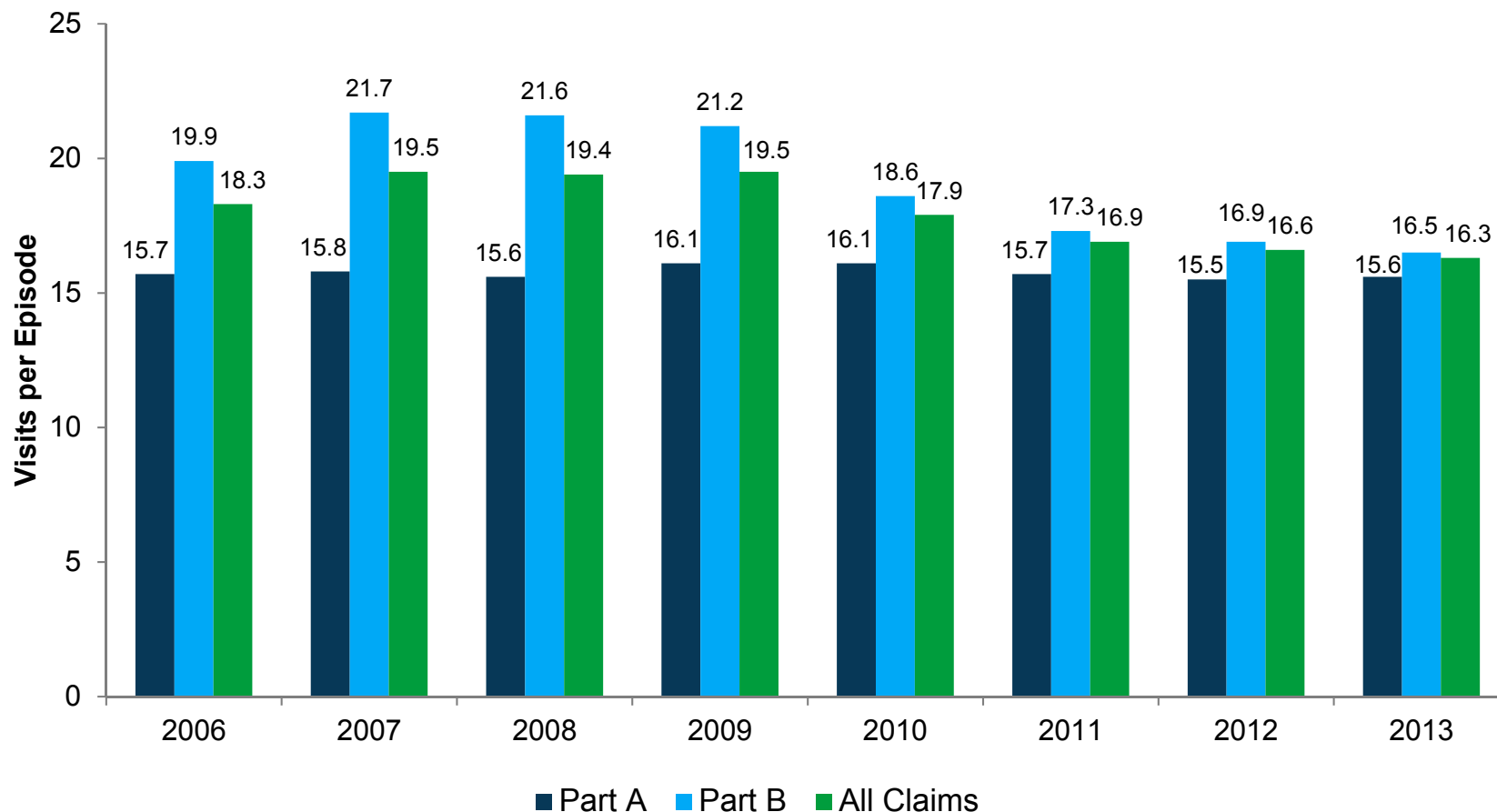
Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2013.

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 5.7: Number of Home Health Visits per Episode by Part A, Part B, and all Claims, 2006-2013



Source: Avalere Health, LLC analysis of Medicare Standard Analytic Files, 2006 – 2013.

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 6: Economic Contribution of Home Health Agencies

# Economic Contribution of Home Health Agencies

Table 6.1: Impact of Home Health on Employment, by State, 2013

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	Multiplier for Employment	Estimated Jobs Created by HH Industry
Alabama	11,735	1.5991	18,765	Montana	2,975	1.3420	3,992
Alaska	1,951	1.3092	2,554	Nebraska	3,063	1.3658	4,183
Arizona	20818	1.4557	30,305	Nevada	5,117	1.5271	7,814
Arkansas	6,376	1.3464	8,585	New Hampshire	4,161	1.4778	6,149
California	74,906	1.5353	115,003	New Jersey	39,822	1.4886	59,279
Colorado	15,352	1.4976	22,991	New Mexico	12,365	1.3573	16,783
Connecticut	14,347	1.4889	21,361	New York	140,913	1.3856	195,249
Delaware	3,177	1.4677	4,663	North Carolina	40,127	1.4688	58,939
D.C.	5,316	1.1420	6,071	North Dakota	594	1.2881	765
Florida	68,025	1.6030	109,044	Ohio	61,008	1.4632	89,267
Georgia	22,826	1.6327	37,268	Oklahoma	16,413	1.4350	23,553
Hawaii	3,284	1.3753	4,516	Oregon	4,854	1.5238	7,397
Idaho	7,032	1.3459	9,464	Pennsylvania	41,086	1.6358	67,208
Illinois	40,776	1.5804	64,442	Rhode Island	5,323	1.4271	7,596
Indiana	20,836	1.5117	31,498	South Carolina	11,566	1.5086	17,448
Iowa	7,588	1.3389	10,160	South Dakota	986	1.2400	1,223
Kansas	7,404	1.3218	9,787	Tennessee	17,296	1.6312	28,213
Kentucky	8,541	1.5957	13,629	Texas	244,956	1.4728	360,771
Louisiana	23,511	1.5316	36,009	Utah	7,339	1.6727	12,276
Maine	4,055	1.4513	5,885	Vermont	2,223	1.3632	3,030
Maryland	15,999	1.5266	24,424	Virginia	25,763	1.4182	36,537
Massachusetts	36,069	1.5262	55,049	Washington	10,038	1.5287	15,345
Michigan	38,614	1.5259	58,921	West Virginia	7,640	1.3639	10,420
Minnesota	21,472	1.4104	30,284	Wisconsin	14,453	1.4272	20,627
Mississippi	7,450	1.5238	11,352	Wyoming	562	1.2931	727
Missouri	19,788	1.5154	29,987	<b>Total U.S.</b>	<b>1,227,891</b>	<b>N/A</b>	<b>1,826,811</b>

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

2 U.S. Bureau of Economic Analysis multipliers.

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, 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 6.2: Impact of Home Health on Labor Income, by State, 2013

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	\$442,450,942	1.4907	\$659,561,619	Montana	\$64,469,483	1.3740	\$88,581,070
Alaska	\$45,851,624	1.3685	\$62,747,947	Nebraska	\$101,936,518	1.3471	\$137,318,683
Arizona	\$591,778,877	1.5636	\$925,305,452	Nevada	\$219,447,644	1.4621	\$320,854,400
Arkansas	\$164,244,884	1.4149	\$232,390,086	New Hampshire	\$142,403,624	1.5361	\$218,746,207
California	\$2,500,391,530	1.6406	\$4,102,142,344	New Jersey	\$1,052,238,669	1.6215	\$1,706,205,002
Colorado	\$469,089,705	1.6524	\$775,123,829	New Mexico	\$237,044,110	1.4231	\$337,337,473
Connecticut	\$556,749,591	1.5237	\$848,319,352	New York	\$3,884,528,663	1.4943	\$5,804,651,181
Delaware	\$122,583,277	1.4332	\$175,686,353	North Carolina	\$960,789,266	1.6039	\$1,541,009,904
D.C.	\$142,580,412	1.1792	\$168,130,822	North Dakota	\$19,498,496	1.3203	\$25,743,864
Florida	\$2,458,304,259	1.5944	\$3,919,520,311	Ohio	\$1,488,539,713	1.6205	\$2,412,178,605
Georgia	\$758,880,727	1.6417	\$1,245,854,490	Oklahoma	\$434,572,539	1.4980	\$650,989,663
Hawaii	\$87,832,459	1.4868	\$130,589,300	Oregon	\$153,072,200	1.5263	\$233,634,099
Idaho	\$129,238,668	1.3857	\$179,086,022	Pennsylvania	\$1,541,821,705	1.6241	\$2,504,072,631
Illinois	\$1,208,785,122	1.6827	\$2,034,022,725	Rhode Island	\$151,681,720	1.5039	\$228,114,139
Indiana	\$559,078,072	1.5215	\$850,637,287	South Carolina	\$328,149,090	1.5440	\$506,662,195
Iowa	\$241,548,327	1.3544	\$327,153,054	South Dakota	\$23,841,249	1.2979	\$30,943,557
Kansas	\$228,261,679	1.3848	\$316,096,773	Tennessee	\$630,197,472	1.6075	\$1,013,042,436
Kentucky	\$348,828,319	1.5072	\$525,754,042	Texas	\$4,696,275,646	1.6640	\$7,814,602,675
Louisiana	\$690,048,350	1.4835	\$1,023,686,727	Utah	\$228,747,083	1.6235	\$371,370,889
Maine	\$121,634,226	1.4935	\$181,660,717	Vermont	\$70,322,632	1.4040	\$98,732,975
Maryland	\$568,713,780	1.5331	\$871,895,096	Virginia	\$687,126,292	1.5269	\$1,049,173,135
Massachusetts	\$1,322,570,729	1.5822	\$2,092,571,407	Washington	\$345,725,028	1.5315	\$529,477,880
Michigan	\$1,198,048,735	1.5796	\$1,892,437,782	West Virginia	\$196,956,444	1.3902	\$273,808,848
Minnesota	\$544,379,552	1.5593	\$848,851,035	Wisconsin	\$374,869,599	1.5223	\$570,663,991
Mississippi	\$290,746,973	1.4226	\$413,616,644	Wyoming	\$16,619,107	1.2900	\$21,438,648
Missouri	\$565,444,840	1.5758	\$891,027,979	<b>Total U.S.</b>	<b>\$34,408,939,651</b>	<b>N/A</b>	<b>\$54,183,223,346</b>

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

2 U.S. Bureau of Economic Analysis multipliers.

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, 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 6.3: Impact of Home Health on Output, by State, 2013

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	\$571,037,966	2.007	\$1,146,073,198	Montana	\$39,315,510	1.7662	\$69,439,054
Alaska	\$1,492,015,346	1.7811	\$2,657,428,533	Nebraska	\$117,669,749	1.7286	\$203,403,928
Arizona	\$532,868,305	2.1218	\$1,130,639,970	Nevada	\$194,733,187	1.9412	\$378,016,063
Arkansas	\$325,028,076	1.8661	\$606,534,893	New Hampshire	\$168,844,521	2.0647	\$348,613,283
California	\$2,054,453,791	2.3116	\$4,749,075,383	New Jersey	\$457,856,401	2.29	\$1,048,491,158
Colorado	\$364,684,745	2.3194	\$845,849,798	New Mexico	\$138,600,907	1.8458	\$255,829,554
Connecticut	\$612,130,604	2.0916	\$1,280,332,371	New York	\$2,190,813,253	2.0703	\$4,535,640,678
Delaware	\$161,254,768	1.8907	\$304,884,390	North Carolina	\$642,371,601	2.2365	\$1,436,664,086
D.C.	\$144,354,297	1.2841	\$185,365,353	North Dakota	\$7,336,736	1.6653	\$12,217,866
Florida	\$2,592,043,920	2.181	\$5,653,247,790	Ohio	\$2,507,101,838	2.2747	\$5,702,904,551
Georgia	\$355,073,269	2.3034	\$817,875,768	Oklahoma	\$486,466,914	2.0018	\$973,809,468
Hawaii	\$25,426,288	1.9823	\$50,402,531	Oregon	\$147,552,786	2.0696	\$305,375,246
Idaho	\$73,174,193	1.7761	\$129,964,684	Pennsylvania	\$1,299,482,841	2.2799	\$2,962,690,929
Illinois	\$1,588,145,422	2.3944	\$3,802,655,398	Rhode Island	\$150,337,492	2.0158	\$303,050,316
Indiana	\$456,800,226	2.0867	\$953,205,032	South Carolina	\$156,340,678	2.1341	\$333,646,641
Iowa	\$751,380,105	1.7514	\$1,315,967,116	South Dakota	\$23,200,996	1.6396	\$38,040,353
Kansas	\$171,312,119	1.8267	\$312,935,848	Tennessee	\$579,241,611	2.2548	\$1,306,073,984
Kentucky	\$246,963,261	2.0484	\$505,879,544	Texas	\$3,800,755,221	2.3735	\$9,021,092,517
Louisiana	\$2,126,703,580	1.959	\$4,166,212,313	Utah	\$249,696,015	2.2794	\$569,157,097
Maine	\$191,377,094	2.0019	\$383,117,804	Vermont	\$134,414,472	1.8276	\$245,655,889
Maryland	\$554,447,957	2.0603	\$1,142,329,126	Virginia	\$559,429,561	2.086	\$1,166,970,064
Massachusetts	\$1,222,468,409	2.1786	\$2,663,269,676	Washington	\$234,621,743	2.095	\$491,532,552
Michigan	\$1,308,967,450	2.1743	\$2,846,087,927	West Virginia	\$64,693,785	1.8032	\$116,655,833
Minnesota	\$326,785,081	2.1534	\$703,698,993	Wisconsin	\$318,216,173	2.0534	\$653,425,090
Mississippi	\$536,439,987	1.8702	\$1,003,250,064	Wyoming	\$37,950,712	1.6201	\$61,483,628
Missouri	\$451,195,948	2.179	\$983,155,971	<b>Total U.S.</b>	<b>\$33,943,576,712</b>	<b>N/A</b>	<b>\$72,879,319,298</b>

1 CMS Medicare 2013 Cost Reports for Home Health Agencies.

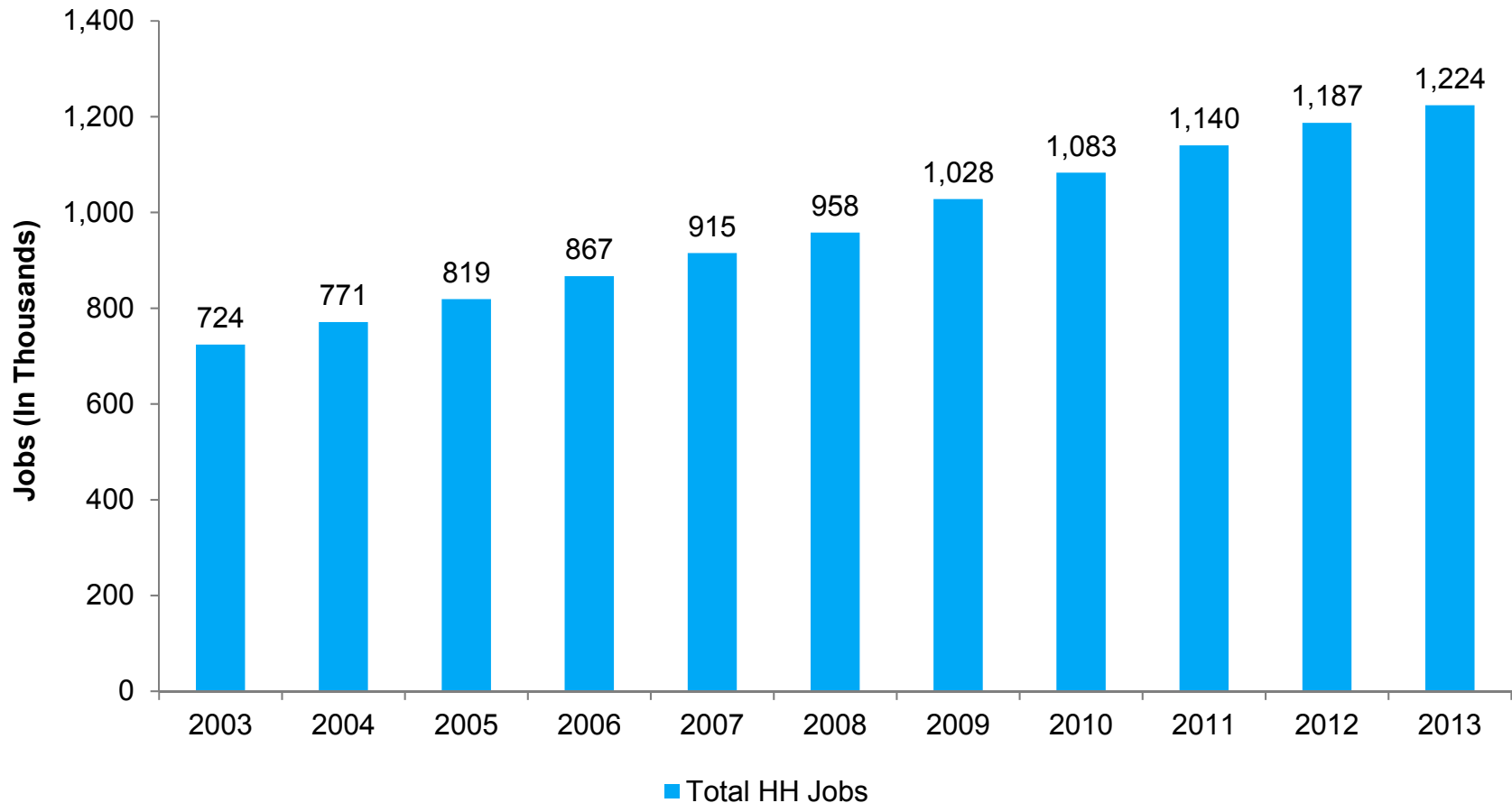
2 U.S. Bureau of Economic Analysis multipliers.

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 6.4: Impact of Home Health on Jobs, Nationally, 2003 - 2013



Source: Avalere Health, LLC analysis of the Medicare Cost Reports from the Centers for Medicare and Medicaid Services; Bureau of Labor Statistics.  
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. 2013 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 7: Outcomes

# Outcomes: Readmissions Among Post-Acute Care Users

Table 7.1: 30-day Readmission Rates for Top 20 Most Common MS-DRGs Discharged from Hospital to Selected Post-Acute Care (PAC) Settings, by Setting, 2013

MS-DRG	% of Home Health Users Readmitted Within 30 Days	% of SNF Users Readmitted Within 30 Days
Major joint replacement or reattachment of lower extremity w/o mcc	3.59%	6.97%
Septicemia or severe sepsis w/o mv 96+ hours w mcc	21.37%	22.74%
Heart failure & shock w mcc	24.77%	25.66%
Heart failure & shock w cc	23.86%	23.28%
Kidney & urinary tract infections w/o mcc	18.51%	14.21%
Hip & femur procedures except major joint w cc	8.03%	11.64%
Intracranial hemorrhage or cerebral infarction w cc	12.39%	14.64%
Simple pneumonia & pleurisy w cc	16.93%	16.42%
Renal failure w cc	22.78%	19.47%
Simple pneumonia & pleurisy w mcc	20.40%	21.88%
Septicemia or severe sepsis w/o mv 96+ hours w/o mcc	16.21%	16.77%
Chronic obstructive pulmonary disease w mcc	22.30%	23.77%
Cellulitis w/o mcc	14.00%	13.88%
Renal failure w mcc	25.19%	24.02%
Misc disorders of nutrition, metabolism, fluids/electrolytes w/o mcc	21.16%	15.67%
Kidney & urinary tract infections w mcc	21.10%	17.66%
Pulmonary edema & respiratory failure	22.26%	25.75%
Chronic obstructive pulmonary disease w cc	22.20%	20.83%
Esophagitis, gastroent & misc digest disorders w/o mcc	19.71%	16.68%
G.I. hemorrhage w cc	18.58%	17.99%
<b>Average Rate Across All MS-DRGs</b>	<b>16.92%</b>	<b>17.49%</b>

Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2013.

\*Analysis includes Medicare Part A claims only.

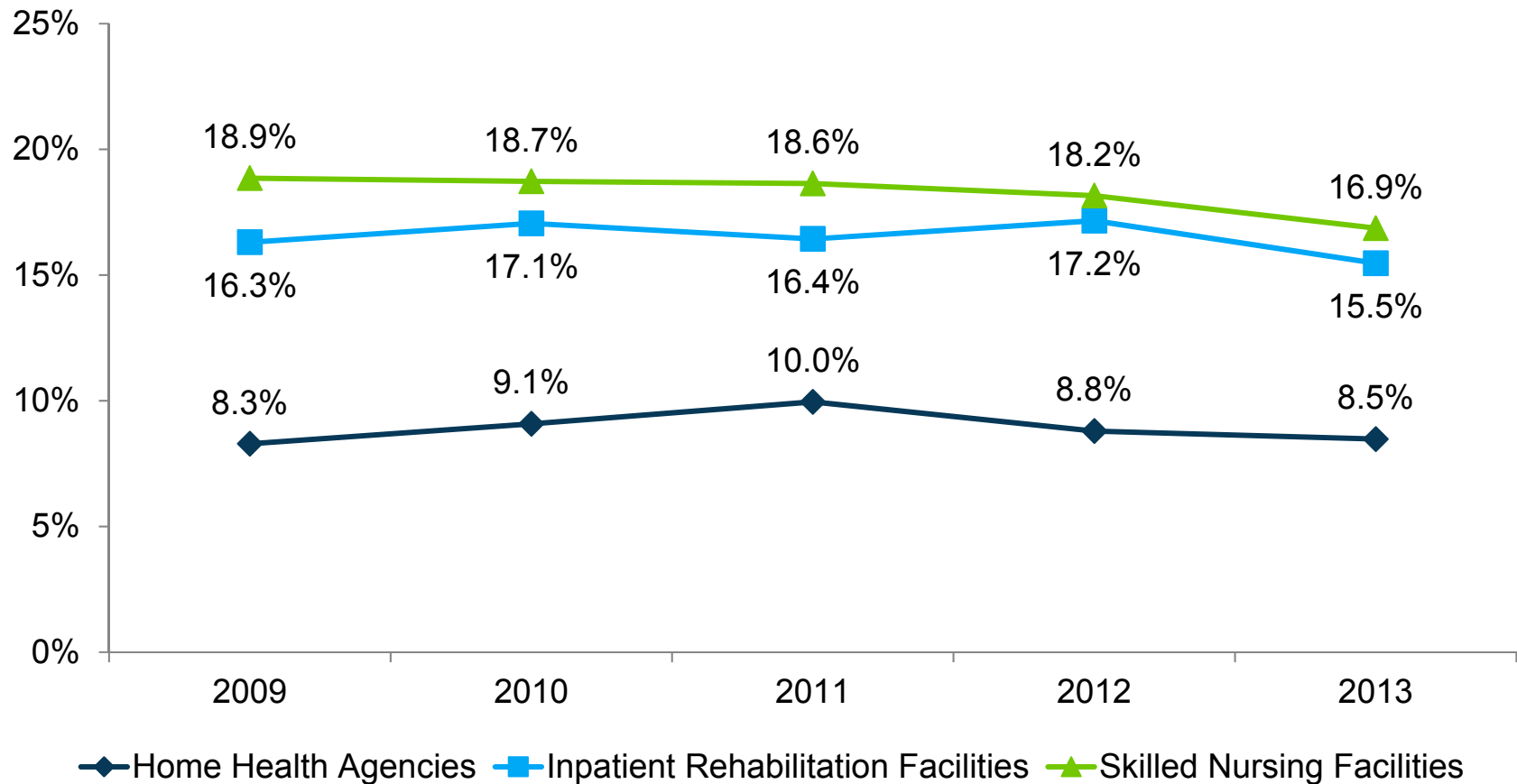
Note: CC is complication or comorbidity. MCC is major complication or comorbidity.

SNF: Skilled Nursing Facilities



# Outcomes: Major Joint Readmissions Among Post-Acute Care Users

Chart 7.2: 30-day Readmission Rates for MS-DRG 469 Discharged from Hospital to Selected PAC Settings, by Care Setting, 2009 - 2013



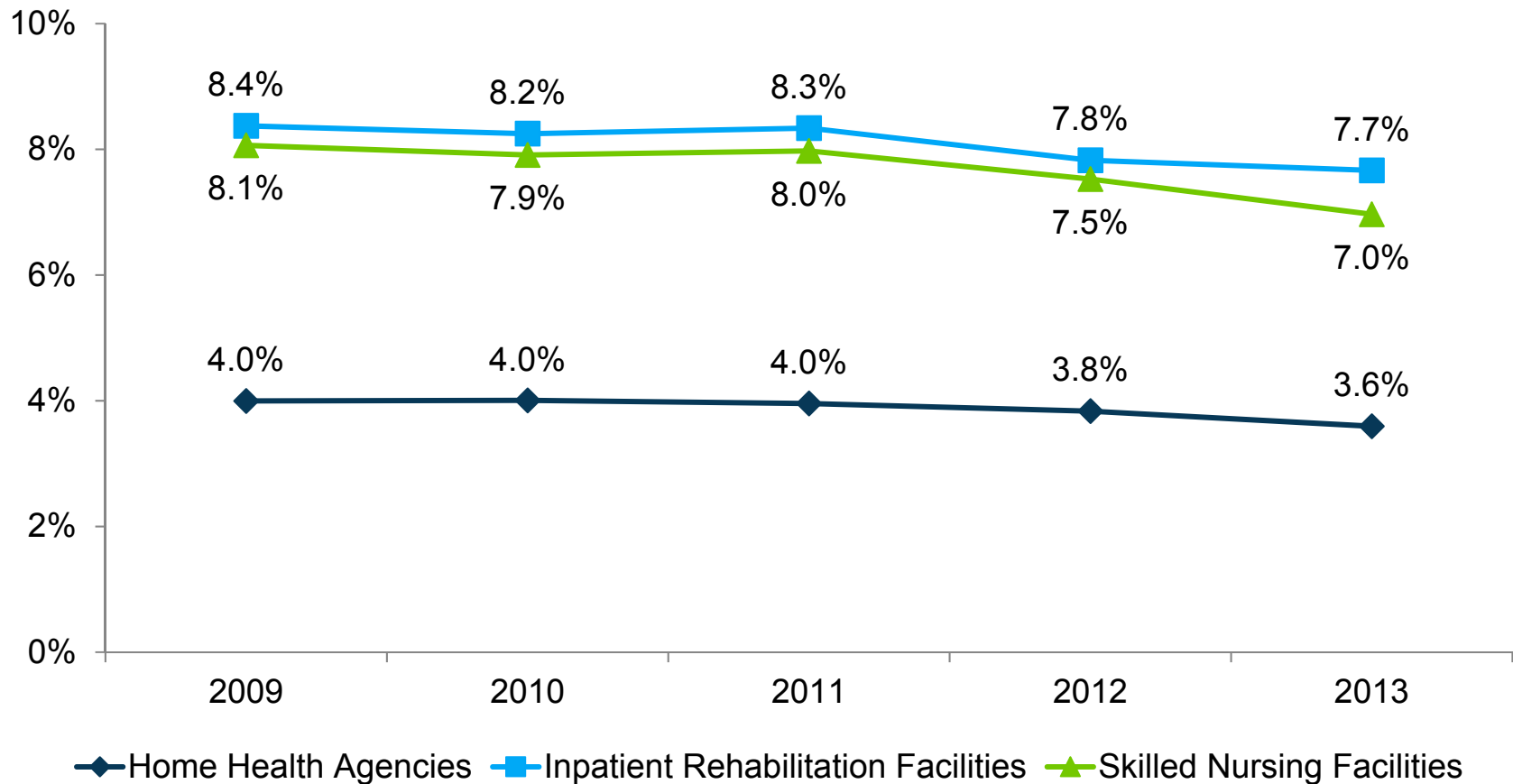
Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2009 – 2013.

\*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 7.3: 30-day Readmission Rates for MS-DRG 470 Discharged from Hospital to Selected PAC Settings, by Care Setting, 2009 - 2013



Source: Avalere Health, LLC, analysis of Medicare Standard Analytic Files, 2009 – 2013.

\*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 7.4: National Averages for How Often Home Health Team Met Quality Measures Related to Patient Care, 2011 - 2014

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

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

# Outcomes: Quality of Home Health Care

Table 7.5: National Averages for Patient Outcomes while in Home Health Care, 2011 - 2014

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

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.

\*\*Date range from October 2013 to September 2014.

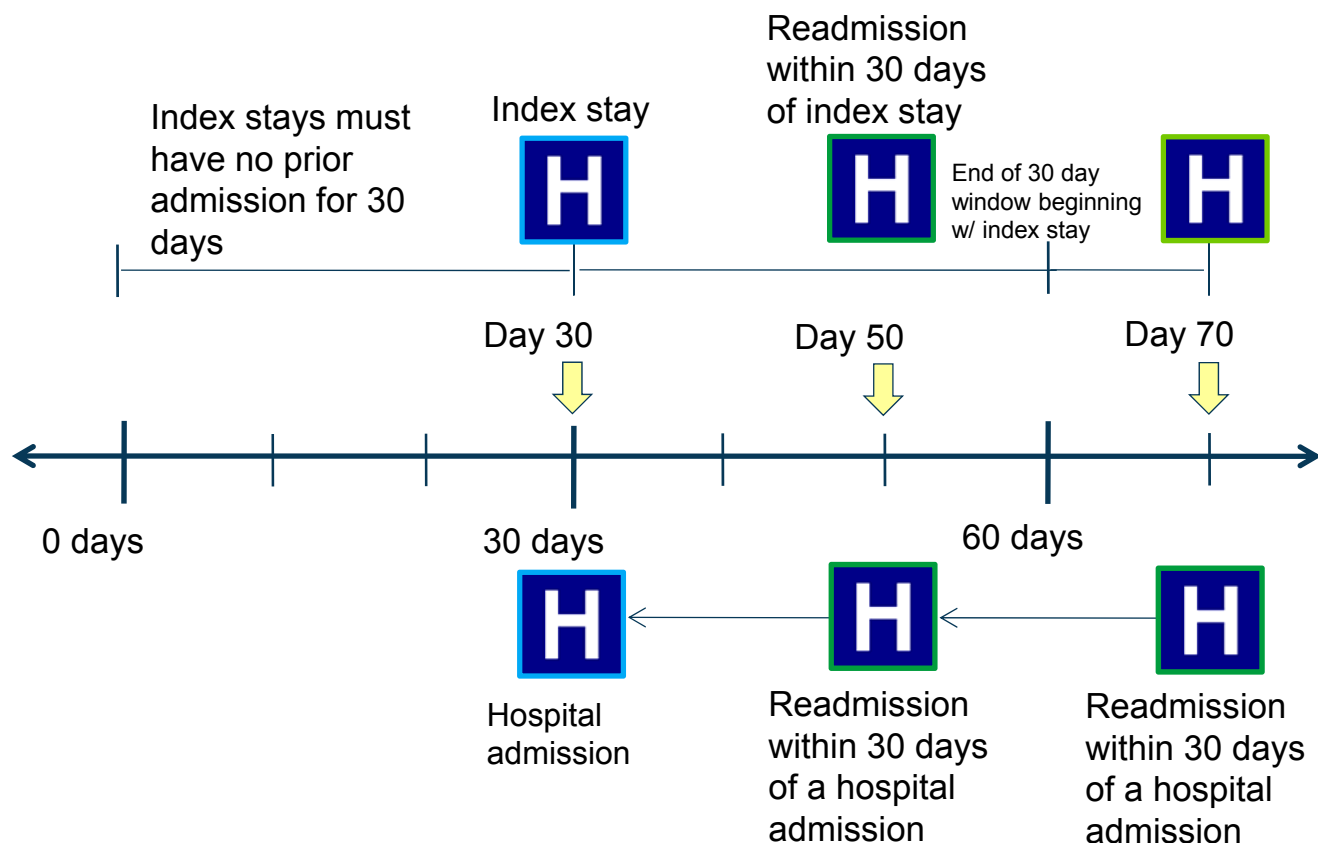




## Appendix: Readmission Rate Methodology

# 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