Rural Medicaid and CHIP enrollees in 2020

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Contents

About this brief

What is this brief?

This data brief describes enrollees in Medicaid and the Children's Health Insurance Program (CHIP) who resided in rural areas in 2020 and compares them to enrollees who resided in urban areas. CMS is releasing this data brief as part of ongoing agency efforts to measure disparities in access to care and make focused, evidence-based investments to improve health equity for the Medicaid and CHIP population. Medicaid and CHIP enrollees are slightly more likely to reside in rural areas than the total U.S. population. Enrollees in rural areas are more likely to be non-Hispanic White and non-Hispanic American Indian and Alaska Native (AIAN) than enrollees in urban areas. The information in this brief, as well as updated counts that reflect data from later years, are available for download on data.medicaid.gov.

What is the source of information?

This brief is based on data reported by states to CMS as part of the Transformed Medicaid Statistical Information System (T-MSIS). States report information each month via T-MSIS about their enrollees, Medicaid- and CHIP-covered services, payments to providers and managed care organizations, enrollees' diagnoses and health conditions, and information on providers and managed care plans. These data are converted into the T-MSIS Analytic Files (TAF), which are optimized for research purposes. More information about T-MSIS and TAF is available at Medicaid.gov.[1] Nearly all states have high-quality and complete information on Medicaid and CHIP enrollment, scope of benefits, and age in the TAF, but some states have data quality issues with their enrollee address data. More information on TAF data quality can be found on the DQ Atlas.[2]

Figure 1 uses 2015–2019 American Community Survey (ACS) data on population counts by ZIP Code Tabulation Areas (ZCTA) from the U.S. Census Bureau. More information is available at the Census Bureau website.[3] Figure 4 uses the 2020 TAF Race/Ethnicity Imputation (REI) Companion File, which includes state-reported information on race and ethnicity when it is reported and of good quality (74 percent of enrollees) and indirectly estimated race and ethnicity when the state-reported information is missing or unreliable (26 percent of enrollees). CMS based its indirect estimates of race and ethnicity on an enhanced version of a well-validated method that is widely used for this purpose:

Bayesian Improved Surname and Geocoding (BISG). BISG[4] draws on the racial and ethnic distribution associated with a person's surname and geographic location to estimate the person's probability of reporting being in each of six racial and ethnic groups. The distribution of race and ethnicity for surnames from the Census Bureau is not available separately for race and ethnicity, so the categories are combined here.[5] CMS enhanced the standard BISG methodology for these data by supplementing with T-MSIS information about enrollees' first names and their AIAN certification.

Who is included in this analysis?

The figures in this brief include Medicaid and CHIP enrollees from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands, except where otherwise noted. None of the figures in this brief include enrollees in Guam, American Samoa, and the Northern Mariana Islands because T-MSIS data are not available for these territories. Figures 1 through 3 include enrollees with any scope of benefits who were enrolled for at least one day in 2020, including those who are dually eligible for Medicare. Enrollees in the U.S. Virgin Islands are not included in Figure 1 because this territory is not included in the ACS. Figures 4 through 6 include only enrollees with comprehensive benefits. Figure 4 does not include enrollees residing in the U.S. Virgin Islands because this territory is not included in the 2020 REI Companion File. Figure 5 is restricted to working-age adults between 19 and 64 years old.

How are urban and rural areas defined?

Urban and rural areas are defined using the U.S. Department of Agriculture's Rural-Urban Commuting Area (RUCA) code classification scheme.[6] Medicaid and CHIP enrollees are assigned to a geographic category based on the 2010 RUCA code associated with their home or mailing address ZIP code in TAF. RUCA codes 4 to 10 correspond to rural areas. RUCA codes 1 to 3 are classified as urban areas, which include all towns and cities with a population of 50,000 or more as well as surrounding suburban areas. Enrollees are categorized into a missing or unassigned category if there was no reported ZIP code in TAF or if the ZIP code was for a state other than the state providing Medicaid or CHIP benefits, which indicate that the ZIP code represents a mailing address or is flawed. The U.S. Virgin Islands are not included in the RUCA crosswalk; all enrollees in this territory are assigned to the rural category.

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[1] https://www.medicaid.gov/medicaid/data-systems/macbis/transformed-medicaid-statistical-information-system-t-msis/index.html
[2] https://www.medicaid.gov/dq-atlas/welcome
[3] https://www.census.gov/data/developers/data-sets/acs-5year/2019.html
[4] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6338295/
[5] https://www.census.gov/data/developers/data-sets/surnames.html
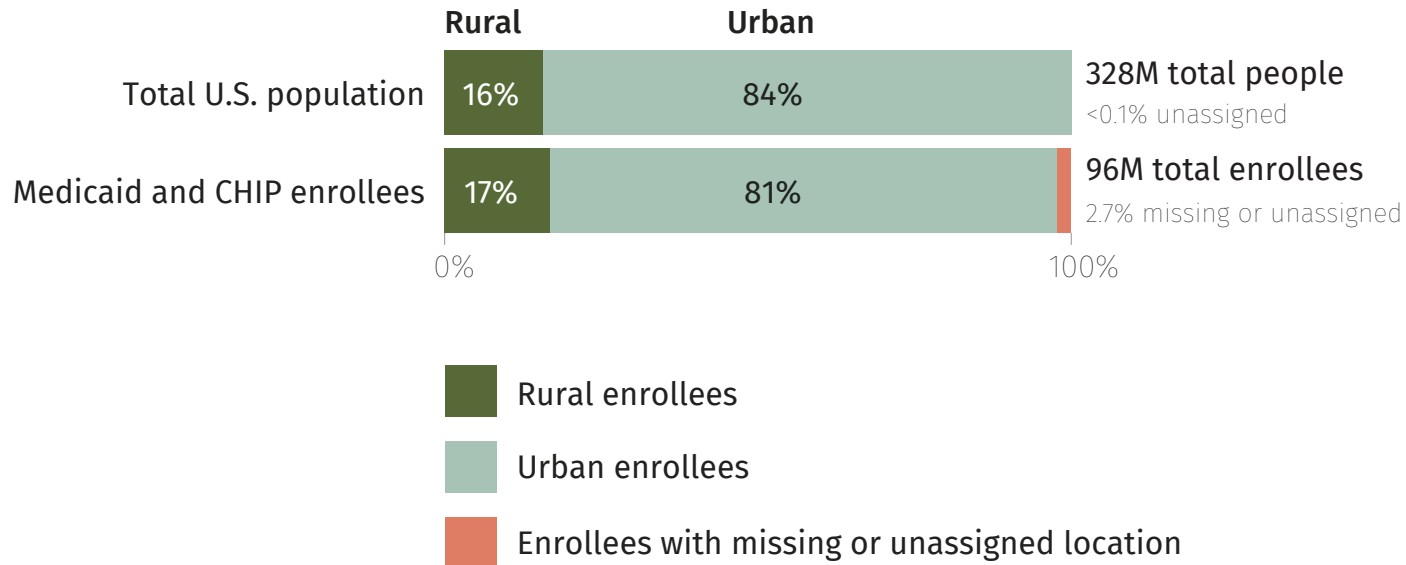[6] https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/

What proportion of Medicaid and CHIP enrollees reside in rural areas, and how does this compare to the entire U.S. population?

FIGURE 1. RURAL AND URBAN RESIDENCE OF THE NATIONAL MEDICAID AND CHIP POPULATION IN 2020

Over 96 million individuals received some type of health coverage from Medicaid or CHIP at any point in 2020. Nearly one in five of these enrollees resided in a rural area. Four out of five enrollees lived in an area designated as urban, which encompasses all cities and towns with a population exceeding 50,000 as well as their surrounding suburbs. People enrolled in Medicaid and CHIP were slightly more likely to live in rural areas than the overall U.S. population.

Which states have a larger share of the Medicaid and CHIP population residing in rural areas?
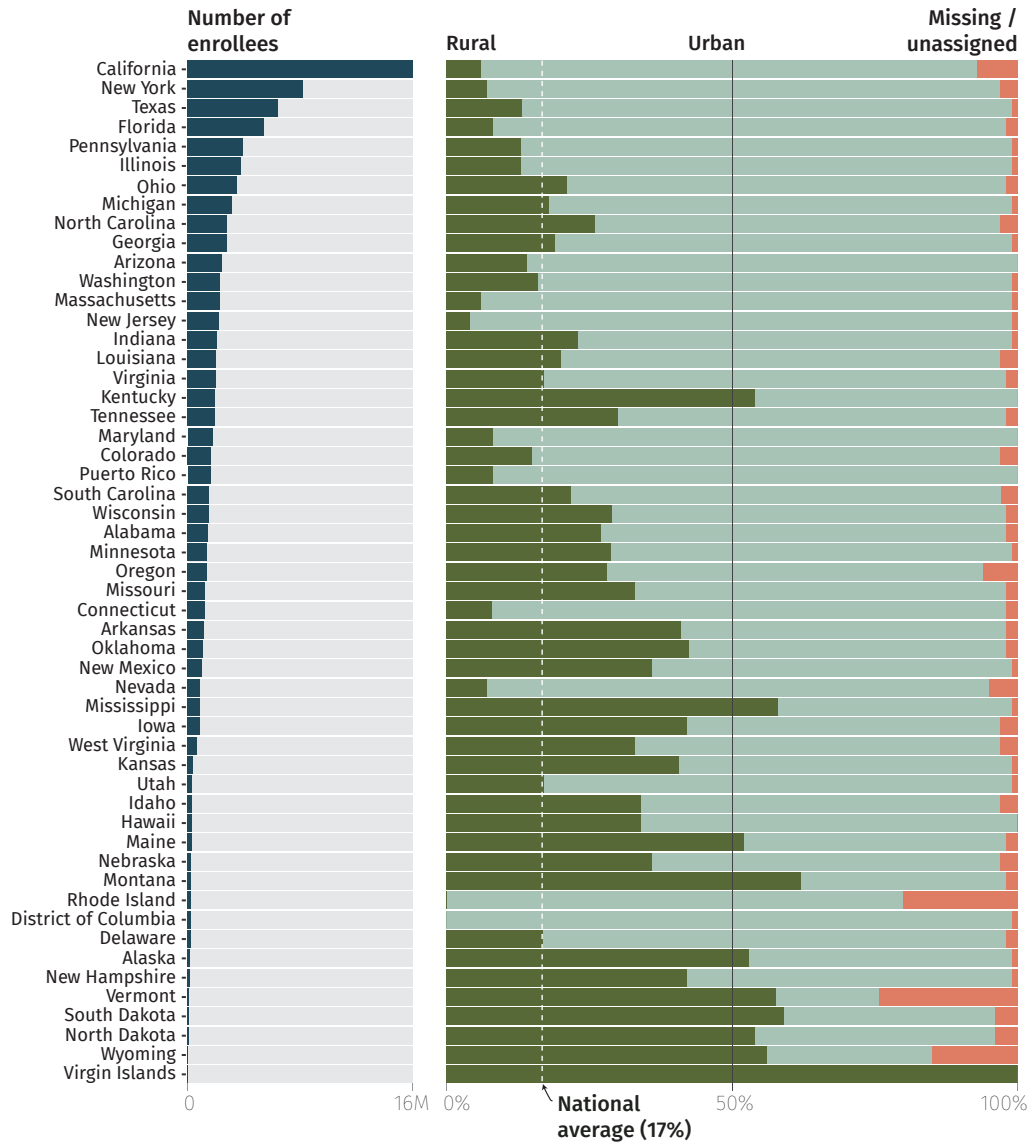

FIGURE 2. PROPORTION OF MEDICAID AND CHIP POPULATION RESIDING IN RURAL AND URBAN AREAS IN 2020, BY STATE

- ■ Number of enrollees
- ■ Rural enrollees
- ■ Urban enrollees
- ■ Enrollees with missing/unassigned location

States and territories vary substantially in the proportion of their total Medicaid and CHIP population that resides in rural areas. Notably, the states with the largest Medicaid and CHIP programs—California, New York, Texas, Florida, Pennsylvania, and Illinois—had a lower share of their Medicaid and CHIP populations residing in rural areas compared to the national average of 17 percent. States with the smallest Medicaid and CHIP programs were much more likely to have a larger-than-average share of their program population residing in rural areas. In 10 states and territories—Maine, Alaska, North Dakota, Kentucky, Wyoming, Vermont, Mississippi, South Dakota, Montana, and the U.S. Virgin Islands—more than half of the Medicaid and CHIP population resides in rural areas.

SOURCE: 2020 T-MSIS Analytic Files Annual Demographic and Eligibility File, Release 1.

NOTES: This figure includes Medicaid and CHIP enrollees from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Enrollees in the missing or unassigned category either live in a ZIP code that cannot be mapped to an urban or rural designation or the ZIP code represents an invalid location for residence.

Which enrollees cannot be assigned to rural or urban residency?

Figure 3. Rural and urban residency of the national Medicaid and CHIP population in 2020, by scope of benefits
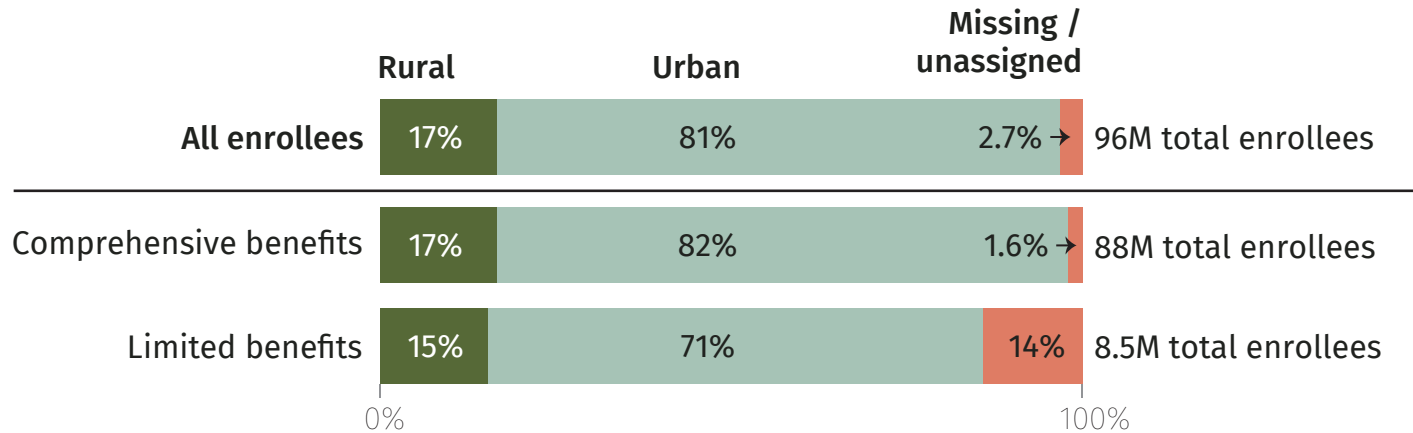
About 3 percent of Medicaid and CHIP enrollees nationally cannot be assigned to rural or urban residency based on their home address. This can occur when states do not report the person's address in the T-MSIS data used for this brief. More often, information is reported but indicates an out-of-state address. Because Medicaid and CHIP programs do not cover individuals who are not residents of their state, this pattern suggests that the state reported the enrollee's mailing address rather than address of residence. Compared with Medicaid and CHIP enrollees who qualify for comprehensive benefits, Medicaid and CHIP enrollees with limited benefits are much more likely to be unassigned to the rural or urban residence categories.

The majority of Medicaid and CHIP enrollees qualify for a comprehensive benefit package that meets the minimum essential coverage standard under the Affordable Care Act (ACA). A much smaller group qualifies for limited benefits only. The most common limited benefit packages in Medicaid are those that cover only family planning services, emergency services, or assistance with premiums and cost sharing in Medicare. These enrollees are more likely to have missing address information or a reported address in a different state than the state providing Medicaid and CHIP benefits.

Source: 2020 T-MSIS Analytic Files Annual Demographic and Eligibility File, Release 1.

Notes: Percentages may not sum to 100% due to rounding. This figure includes Medicaid and CHIP enrollees from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

How does the racial and ethnic composition of Medicaid and CHIP enrollees in rural areas compare to enrollees residing in urban areas?

FIGURE 4. RACE AND ETHNICITY OF THE RURAL MEDICAID AND CHIP POPULATION IN 2020, AS COMPARED TO THE URBAN POPULATION

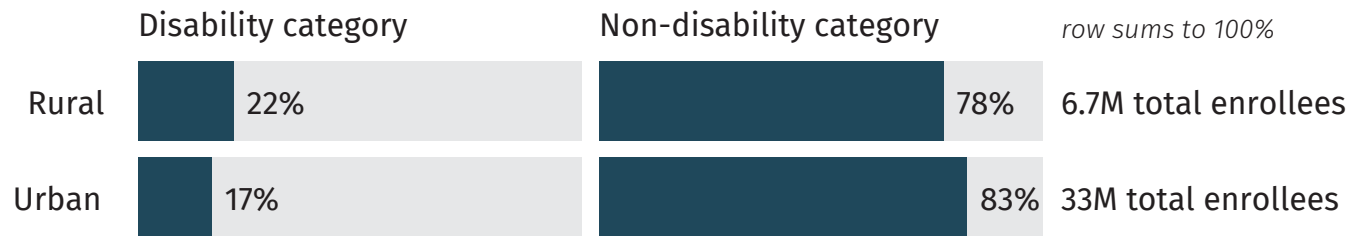|	White, non-Hispanic	Hispanic	Black, non-Hispanic	Asian/Pacific Islander, non-Hispanic	American Indian and Alaska Native, non-Hispanic	Multiracial, non-Hispanic	*row sums to 100%*
Rural	68%	14%	12%	1.1%	3.9%	1.8%	15M total enrollees
Urban	38%	30%	23%	6.6%	0.85%	1.3%	72M total enrollees
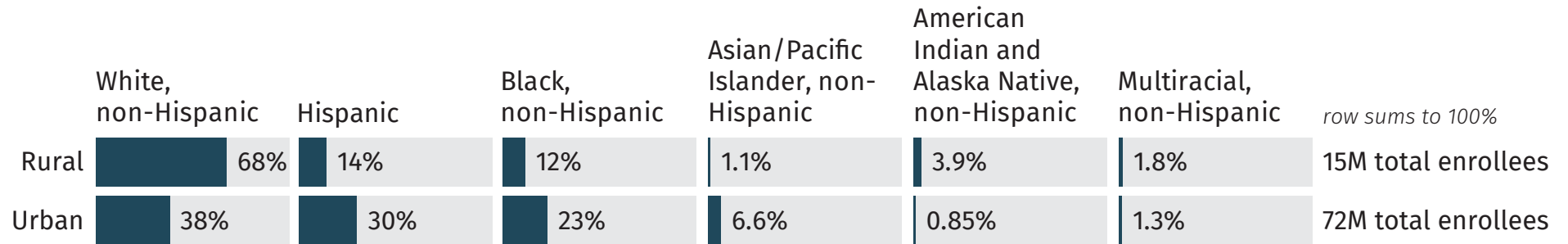
Medicaid and CHIP enrollees with comprehensive benefits who reside in rural areas are much more likely to be non-Hispanic White or American Indian and Alaska Native than their counterparts in urban areas. Enrollees residing in rural areas are less likely to be Hispanic, non-Hispanic Black, or non-Hispanic Asian/Pacific Islander.

SOURCES: 2020 T-MSIS Analytic Files Annual Demographic and Eligibility File, Release 1 and 2020 Race/Ethnicity Imputation (REI) Companion File.

NOTES: Percentages may not sum to 100% due to rounding. This figure includes Medicaid and CHIP enrollees with comprehensive benefits from all states, the District of Columbia, and Puerto Rico. Enrollees in the U.S. Virgin Islands are not included in the figure because data from that territory are not included in the 2020 REI Companion File. Enrollees with a missing or unassigned geographic location are also not included in the figure.

Are working-age Medicaid and CHIP enrollees who reside in rural areas more likely to qualify for benefits based on disability?

Figure 5. Percentage of working-age Medicaid and CHIP enrollees who qualified for benefits through a disability-related eligibility category in 2020

	Disability category	Non-disability category	*row sums to 100%*
Rural	22%	78%	6.7M total enrollees
Urban	17%	83%	33M total enrollees

Working-age adults (ages 19 to 64) have several possible eligibility categories to qualify for Medicaid benefits, including pregnancy, parental status, disability, or through low income in states that have elected to expand Medicaid for adults under the ACA. Most enrollees who qualify through a disability-related eligibility category receive Supplemental Security Income (SSI). Working-age people with disabilities who are not receiving SSI can still qualify for disability-related eligibility, or they may qualify for benefits under another category such as the ACA Medicaid expansion adult group.

Working-age adults with comprehensive Medicaid or CHIP benefits in rural areas are more likely to have qualified for coverage through a disability-related eligibility category compared to enrollees residing in an urban area.

Notes: This figure includes Medicaid and CHIP enrollees, ages 19 to 64 as of December 31, 2020, with comprehensive benefits from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Enrollees with a missing or unassigned geographic location are not included in the figure.

Are Medicaid and CHIP enrollees who reside in rural areas less likely to participate in managed care?

Figure 6. Managed care participation among Medicaid and CHIP enrollees in rural and urban areas in 2020

	Comprehensive managed care	Other managed care	Fee-for-service	*row sums to 100%*
Rural	67%	23%	10%	15M total enrollees
Urban	78%	14%	8.7%	72M total enrollees
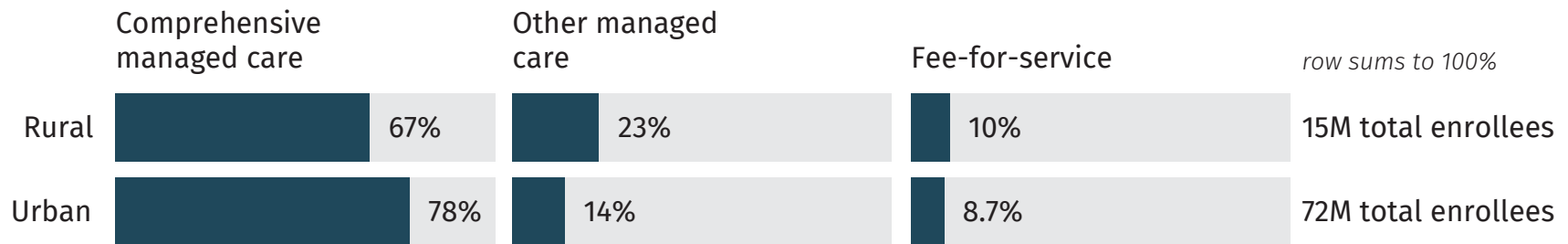
The majority of Medicaid and CHIP enrollees nationally receive most or all of their care through managed care plans. Under the comprehensive managed care model, Medicaid and CHIP enrollees receive most or all of their covered services through a health plan. Other types of managed care include (1) limited-benefit plans, which cover a narrower set of services such as behavioral health only, dental only, or transportation only, and (2) primary care case management (PCCM), where a designated primary care provider receives a flat monthly fee to coordinate care that is otherwise reimbursed on a fee-for-service basis. Enrollees who receive no services or care coordination through one of these arrangements receive all care through the fee-for-service delivery system.

Rural areas have fewer healthcare providers, which may reduce the ability of managed care plans to establish a network and serve these areas. Nationally, rural enrollees who qualify for comprehensive benefits are substantially less likely to participate in comprehensive managed care plans than urban enrollees. However, both urban and rural enrollees are about equally likely to receive all services through the fee-for-service system. Rural enrollees are more likely to participate in other managed care, where some services are available through a health plan and the remaining services are available through the fee-for-service system.

Source: 2020 T-MSIS Analytic Files Annual Demographic and Eligibility File, Release 1.

Notes: Percentages may not sum to 100% due to rounding. This figure includes Medicaid and CHIP enrollees with comprehensive benefits from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Enrollees with a missing or unassigned geographic location are not included in the figure.

Number of Medicaid and CHIP enrollees residing in rural and urban areas, by benefits package, race and ethnicity, disability-related eligibility category, and managed care participation in 2020

The data in these tables are available for download at data.medicaid.gov. Updated counts that reflect data from later years will be released as they become available on data.medicaid.gov.

Table 1 - Population comparison

	Total U.S. population (328M)	All Medicaid and CHIP enrollees (96M)
Rural	52M	16M
Urban	276M	78M
Missing or unassigned	0.02M	2.6M

Table 2 - By benefits package

	Comprehensive benefits (88M)	Limited benefits (8.5M)
Rural (16M)	15M	1.3M
Urban (78M)	72M	6.0M
Missing or unassigned (2.6M)	1.4M	1.2M

Table 4 - By disability-related eligibility (working-age adults)

	Disability category (7.1M)	Non-disability category (33M)
Rural (6.7M)	1.4M	5.2M
Urban (33M)	5.5M	28M
Missing or unassigned (0.60M)	0.13M	0.47M

Table 3 - By race and ethnicity

	White, non-Hispanic (38M)	Hispanic (24M)	Black, non-Hispanic (19M)	API, non-Hispanic (5.0M)	AIAN, non-Hispanic (1.2M)	Multiracial, non-Hispanic (1.3M)
Rural (15M)	10M	2.1M	1.7M	0.16M	0.57M	0.26M
Urban (72M)	27M	21M	17M	4.7M	0.61M	1.0M
Missing or unassigned (1.4M)	0.75M	0.28M	0.29M	0.07M	0.02M	0.03M

API = Asian/Pacific Islander; AIAN = American Indian and Alaska Native

Table 5 - By managed care participation

	Comprehensive managed care (66M)	Other managed care (13M)	Fee-for-service (8.0M)
Rural (15M)	10M	3.3M	1.5M
Urban (72M)	56M	10M	6.2M
Missing or unassigned (1.4M)	0.92M	0.28M	0.24M

SOURCES: 2020 T-MSIS Analytic Files Annual Demographic and Eligibility File, Release 1; 2020 Race/Ethnicity Imputation (REI) Companion File; 2015–2019 American Community Survey.

NOTES: Table 1 includes Medicaid and CHIP enrollees from all states, the District of Columbia, and Puerto Rico. Table 2 includes Medicaid and CHIP enrollees from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Table 3 includes Medicaid and CHIP enrollees with comprehensive benefits from all states, the District of Columbia, and Puerto Rico. Table 4 includes Medicaid and CHIP enrollees, ages 19 to 64 as of December 31, 2020, with comprehensive benefits from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Table 5 includes Medicaid and CHIP enrollees with comprehensive benefits from all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.