Medicare Advantage Coverage Among Individuals Receiving Federal Housing Assistance

Geographic concentrations of Medicare Advantage enrollees who receive federal housing assistance present opportunities to facilitate delivery of care coordination and supportive services for a population at higher risk for adverse health outcomes.

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KEY POINTS

- This study examined Medicare Advantage (MA) enrollment among individuals receiving U.S. Department of Housing and Urban Development (HUD) housing assistance, as well as the demographic composition and geographic distribution of this population. Analyses were conducted using analytic data created by linking HUD administrative data to Centers for Medicare & Medicaid Services Medicare enrollment and MA plan data for three years (calendar years [CY] 2018–2020). This report summarizes key findings.[*]

- Across all three years (2018–2020), approximately 11.6 million individuals received federal housing assistance. Approximately 2.9 million of those individuals (25%) had Medicare coverage and, among those with Medicare coverage, approximately 1.5 million (51%) had Medicare Advantage coverage.

- Between 2018 and 2020, the annual number of both HUD-assisted individuals overall and HUD-assisted individuals with Medicare coverage declined (from ~9.5 million to ~9.3 million and from ~2.6 million to ~2.5 million, respectively), whereas the annual number of HUD-assisted individuals with Medicare Advantage coverage increased (from ~1 million to ~ 1.2 million). The annual number of HUD-assisted individuals ages 65 and older with Medicare Advantage coverage increased from approximately 720,000 to 854,000.

- Compared with the overall Medicare and MA populations, individuals enrolled in MA who were receiving federal housing assistance were more likely to have lower incomes, be dually eligible for Medicaid, and identify as a person of color. In prior published studies, these same characteristics have been associated with greater risk of adverse health outcomes.

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[*] The Department of Housing and Urban Development will host an interactive web-based dashboard supplementing this report. The dashboard will be available on the study website page on HUDUser.gov.

- In 2020, among individuals receiving federal housing assistance with MA coverage:
    - Approximately two-thirds were enrolled in plans offered by five MA plan parent organizations (29% were covered by UnitedHealth Group, 13% by Humana, 8% by Anthem, 8% by Centene, and 5% by Healthfirst);
    - Sixty-two percent (~770,000 individuals) resided in project-based HUD-assisted properties (public housing or assisted multifamily housing); and
    - Nearly one-third (~400,000 individuals) lived in project-based Section 8 buildings, 6% (~75,000) lived in Section 202 properties for older adults, and 0.6% (~8,000) lived in Section 811 properties for individuals with disabilities.
- In 2020, nearly 90% of HUD-assisted properties had at least one individual enrolled in MA, and 16,249 HUD-assisted properties (54%) had more than 10 individuals enrolled in MA. A subset of these properties (660) had more than 10 individuals enrolled in the same MA plan.[†]
- In 2020, approximately 40% of individuals receiving federal housing assistance with MA coverage lived in five states (New York, California, Florida, Texas, and Pennsylvania). Nationwide, approximately one-third lived in a metropolitan statistical area.
- MA plans could explore partnering with public health and housing entities to identify geographic concentrations of MA enrollees receiving federal assistance, analyze their health plan data, assess their social needs, and offer place-based interventions.

[†] Note: Disclosure requirements established the minimum reporting threshold of greater than 10 used in this report and the interactive tool.

INTRODUCTION

The U.S. Department of Housing and Urban Development (HUD) oversees rental assistance programs that help more than nine million low-income individuals live in safe, decent, and affordable homes.[1] Prior research from the Department of Health and Human Services' (HHS) Office of the Assistant Secretary for Planning and Evaluation (ASPE) and HUD's Office of Policy Development and Research (PD&R) found certain groups of individuals receiving federal housing assistance (referred to as HUD-assisted individuals in this report)[‡] had more chronic conditions and greater health care utilization than individuals not receiving federal housing assistance.[2,3] Coordinated delivery of health care and supportive services may help meet the needs of HUD-assisted individuals and allow them to remain in an independent living setting, even as they age or their health worsens. HUD-assisted individuals with Medicare Advantage (MA) coverage could potentially benefit from the care coordination and supplemental benefits offered by MA plans.

ASPE and PD&R contracted with The Lewin Group to analyze MA plan enrollment among HUD-assisted individuals. Using HUD administrative data linked to Centers for Medicare & Medicaid Services (CMS) Medicare enrollment and MA plan data, this study examined the demographic composition, geographic distribution, and MA enrollment characteristics of, as well as the type of HUD assistance received by, this population.

This report presents a summary of the findings and is organized into six sections: Background, Methods, Findings, Discussion, Conclusion, and Appendices. In addition to this report, geographic concentrations (e.g., by state, county, and HUD-assisted property) of MA-HUD individuals can be identified through an interactive web-based dashboard that is forthcoming.

[‡] Terminology used throughout this report: (1) "HUD-assisted" refers to individuals receiving federal housing assistance, (2) "HUD-Medicare" refers to HUD-assisted individuals enrolled in Medicare, and (3) "HUD-MA" refers to HUD-assisted individuals enrolled in a MA plan.

BACKGROUND

HUD Assistance Programs

HUD provides rental assistance through a variety of program categories,[§] the largest of which are (1) housing choice vouchers; (2) public housing; and (3) assisted multifamily. Public housing and assisted multifamily programs offer project/property-based assistance, and housing choice vouchers may be used to rent privately owned housing. Table 1 summarizes the features of these program categories.

Table 1. Types of HUD Housing Assistance

Housing Choice Vouchers (HCV)[**]	Public Housing (PH)[††]	Assisted Multifamily (MF)[‡‡]
Individuals may use vouchers to pay for all or part of the rent for properties of their choice	Affordable rental housing for low-income families, older people, and people with disabilities	Privately owned subsidized housing for which the federal government enters into a contractual agreement with owners to ensure reduced rents for low-income tenants
• Tenant-based • HUD's largest rental assistance program • Monthly rental assistance payment allows families to rent privately owned housing • Administered by PHA • PHA wait list preferences apply (e.g., people experiencing homelessness)	• Project-based • Mostly multifamily • Federally funded and regulated • Managed by local entities (public housing authorities or agencies [PHAs]) • PHA wait list preferences apply (e.g., people experiencing homelessness)	• Project-based • Consists of multiple programs, including Project-Based Section 8 (PBS8) and smaller specialized programs, such as Section 811 for individuals with disabilities and Section 202 for older adults • HUD contracts with the owner of the development • If tenant moves, assistance stays with the owner

Source: https://www.huduser.gov/portal/datasets/assthsg.html.

HUD-Assisted Individuals' Health Status and Health Care Utilization

HUD-assisted individuals differ from unassisted populations across a variety of health and health care utilization measures. For example, greater percentages of HUD-assisted adults reported having fair or poor health and a higher prevalence of 10 health conditions (including hypertension, chronic obstructive pulmonary disease [COPD], and cancer) and disability compared with low-income renters not receiving federal housing assistance and the general adult population.[4] In addition, compared with low-income renters and the general adult population, a larger percentage of HUD-assisted adults reported one or more emergency room visits in the past 12 months.[5] Two prior studies from ASPE, PD&R, and the Lewin Group found differences in health and health care utilization between traditional fee-for-service (FFS) Medicare[§§] enrollees ages 65 and older who received HUD assistance and those who did not receive HUD assistance in 12 geographic areas.[6, 7] Compared with unassisted Medicare enrollees, a greater percentage of HUD-assisted Medicare enrollees had five or more chronic conditions (38% compared with 33%).[8] A larger difference was observed between HUD-assisted and

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[§] Refer to PD&R's Assisted Housing: National and Local for descriptions: https://www.huduser.gov/portal/datasets/assthsg.html.
[**] Refer to the HUD's Housing Choice Vouchers Fact Sheet for additional information: https://www.hud.gov/topics/housing_choice_voucher_program_section_8.
[††] Refer to HUD's Public Housing Program webpage for additional information: https://www.hud.gov/topics/rental_assistance/phprog.
[‡‡] Refer to HUD's Section 8 Program Background Information webpage for additional information: https://www.hud.gov/program_offices/housing/mfh/rfp/s8bkinfo.
[§§] Medicare is a federal health insurance program for individuals ages 65 and older and some people younger than 65 with certain disabilities or conditions.

unassisted individuals dually enrolled in Medicare and Medicaid,[***] with 55% of HUD-assisted individuals having five or more chronic conditions compared with 43% of unassisted individuals.[9] After controlling for confounding factors (for example, race, ethnicity, age, geography, count of chronic conditions, and supply of health care providers in the market), HUD-assisted Medicare enrollees were more likely than unassisted Medicare enrollees to have an acute inpatient stay, a Medicare-covered nursing home stay, and emergency department visits than those who did not receive federal housing assistance.[10] However, among older adults dually enrolled in Medicare and Medicaid, HUD-assisted individuals were less likely than unassisted individuals to have any acute inpatient stay or a Medicare-covered nursing home stay, whereas differences in the likelihood of an emergency department visit varied by geographic region.[11] Among individuals dually enrolled in Medicare and Medicaid, HUD-assisted individuals had lower Medicare expenditures compared with unassisted individuals, whereas there was no significant difference in Medicare expenditures for HUD-assisted and unassisted individuals enrolled in only Medicare.[12]

On average, HUD-assisted individuals have higher rates of characteristics that prior research has found to be associated with an increased likelihood of experiencing adverse health outcomes and greater health care utilization. For example, in 2021, compared with all community-dwelling individuals, a higher proportion of HUD-assisted individuals had annual household income less than $20,000 (77% compared with 14%), were age 62 or older (39% compared with 21%), and identified as Black, Native American, Asian, Pacific Islander, or Hispanic (66% compared with 41%).[†††] Unmet social needs, environmental factors, and barriers to accessing health care contribute to adverse health outcomes for people with lower incomes.[13] Across the lifespan, residents of impoverished communities face an increased risk of mental illness, chronic disease, and death.[14, 15, 16] Compared with younger adults, older adults (those ages 65 and older) have a higher prevalence of multiple chronic conditions, and health care utilization and spending are higher for people with more chronic conditions.[17] Racial and ethnic disparities in health care utilization also exist. For example, Black Medicare enrollees were more likely to have an inpatient hospital stay or emergency room visit.[18] In addition, HUD-assisted adults were more likely than both the general adult population and low-income renters not receiving federal housing assistance to have a disability.[19] When compared to individuals without disabilities, individuals with disabilities typically experience significant health disparities, such as worse perceived health status and greater prevalence of chronic conditions, and face greater barriers to accessing health care services.[20]

Care Coordination and Supportive Services

Coordination of health care and delivery of supportive services may help meet the needs of HUD-assisted individuals and allow them to remain in independent living settings, even as they age or their health worsens. Affordable housing sites offer existing infrastructure to support the provision of care coordination and long-term services and supports to older adults and individuals with disabilities. Housing-with-services models offer affordable housing coupled with care coordination and supportive services. These models vary in the mix of services provided, flexibility of service delivery, type of housing, and whether they are project-based or tenant-based.[21] An evaluation of the Support and Services at Home (SASH) program, a housing-with-services model targeting older adults in affordable housing sites in Vermont found that the model improved medication

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[***] Medicaid, a joint federal and state health insurance program, provides coverage to some people with limited income and resources; eligibility and covered services vary by state.

[†††] HUD-assisted data come from the 2021 Summary of All HUD Programs, available at https://www.huduser.gov/portal/datasets/assthsg.html#2009-2021_data; U.S. community residents and household data come from the 2021 American Community Survey, available at https://data.census.gov/all?d=ACS%2B1-Year%2BEstimates%2BDetailed%2BTables.

management and reduced the growth in total Medicare expenditures.[22] HUD's Integrated Wellness in Supportive Housing (IWISH) demonstration is testing a model similar to SASH in 40 sites across the country.‡‡‡

Medicare Advantage Supplemental Benefits

HUD-assisted older adults and certain younger individuals with disabilities may be eligible for Medicare. Medicare-eligible individuals have the option to receive Medicare coverage through traditional FFS Medicare or MA plans offered under Medicare Part C. MA plans receive a capitated monthly payment per enrollee to cover health care expenses incurred by enrollees. MA plans provide all Medicare Part A benefits (primarily inpatient and outpatient hospital visits along with short-term post-hospital skilled nursing facility care) and Part B benefits (primarily physician visits and laboratory services), and usually Part D (drug coverage), and may provide additional benefits beyond those covered under the traditional FFS Medicare program (lower cost sharing, lower beneficiary premiums, and/or supplemental benefits (e.g., vision, hearing, and dental), depending on the plan).[23] Over time, enrollment in MA plans has increased, with the percentage of Medicare-eligible individuals enrolled in MA plans growing from 28% in 2013 to 49% in 2023.[24, 25]

In recent years, MA plans have been able to offer a broader scope of supplemental benefits to enrollees and to target offered benefits to members by health status or disease state. Beginning in 2019, CMS expanded the definition of "primarily health-related" supplemental health care benefit to allow MA plans to offer in-home support services.[26] In addition, since 2020, MA plans have been able to offer Special Supplemental Benefits for the Chronically Ill (SSBCI), which are supplemental benefits available to eligible chronically ill members, as required by statute.[27] In 2022, more than 1,800 MA plans (approximately one-third of all MA plans) offered expanded primarily health-related supplemental benefits and/or SSBCI.[28] Additionally, MA plans participating in CMS Innovation Center's Value-Based Insurance Design Model can offer supplemental benefits.[29]

HUD-assisted individuals with MA coverage, particularly those residing in HUD-assisted properties, may benefit from these supplemental benefits that can help address long-term services and supports needs (e.g., support with activities of daily living). As with housing-with-services models, MA plans and their parent organizations may be able to take advantage of the infrastructure provided by properties receiving HUD assistance (referred to as HUD-assisted properties) to deliver care coordination and supportive services to older adults and individuals with disabilities who are enrolled in their plans. MA plans and their parent organizations may realize efficiencies in care coordination and supportive service delivery if they have members residing in the same location, such as a HUD-assisted property.

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‡‡‡ Evaluation findings from the first three years of the demonstration available at
 huduser.gov/portal/sites/default/files/pdf/IWISH_FirstInterimReport.pdf.

Medicare Advantage Coverage Among Individuals Receiving Federal Housing Assistance

METHODS

To determine MA penetration among HUD-assisted individuals, we deterministically linked HUD administrative data and CMS Medicare enrollment data from 2018 to 2020 (Figure 1). Specifically, we merged individual-level data on persons receiving federal housing assistance from HUD's annual longitudinal file with Medicare enrollee data from the CMS Master Beneficiary Summary File (MBSF) using nine-digit Social Security numbers (SSNs). We also used MA plan data from the CMS Medicare Plan Characteristics File. The final dataset (Final Analytic Data) contained annual information on HUD program enrollment, demographic characteristics, geographic location, Medicare and MA plan enrollment, MA plan information, and Medicaid eligibility status for all HUD-assisted individuals with Medicare coverage. Refer to Appendix A for more information on data sources and the linkage methodology.

Figure 1. Data Sources and Development of the Analytical File
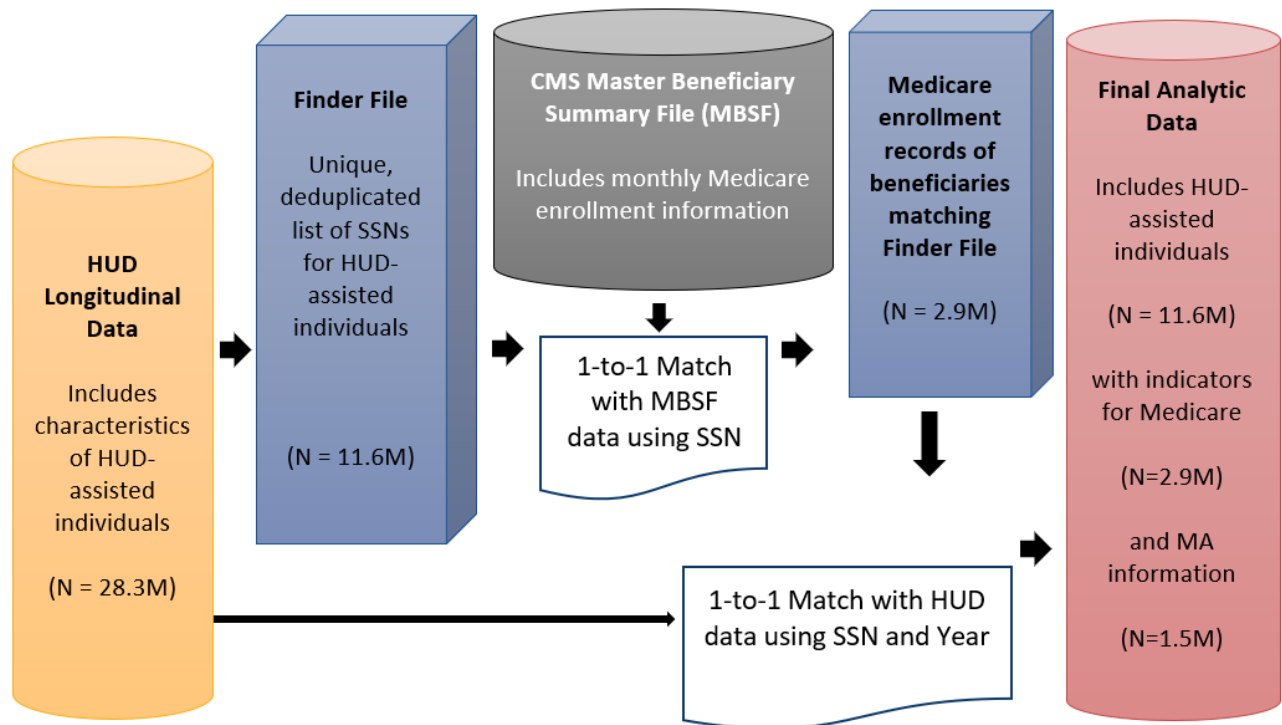
CMS = Centers for Medicare and Medicaid Services. HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage. MBSF = Master Beneficiary Summary File. SSN = Social Security number.

Notes: N = Total number of records representing individuals across the specified time frame (in millions). HUD captures information on individuals receiving housing assistance in two systems: the Tenant Rental Assistance Certification System (TRACS) and the Inventory Management System (IMS)/Public and Indian Housing (PIH) Information System (PIC). Longitudinal data compiles information captured in the TRACS and PIC into a unique dataset for each calendar year.

Sources: HUD longitudinal data and CMS Master Beneficiary Summary File merged records; Medicare enrollment based on Medicare enrollment charts available at https://www2.ccwdata.org/web/guest/medicare-charts/medicare-enrollment-charts.

The study population included all persons who received federal housing assistance in a given calendar year during the study period (2018–2020) and were enrolled in an MA plan for at least one month during that calendar year. Individuals may have been enrolled in an MA plan for multiple months during a calendar year or enrolled in multiple MA plans during a calendar year. Property-level analyses (e.g., count of HUD-assisted properties, count of individuals or MA plans in a property) were restricted to individuals who lived in a HUD-assisted property (primarily persons receiving public housing or assisted multifamily types of assistance). To meet disclosure requirements, select property-level analyses presented in this report and the associated

interactive web-based dashboard were further restricted to HUD-assisted properties with greater than 10 residents with MA coverage.

Using the final dataset, we estimated MA enrollment among HUD-assisted individuals in each calendar year during the study period and analyzed the type and ownership of MA plans in which this population was enrolled, HUD programs through which this population received assistance, and the demographic composition and geographic distribution of HUD-MA individuals. Key findings are presented in the body of this report; refer to Appendix B for detailed findings.

FINDINGS

Between 2018 and 2020, 11.6 million individuals received federal housing assistance (Appendix B, Table B.1). Among those HUD-assisted individuals, 2.9 million had Medicare (traditional or MA) coverage and 1.5 million were enrolled in MA.[§§§] Annually, the total number of HUD-assisted individuals and HUD-assisted individuals covered by Medicare declined by 2% and 4%, respectively, between 2018 and 2020 (Table 2). However, during those same years, the number of HUD-assisted individuals enrolled in MA increased by nearly 200,000, an approximately 19% increase. Growth in MA enrollment among HUD-assisted individuals was greater than the approximately 13% growth in MA enrollment overall (Table 2).

Among adults ages 65 and older, the number receiving federal housing assistance increased by 5%, from 1.5 million to 1.6 million, between 2018 and 2020. During those same years, the number of HUD-assisted older adults enrolled in Medicare increased by 4% (from 1.48 to 1.53 million) and the number enrolled in MA increased by 19% (from approximately 720,000 to 854,000) (Appendix B, Table B.1).

In 2020, the most recent year for which data were available, 9.3 million individuals received federal housing assistance (Table 2). Twenty-six percent of HUD-assisted individuals (2.5 million) had Medicare coverage and 13% of HUD-assisted individuals (1.2 million) were enrolled in an MA plan. Ninety-six percent of HUD-assisted older adults had Medicare coverage and 54% were enrolled in an MA plan (Appendix B, Table B.2).

Table 2: Enrollment in Medicare and Receipt of Federal Housing Assistance (in Millions), 2018–2020

		2018	2019	2020
	Enrolled in Medicare (traditional or Medicare Advantage) (throughout the year)	62.93	64.43	65.90
	Enrolled in Medicare Advantage (for full year or partial year)	30.75	32.57	34.71
	Receiving federal housing assistance	9.51	9.42	9.32
	With Medicare coverage (HUD-Medicare)	2.56	2.52	2.45
	With Medicare Advantage coverage (HUD-MA)[1]	1.04	1.14	1.24

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: This table includes all individuals enrolled in MA for at least one month in a year and counts an individual only one time irrespective of number of plans. HUD-Medicare and HUD-MA individual counts based on matching SSN between HUD longitudinal data and CMS MBSF data for the same calendar year.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Demographic Characteristics of HUD-MA Individuals

In 2020, relative to the total Medicare- and MA-enrolled populations, higher proportions of HUD-MA individuals identified as female or a person of color and lived on less than $25,000 annually (Figure 2). Although the majority (69%) of HUD-MA individuals were ages 65 and older, the proportion of HUD-MA

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[§§§] Some individuals had different HUD and Medicare/MA benefit coverage time periods. For results provided by calendar year, only individuals receiving federal housing assistance and enrolled in MA in the same calendar year were included.

individuals younger than age 65 (who likely qualified for Medicare due to disability) was twice that of all MA enrollees (31% versus 15%). HUD administrative data identified 56% of HUD-MA individuals who experienced some disability[****] (Appendix B, Table B.4); however, this percentage is likely an underestimate of the prevalence of disabilities in this population.[30]

Sixty-one percent of HUD-MA individuals also had full-benefit Medicaid coverage[††††] (considered "dually eligible") for the entire time they had MA coverage during the study period (Appendix B, Table B.9); among all MA enrollees, 12% had full-benefit Medicaid coverage (not shown). Full-benefit Medicaid coverage refers to coverage of a more extensive package of services (e.g., long-term services and supports and behavioral health, transportation, and vision services) than only coverage of Medicare premiums and cost-sharing available through Medicare Savings Programs.

Figure 2. Proportion of Individuals by Select Demographic Characteristics, 2020
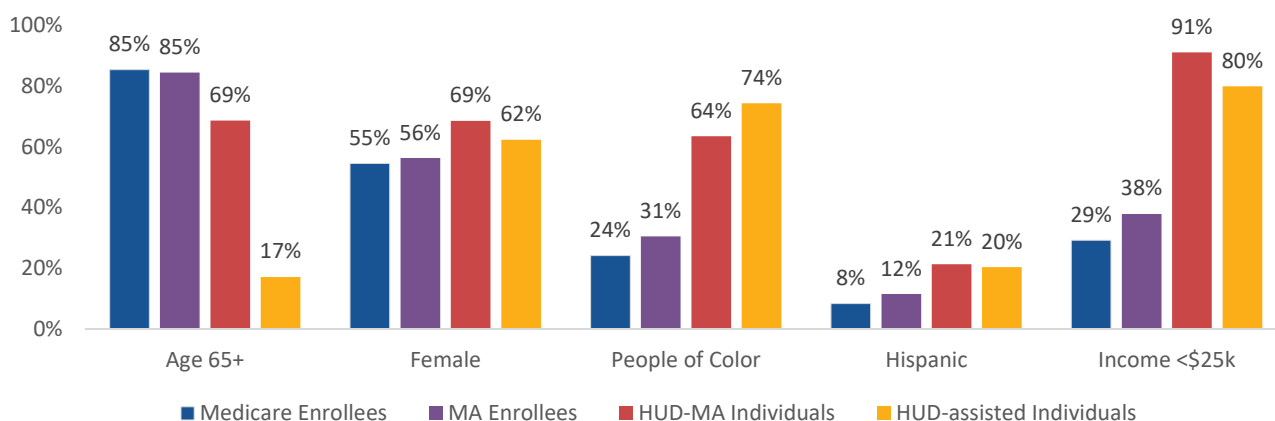
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: In this report, the term "People of Color" includes individuals of all races and ethnicities (Black, Asian, American Indian, Native Hawaiian or Other Pacific Islander, multiple races), excluding White non-Hispanic. Hispanic refers to individuals indicating Hispanic ethnicity. Estimated percentage of HUD-MA individuals with less than $25,000 was calculated using HUD's methodology for household income.

Sources: Medicare enrollee (includes both traditional and MA) and MA enrollee estimates are based on authors' analysis of the 2021 Medicare Current Beneficiary Survey COVID-19 Winter Supplement Public Use File, available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/MCBS-Public-Use-File. HUD-assisted individual and HUD-MA individual estimates were calculated using the 2020 HUD longitudinal data and CMS Master Beneficiary Summary File merged data. The estimated percentage of HUD-assisted individuals with less than $25,000 in income was calculated using 2020 HUD longitudinal, person-level file data available for internal HUD use only.

Duration of MA Enrollment Among HUD-assisted Individuals

In each year from 2018 through 2020, the majority of HUD-MA individuals had MA coverage for all 12 months in a given year and did not switch MA plans. More than 80% of HUD-MA individuals had MA coverage for all 12

[****] Disability is based on mbr_dsblty_indr field captured in HUD longitudinal data, which is not consistent with Supplemental Security Income, Social Security, or Medicaid disability definitions. Definitions to establish eligibility or obtain HUD program benefits as a person with disabilities vary by program. See Appendix B: Applicable Definition of Disability for Determining HUD Eligibility in *A Primer on HUD Programs and Associated Administrative Data*, available at https://www.cdc.gov/nchs/data/datalinkage/primer-on-hud-programs.pdf.

[††††] Medicaid, a joint federal and state program, provides health coverage to some people with limited income and resources; eligibility and covered services vary by state. Full Medicaid coverage was identified based on DUAL_ELGBL_CD in the CMS MBSF data. An individual was flagged to have full Medicaid coverage if the indicator had values 02, 04, or 08 and had a valid MA plan ID (non-missing) for the month.

months in a given year. Approximately 90% were enrolled in a single MA plan over the course of a year (although they may have been enrolled for fewer than 12 months) (Table 3; Appendix B, Table B.7).

Among the approximately 1.5 million HUD-assisted individuals who were enrolled in an MA plan between 2018 and 2020, almost 810,000 individuals (54%) had MA coverage in all three years (Table 4). Among those with MA coverage for all three years, just over 612,000 (76%) were enrolled in the same plan for all three years. Another almost 20% of HUD-MA individuals were enrolled in an MA plan for two consecutive years (85% of which had the same plan for both years). Individuals may have had MA coverage for fewer than three years during the study period for multiple reasons, including death or not qualifying for Medicare coverage.

Table 3. Duration of Medicare Advantage Enrollment During a Single Year Among HUD-assisted Individuals, 2018–2020

	2018	2019	2020
Total enrolled in MA	**1,043,670**	**1,143,943**	**1,243,128**
Enrolled for part of the year[a]	179,319	179,829	155,982
Enrolled for the full year[b]	864,164	963,954	1,086,988
% Full year	**82.8%**	**84.3%**	**87.5%**
Multiple plans during the year	96,579	111,096	125,521
Single plan during the year	946,904	1,032,847	1,117,607
% Single plan	**90.7%**	**90.3%**	**89.9%**

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: (a) Includes individuals enrolled in an MA plan for fewer than 12 months in a calendar year; individuals may be enrolled in multiple MA plans during the year. (b) Includes individuals enrolled in an MA plan for all 12 months in a calendar year; individuals may be enrolled in multiple MA plans during the year.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Table 4. Duration of MA Enrollment During All Study Years Among HUD-assisted Individuals, 2018–2020

	Number of HUD-assisted individuals
Total enrolled in MA, 2018–2020	1,500,385
Enrolled in MA all 3 years[a]	809,886
With the same plan all 3 years	612,233
Enrolled in MA for 2 consecutive years[b]	296,578
With the same plan both years	252,509
Enrolled in MA for 1 year or for nonconsecutive years	393,921

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: (a) Includes all HUD-assisted individuals who were identified and were enrolled in MA for at least one month during each year. (b) Includes HUD-assisted individuals who were enrolled in MA for at least one month during two consecutive years, excluding those who were enrolled in MA during all three years.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Ownership and Types of Medicare Advantage Plan

Between 2018 and 2020, approximately 40% of all HUD-MA individuals were enrolled in plans offered by two parent organizations: UnitedHealth Group and Humana. In 2020, approximately two-thirds of HUD-MA individuals were covered by plans offered by five parent organizations: 29% by UnitedHealth Group, 13% by Humana, 8% by Anthem, 8% by Centene, and 5% by Healthfirst (Appendix B, Figure B.1). Overall MA enrollment is also highly concentrated, with UnitedHealthcare and Humana covering 44% of all MA enrollees in 2020.[31]

From 2018 through 2020, the number of MA plans in which HUD-MA individuals were enrolled increased from 561 to 655, consistent with national increases in the number of MA plans available.[32] These plans were associated with more than 270 parent organizations. The largest number of plans operated in New York, California, Florida, and Texas, and most plans were concentrated in metropolitan areas.

Parent organizations can offer various types of MA plans, including traditional health maintenance organizations (HMOs) or preferred provider organizations (PPOs), which receive a capitated monthly amount per member. HUD-MA individuals overwhelmingly chose HMO plans: 72% of HUD-MA individuals chose an MA HMO, and 91% of the HUD-assisted properties with residents enrolled in MA had residents who chose an MA HMO (Appendix B, Table B.8). Among all MA enrollees, not just HUD-assisted individuals, a majority also were enrolled in HMO plans.[33]

HUD Program Categories Through Which HUD-MA Individuals Received Assistance

Table 5 presents the proportion of HUD-MA individuals receiving HUD assistance through each HUD program category in 2020, as well as the percentage of HUD-assisted individuals in each HUD program category that had MA coverage. The proportion of HUD-MA individuals served by each HUD program category varied significantly. More HUD-MA individuals (42%) received voucher-based assistance than assistance through any other HUD program. Thirty-two percent of (~398,000) HUD-MA individuals received project-based Section 8 assistance, and 19% (~234,000) of HUD-MA individuals lived in public housing. Six percent (~75,000) and 0.6% (~7,000) of HUD-MA individuals received assistance through HUD programs for older adults (Section 202) and individuals with disabilities (Section 811), respectively.

Table 5. Proportion of HUD-assisted Individuals and HUD-MA Individuals by HUD Program Category, 2020

Program Category	Distribution by HUD program category		% of individuals in each HUD program category enrolled in MA[b]
	All HUD-assisted individuals (N = 9.3 million)	HUD-MA individuals (N = 1.2 million)	
All Programs	**100.0%**	**100.0%**	**13.3%**
Section 202 for older adults	1.4%	6.0%	56.7%
Section 811 for individuals with disabilities	0.4%	0.6%	22.3%
Project-Based Section 8 (PBS8)	22.0%	32.0%	19.4%
Other assisted multifamily	0.4%	0.6%	16.4%
Public housing	19.6%	18.8%	12.9%
Vouchers[a]	56.2%	41.9%	9.9%

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: Includes all individuals receiving any HUD program category (public housing, assisted multifamily, housing choice vouchers).
(a) Vouchers include PBVs (project-based vouchers), Section 8 certificates and vouchers, and homeownership. (b) The percentage of individuals enrolled in MA in each program is calculated as the number of HUD-MA individuals divided by the number of HUD-assisted individuals receiving the specific HUD program category assistance.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

However, among HUD program categories, Section 202 for older adults and Section 811 for individuals with disabilities had the largest percentage of individuals participating in each program enrolled in MA (57% and 22%, respectively). Although these programs serve fewer people than other HUD programs (e.g., vouchers, project-based Section 8, and public housing) (Appendix B, Table B.11), HUD-MA individuals participating in these programs make up a disproportionate share of all HUD-assisted individuals enrolled in MA.

Findings regarding MA enrollment among HUD-assisted individuals in each HUD program were consistent across 2018, 2019, and 2020 (Appendix B, Table B.11, Figures B.1, B.2). Findings also were similar for HUD-assisted individuals ages 65 and older (Appendix B, Figures B.3, B.4) and for HUD-assisted individuals residing in HUD-assisted properties that had more than 10 residents with MA coverage (Appendix B, Figure B.8).

HUD-assisted Properties with MA Enrollees

Between 2018 and 2020, HUD provided federal housing assistance via 33,759 properties (Appendix B, Table B.12), providing assistance to more than 30,000 properties annually (Table 6). In 2020, among 30,114 HUD-assisted properties, 29,716 (99%) had at least one Medicare (traditional or MA) enrollee as a resident, and 26,974 (90%) had at least one MA enrollee as a resident (Appendix B, Table B.12).

In 2020, 16,249 HUD-assisted properties (54%) had more than 10 residents enrolled in MA, with almost 755,000 MA enrollees residing at these properties (Table 6). Six hundred and sixty properties had more than 10 residents enrolled in MA who were all enrolled in the same MA plan.

Table 6. Number of HUD-assisted Properties and MA Enrollees Residing in HUD-Assisted Properties

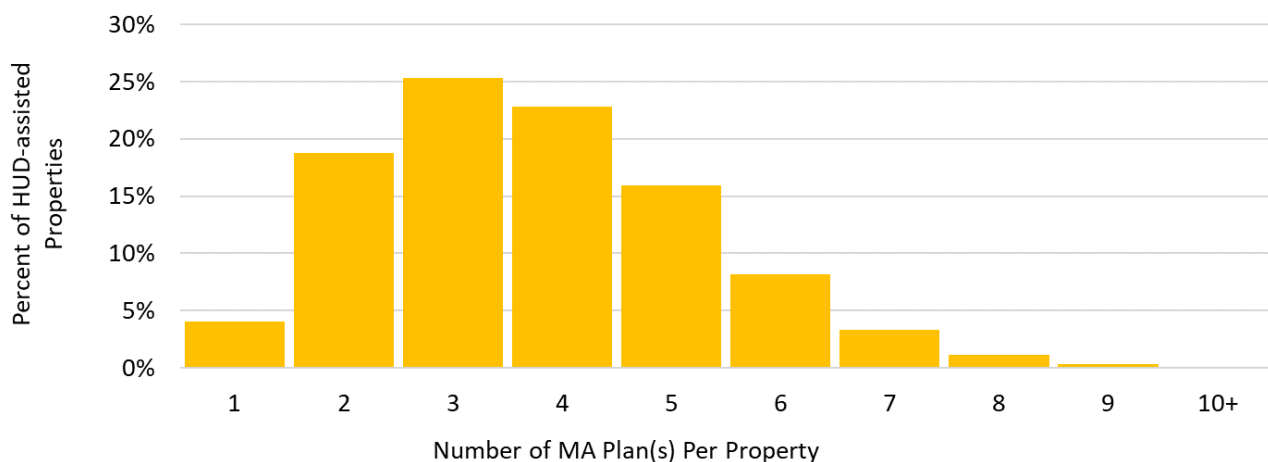|	2018	2019	2020
Total HUD-assisted properties	31,720	30,313	30,114
With more than 10 MA enrollees[a]	14,504	15,374	16,249
Number of MA enrollees residing at properties	*647,021*	*702,784*	*754,823*
With more than 10 MA enrollees and all enrollees covered by one MA plan	840	852	660
Number of MA enrollees residing at properties	*20,942*	*20,561*	*16,045*

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: The terms *property* and *project* are distinct. Property_ID was created to identify a property on the basis of project or development number; hence, some properties were in multiple locations (city, county, or state). Property counts presented in this table were calculated on the basis of the property_id, irrespective of location. No restriction was placed on the number of MA plans with enrollees residing at the property.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

The number of MA plans with enrollees residing at a given HUD-assisted property varied (Figure 3; Appendix B, Table B.14). Among the HUD-assisted properties with more than 10 MA enrollees, 83% had between two and five MA plans with enrollees residing at the property: 19% of properties had 2 plans, 25% had three plans, 22% had four plans, and 16% had five plans. Fifteen HUD-assisted properties with more than 10 MA enrollees had 10 or more MA plans represented at a property.

Figure 3. Distribution of the Number of MA Plans Present in HUD-Assisted Properties

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Geographic Distribution of HUD-MA Individuals

HUD-MA individuals were unevenly distributed across the United States.[‡‡‡‡] In 2020, 41% of HUD-MA individuals resided in five states: New York, California, Florida, Texas, and Pennsylvania (Figure 4). Among all MA enrollees, not just HUD-assisted individuals, these states also had the most enrollees, with the greatest number residing in California, followed by Florida, Texas, New York, and Pennsylvania.[34] The counties in which the most HUD-MA individuals resided were Bronx County, NY (~40,900); New York County, NY (~37,600); Los Angeles County, CA (~34,000); Kings County, NY (~33,800); and Miami-Dade County, FL (~25,600) (Figure 5). Annually, approximately one-third of HUD-MA individuals lived in a metropolitan statistical area (MSA), but data regarding whether a person resided in an MSA was unavailable for approximately 60% of HUD-MA individuals (Appendix B, Table B.15).

Figure 4. Number of HUD-MA Individuals (in Thousands) by State, 2020
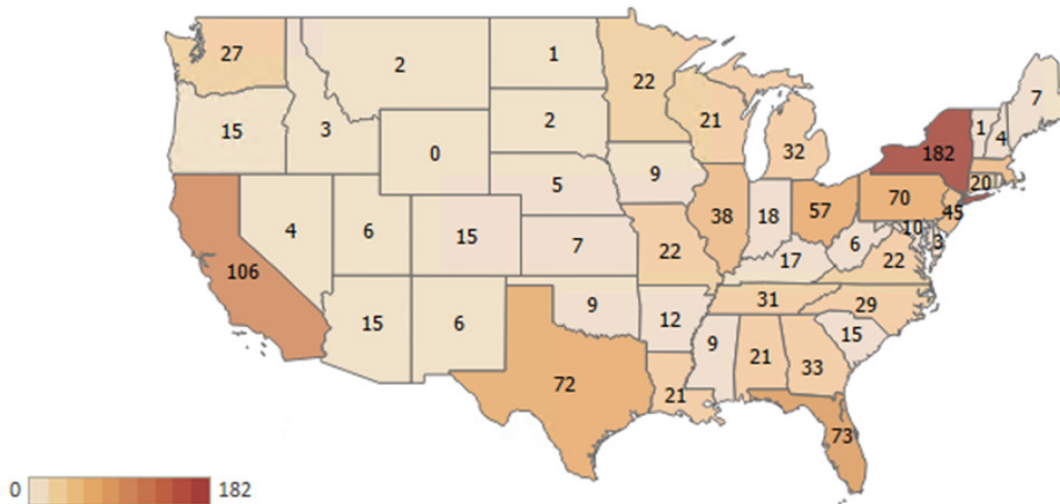
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: This map depicts the number of HUD-MA indiviudals (in thousands) in each state in the contiguous United States. In 2020, 184 HUD-MA individuals resided in Wyoming, so, with rounding, the state shows 0. Alaska and Hawaii are not shown. In 2020, 36 HUD-MA individuals resided in Alaska and approximately 8,000 HUD-MA individuals resided in Hawaii.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

[‡‡‡‡] This report presents findings from 2020. Findings from 2018 and 2019 are similar and can be found using the interactive web-based dashboard that is forthcoming.

Figure 5. Number of HUD-MA Individuals (in Thousands) by County, 2020
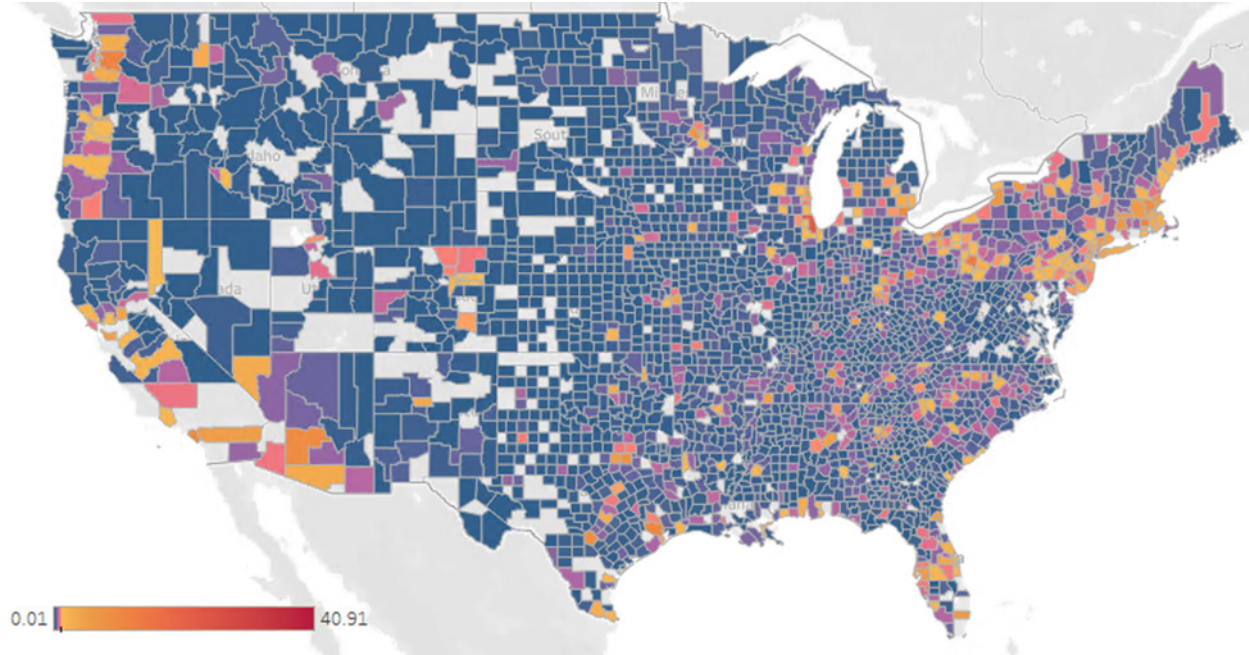

0.01 ▬▬▬▬▬ 40.91

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: This map depicts the number of HUD-MA indiviudals (in thousands) in each county in the contiguous United States. Counts are presented only for counties with more than 10 HUD-MA individuals.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

In 2020, California, New York, and Pennsylvania had the most HUD-assisted properties in which at least one MA enrollee resided, as well as the most properties in which more than 10 MA enrollees resided (Table 7). For 17 states, more than 50% of their HUD-assisted properties had more than 10 MA enrollees. More than 70% of HUD-assisted properties in New York and Rhode Island had more than 10 MA enrollees.

Table 7. Count and Percentage of HUD-Assisted Properties in Which MA Enrollees Resided, by State, 2020

	Properties with at least 1 MA enrollee	Properties with >10 MA enrollees
Alaska	16 (16.8%)	0 (0%)
Alabama	608 (89.5%)	377 (55.5%)
Arkansas	444 (89.7%)	194 (39.2%)
Arizona	237 (92.9%)	151 (59.2%)
California	1,819 (86.0%)	1,011 (47.8%)
Colorado	383 (89.5%)	185 (43.2%)
Connecticut	509 (90.6%)	316 (56.2%)
District of Columbia	155 (92.8%)	75 (44.9%)
Delaware	116 (74.4%)	45 (28.8%)
Florida	932 (88.8%)	594 (56.6%)
Georgia	775 (88.4%)	461 (52.6%)

	Properties with at least 1 MA enrollee	Properties with >10 MA enrollees
Hawaii	148 (89.7%)	79 (47.9%)
Iowa	288 (89.2%)	144 (44.6%)
Idaho	130 (86.7%)	51 (34.0%)
Illinois	1,134 (85.7%)	568 (42.9%)
Indiana	580 (92.1%)	295 (46.8%)
Kansas	337 (79.9%)	122 (28.9%)
Kentucky	640 (92.0%)	296 (42.5%)
Louisiana	472 (90.8%)	238 (45.8%)
Massachusetts	1,002 (86.2%)	686 (59.0%)
Maryland	394 (65.4%)	156 (25.9%)
Maine	291 (90.7%)	136 (42.4%)
Michigan	859 (93.1%)	539 (58.4%)
Minnesota	790 (91.4%)	406 (47.0%)
Missouri	665 (93.1%)	370 (51.8%)
Mississippi	394 (88.5%)	172 (38.7%)
Montana	100 (73.0%)	34 (24.8%)
North Carolina	895 (74.6%)	433 (36.1%)
North Dakota	66 (50.4%)	8 (6.1%)
Nebraska	288 (82.5%)	88 (25.2%)
New Hampshire	205 (84.7%)	80 (33.1%)
New Jersey	774 (83.0%)	497 (53.3%)
New Mexico	165 (89.2%)	82 (44.3%)
Nevada	75 (87.2%)	38 (44.2%)
New York	1,643 (91.1%)	1,292 (71.7%)
Ohio	1,452 (92.7%)	838 (53.5%)
Oklahoma	360 (86.5%)	109 (26.2%)
Oregon	331 (85.8%)	146 (37.8%)
Pennsylvania	1,486 (92.5%)	1,043 (64.9%)
Rhode Island	314 (97.5%)	233 (72.4%)
South Carolina	460 (85.7%)	245 (45.6%)
South Dakota	156 (70.0%)	19 (8.5%)
Tennessee	711 (94.3%)	444 (58.9%)
Texas	1,408 (93.7%)	860 (57.2%)
Utah	116 (94.3%)	62 (50.4%)
Virginia	532 (86.5%)	297 (48.3%)
Vermont	120 (76.9%)	6 (3.8%)
Washington	502 (88.8%)	290 (51.3%)
Wisconsin	730 (92.6%)	372 (47.2%)
West Virginia	236 (79.7%)	108 (36.5%)
Wyoming	26 (34.7%)	1 (1.3%)

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: Property_ID was created to identify a property on the basis of project or development number; hence, some properties were in multiple locations (city, county, or state). For this table, property count was calculated on the basis of the property_id in each state (as identified in the HUD longitudinal data). If a property_id showed that a property was located in multiple states, that property was included in the property count of each respective state. If a property_id showed that a property had multiple locations (e.g., city or county) within a state, the property was counted only one time.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

DISCUSSION

Between 2018 and 2020, approximately 1.5 million HUD-assisted individuals had MA coverage. During that time, the annual number of HUD-MA individuals increased approximately 19%, from 1.0 million to 1.2 million. The increase in HUD-MA individuals corresponded with a national increase in overall MA enrollment and a corresponding decline in enrollment in traditional Medicare.[35] Relative to the MA-enrolled population overall, approximately twice the proportion of HUD-MA individuals were younger than 65 (31% versus 15%), likely qualifying for Medicare because they had a disability. HUD-MA individuals were approximately twice as likely to identify as a person of color (64% versus 31%) and almost two and a half times as likely to have income of less than $25,000 (91% versus 38%). HUD-MA individuals also were much more likely to have full Medicaid coverage compared with the overall MA population (61% versus 12%).

Joint efforts between MA plans, their parent organizations, public housing agencies, and HUD-assisted properties to coordinate care and deliver supportive services could help improve health outcomes for HUD-MA individuals. More than one-half (54%) of HUD-MA individuals had MA coverage during all three years of the study period, and an additional almost 20% had MA coverage during two consecutive years. The majority of people who had coverage across multiple years remained enrolled in the same MA plan. Many of those MA plans have opportunities to make longer-term investments in their health.

In addition, MA plans operating in geographic areas with concentrations of HUD-MA individuals may be able to realize efficiencies in the delivery of supportive services. In 2020, about 40% of HUD-MA individuals lived in five states: New York, California, Florida, Texas, and Pennsylvania. Certain counties in those states also had high concentrations of HUD-MA individuals. In addition, place-based interventions could be provided at the more than 16,000 HUD-assisted properties with more than 10 residents enrolled in MA (collectively housing more than 750,000 MA enrollees). Housing-with-services models, such as SASH[§§§§] and IWISH,[*****] offer examples of how to provide care coordination and coordinate supportive services. However, individual stakeholders will need to assess the necessary number of individuals with MA coverage or the number of MA plans with enrollees at a property when deciding if and how to provide care coordination or supportive services.

MA plans and parent organizations could partner with local public health departments, administrators, public housing agencies, and managers of HUD-assisted properties to—

- Identify concentrations of MA enrollees receiving federal housing assistance residing in HUD-assisted properties and certain geographic areas (e.g., state, MSA, county);

- Analyze health plan data to better understand the health status and health care needs of HUD-MA individuals residing in a property or geographic area;

- Assess HUD-MA individuals for social needs (screening may be conducted for all MA plan members or targeted to certain individuals based on specific criteria); and

- Provide place-based interventions (e.g., care coordination and supportive services) to support MA enrollees receiving project-based federal housing assistance.

MA plans may want to consider how supplemental benefits could be used to help address the health or overall function of members receiving federal housing assistance.

An interactive web-based dashboard that accompanies this report is forthcoming. The dashboard allows interested stakeholders to explore the distribution of HUD-MA individuals nationally, as well as by state,

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§§§§ Support and Services at Home program.
***** Integrated Wellness in Supported Housing model.

county, and HUD-assisted property. Users also can assess the number of HUD-MA individuals by MA plan and parent organization.

CONCLUSION

Geographic concentrations of MA enrollees who receive federal housing assistance present opportunities to facilitate the delivery of care coordination and supportive services for a population at higher risk for adverse health outcomes. MA plans, parent organizations, public housing agencies, and HUD-assisted properties could consider taking a number of actions to support this population.

APPENDIX A: DETAILED METHODOLOGY

Study Population

The study population included all individuals receiving federal housing assistance that also had health care coverage through a Medicare Advantage plan for at least one month in a particular calendar year (CY) (Figure A.1). Table A.1 details the study population specifications.

Figure A.1: Study Population (HUD-MA Individuals) (Shown with 2020 Data)[a]
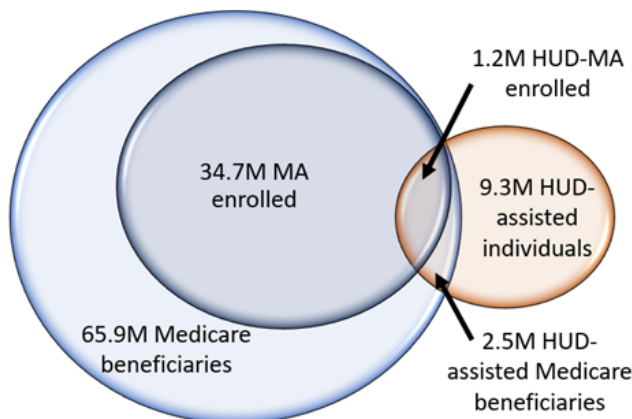
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Note: (a) The same calendar year was used for receipt of federal housing assistance and MA coverage for the study population.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data. Medicare enrollment based on Medicare enrollment charts available at https://www2.ccwdata.org/web/guest/medicare-charts/medicare-enrollment-charts.

Table A.1: Study Population Specifications

Specification	HUD-assisted individuals	Medicare Advantage-enrolled individuals
Federal housing assistance/Medicare Advantage coverage	Individuals receiving federal housing assistance, identified on the basis of the type of HUD program assistance the recipient or head of household received: • Project-based Section 8 • Section 236 (Interest Reduction and Rental Assistance Payments [RAPs]) • Rent Supplement, RAP • Section 211 Below-Market Interest Rate (BMIR) mortgage insurance • Section 202 Project Rental Assistance Contract (PRAC) • Section 202/162 Project Assistance Contract (PAC) • Section 811 PRAC	All individuals in the Medicare enrollment database who were enrolled in an MA plan for at least one month during the calendar year
Time frame	CY 2018–CY 2020	CY 2018–CY 2020
Data level or unit of analysis	Unique individual receiving federal housing assistance (irrespective of whether head of household or other dependent and number of months of coverage during the calendar year)	Unique MA enrollee (irrespective of number of months of coverage or number of plans the individual was enrolled in during the calendar year)

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Data

Table A.2: Data Sources and Data Elements

Agency	Data source/table	Data elements
HUD	Longitudinal data file (Primary source for records associated with individuals receiving federal housing assistance)	Social Security number, age, gender, race, ethnicity, income, disability indicator, household size, participation in special program (e.g., HOPE), development or project number, structure type, HUD program indicator, ZIP Code, census tract, city, socioeconomic factor of location of the property
HUD	Tenant Rental Assistance Certification System (TRACS)	Metropolitan statistical area (MSA), property ID, property category name, property/owner/management name
HUD	Inventory Management System (IMS)/Public and Indian Housing (PIH) Information System (PIC)	Metropolitan statistical area (MSA), property ID, owner/management
CMS	BENE ID to SSN Crosswalk	SSN, beneficiary ID
CMS	Medicare Master Beneficiary Summary File—Base (MBSF) (Primary source for records associated with individuals with Medicare coverage)	Beneficiary ID, MA plan number by month, plan type, age, date of birth (DOB), ZIP Code, Part C contract number, HMO coverage months, Medicare-Medicaid dual eligibility
CMS	Medicare Plan Characteristics File	Beneficiary ID, benefits package, premium, cost-sharing

HMO = health maintenance organization. HOPE = Homeownership and Opportunity for People Everywhere. HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage. SSN = Social Security number.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Data Linkage Methodology

We linked HUD and CMS data using a multi-step process:

1. Three years of HUD longitudinal data were used to identify Social Security numbers (HUD SSNs) of individuals receiving federal housing assistance (irrespective of whether they were head of household or member);

2. The list of HUD SSNs was used to identify BENE_ID in the CMS "BENE ID to SSN Crosswalk" data (Beneficiary Match List); and

3. All enrollment records associated with the Beneficiary Match List were extracted for 2018–2020 (HUD-Medicare). Enrollment records contain 12 indicators for monthly MA plan coverage (ptc_plan_type_cd) that were used to identify individuals who had MA plan coverage (HUD-MA).

Refer to the "Analytic Data Preparation" Section for additional information related to preparing the final analytic data used for calculating metrics included in this report.

Figure A.2: Data Matching to Identify the Study Population

HUD-assisted individuals

HUD-Medicare individuals

HUD-MA enrollees

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

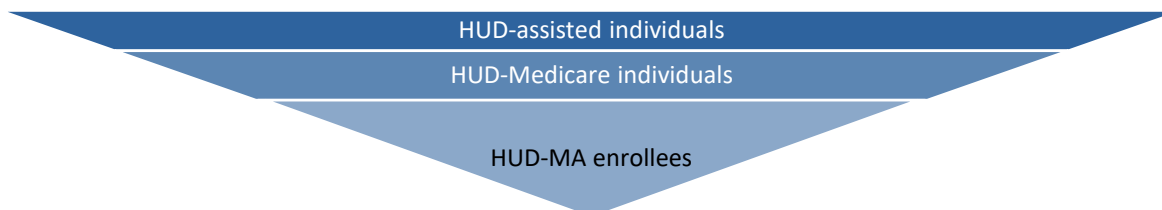**Table A.3: Medicare and HUD Data Linkage Summary, 2018–2020**

Finder file and MBSF SSN match (indicator and label)	Number of SSNs in finder file	SSNs with more than one beneficiary ID[a]	Number of MBSF beneficiary IDs
0: No match	8,656,583	-	8,656,583
1: Match	2,949,041	6,379	2,955,437
9: Invalid SSN	43,781	-	43,781
TOTAL	11,649,405		11,655,801

HUD = U.S. Department of Housing and Urban Development. MBSF = Master Beneficiary Summary File. SSN = Social Security number.

Notes: (a) Medicare beneficiary identification (ID) can change for multiple reasons; 6,363 SSNs had two beneficiary IDs, 15 SSNs had three beneficiary IDs, and one SSN had four beneficiary IDs.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Analytic Data Preparation Methodology

The final analytic data contained all individuals who received federal housing assistance (present in the HUD longitudinal data with valid SSN and HUD program identifiers) in each of the three years. The data contained—

1. Demographic characteristics captured in HUD data (e.g., gender, age, race, ethnicity, head of household, household size, and income);

2. HUD program category (e.g., Section 202);

3. HUD property identifier;

4. Geographic information captured in HUD data (e.g., city, county, state, MSA, property latitude and longitude);

5. Indicators for having Medicare coverage and MA coverage based on head of household or the member; and

6. Number of MA plans, most recent MA plan, and MA plan parent organization associated with the member in that year.

We constructed the analytic data using the following data as inputs:

1. **Input 1 (D_HUD):** HUD longitudinal data containing records for all individuals receiving federal housing assistance. The data contain a separate row for each individual, irrespective of whether the individual was head of the household or not. For example, for a family of four with two children and two adults, the data have four separate line items, one for each individual. Each record also includes the SSN for head of household. These data were developed by merging multiple components of HUD longitudinal data: (a) member-level data containing member information; (b) head of household data containing distinct records only related to head of household; and (c) HUD ID and SSN crosswalk.

2. **Input 2 (D_Finder):** Beneficiary Match List finder file containing a unique list of SSN and BENE_ID (refer to "Data Linkage Methodology" above for more information).

3. **Input 3 (D_HUDMed):** Medicare enrollment records for individuals in the Beneficiary Match List.

4. **Input 4 (D_Plan):** Medicare plan characteristics data.

Processing steps to construct the analytic data included:

Step 1. Flagged records indicating whether a match to Medicare enrollment was based on member SSN or head of household SSN:

a. Matched D_HUD to D_Finder using member SSN. If member SSN matched and member SSN was the same as head of household SSN in D_HUD, then flagged the observation as match group 2. If member SSN matched and member SSN was different from head of household SSN in D_HUD, then flagged the observation in D_HUD as match group 3.

b. Matched D_HUD to D_Finder using head of household SSN. If there was a match and member SSN was the same as head of household SSN, then classified as match group 2. If not, classified as match group 1.

c. Match groups created:

   i. Group 1—Head of household SSN only matches to the Medicare Master Beneficiary Summary File Base (MBSF)

   ii. Group 2—Member and head of household SSN match to MBSF; member SSN is the same as head of household SSN (head of household SSNs in group 1 are part of group 2, except for 43 cases across 3 years)

   iii. Group 3—Member and head of household SSN match to MBSF; member SSN is not the same as head of household SSN

   iv. No match—All records not flagged within groups 1, 2, or 3

   For all counts related to MA coverage, only records associated with groups 2 and 3 were used to avoid count duplication.

Step 2. Merged D_HUD to HUD-Med based on year and SSN

Step 3. Obtained plan characteristics from D_plan for all 12 months for matched groups 1, 2, and 3 (using member and head of household SSN/MBSF bene_ID).

a. For group 3 (member and head of household SSN are different, but both matched with Medicare enrollment), we used the plan ID information for member SSN.

b. We created coverage indicators for members and heads of household based on member and head of household MA plan IDs. If either a member or head of household had an MA plan ID, then we identified the record associated with the individual who had MA coverage. Both a member and a head of household can have MA plan IDs. Because HUD administrative data are structured to have separate records for every individual, the data contain separate line records associated with head of household and relevant plan information.

Step 4. Created variables for analysis. Refer to the "Variable Mapping" section for specific details. Variables included the following:

a. An indicator for Medicare and MA plan coverage (0/1 based on the match);

b. MA plan enrollment variables (number of MA plans in which an individual was enrolled within a year, dually eligible at any time during the months of MA enrollment);

c. Standardized groups for race, age, and HUD program benefit; and

d. A property identifier (concatenated HUD project or development number information).

Variable Mapping

As part of the analytic data development, we performed data transformations for select variables of interest. This section discusses the data transformations performed.

MA Plan

Member MA plan coverage during a year was captured by creating four fields: (1) whether the member was enrolled in an MA plan during any month in the FY; (2) the number of months the member had coverage through a MA plan (i.e., for the full 12 months or fewer than 12 months [partial]); (3) MA plan with which the member was enrolled during the last month the member had MA coverage in a year; and (4) the number of MA plans with which a member was enrolled during a single year. These fields were generated using Part C coverage information captured monthly in the CMS MBSF and Plan Characteristics File data:[†††††]

- HUD-MA indicator: 1 (i.e., had MA coverage) if PTC_PLAN_TYPE_CD and PTC_CNTRCT_ID are not null/missing for at least one month in the year, otherwise 0 (i.e., had no MA coverage);
- Number of months with MA plan coverage: number of months with non-null or non-missing PTC_PLAN_TYPE_CD and PTC_CNTRCT_ID;
- MA plan in the last month with MA coverage in a year: PLAN_NAME, PARENT_ORGANIZATION; and
- Number of MA plans member was enrolled in during a single year: number of different PLAN_NAME within a year.

Race

The member race variable in HUD's longitudinal data was used to create the race field. Because individuals can select multiple races, we created a hierarchical race category in which individuals with multiple race categories were grouped as "Multiple" race. Below is the SAS code used to create the race field that was used to develop the findings.

/* To avoid potential missing or other issues, create numeric indicator for race */

if upcase(MBR_RACE_WHITE_INDR)='Y' then white=1; else white=0;

if upcase(MBR_RACE_BLACK_INDR)='Y' then black=1; else black=0;

if upcase(MBR_RACE_ASIAN_INDR)='Y' then asian=1; else asian=0;

if upcase(MBR_RACE_AMRCN_INDIAN_INDR)='Y' then NA=1; else NA=0;

if upcase(MBR_RACE_HWN_PACIFIC_INDR)='Y' then PI=1; else PI=0;

/* Assign hierarchical race categories */

if white + black + Asian + NA + PI > 1 then race = "Multiple";

else if white=1 then race = "White";

else if black=1 then race = "Black";

else if Asian=1 then race = "Asian";

else if native=1 then race = "Native American";

else if pacific=1 then race = "Pacific Islander";

else race = "Other";

[†††††] Refer to CMS MBSF Base data documentation, available at https://resdac.org/cms-data/files/mbsf-base/data-documentation, for a description of the data elements and values.

Federal Housing Assistance Program Categories

Table A.4 provides the categorization of HUD programs into program categories and the relevant forms.

Table A.4: Federal Housing Assistance Program Categories

HUD program	Program categories	Form
CE: Section 8 Certificates	Vouchers	50058
H	Vouchers	50058
H1: Project-based Section 8	Project-Based Section 8 (PBS8)	50059
H2: Rent Supplement	Other assisted multifamily	50059
H3: RAP	Other assisted multifamily	50059
H4: Section 236	Other assisted multifamily	50059
H5: BMIR	Other assisted multifamily	50059
H6	Section 811 for individuals with disabilities	50059
H7: Section 202 PRAC	Section 202 for older adults	50059
H8: Section 811 PRAC	Section 811 for individuals with disabilities	50059
H9: Section 202/162 PAC	Section 202 for older adults	50059
MR: Mod Rehab	Other assisted multifamily	50058
P: Public Housing	Public housing	50058
PR: Moving to Work (MTW) Project-Based Voucher	Vouchers	50058 MTW
T: MTW Tenant-Based Voucher	Vouchers	50058 MTW
VO: Section 8 Vouchers	Vouchers	50058

BMIR = Below-Market Interest Rate. PAC = Project Assistance Contract. PRAC = Project Rental Assistance Contract. RAP = Rental Assistance Payment.
Notes: Vouchers include tenant-based housing choice voucher (HCV) programs (CE, H, T, and VO) and project-based Moving to Work (MTW) voucher programs. HUD-5 forms are available at https://www.hud.gov/program_offices/administration/hudclips/forms/hud5.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Property Identifier

We created a unique identifier for properties concatenating HUD project or development number fields captured in the HUD data (Table A.5).

Table A.5: HUD-assisted Property Identifier

Variable	Definition
dvlpt_num	Code that uniquely identifies a project or a development to which a public housing unit belongs
proj_name	Name of project, if applicable (TRACS Only)
proj_num	FHA number (TRACS Only)

FHA = Federal Housing Administration. TRACS = Tenant Rental Assistance Certification System.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Dual Eligible Indicators

Individuals were identified as having full Medicaid coverage based on DUAL_ELGBL_CD in the CMS MBSF data and flagged if—

1. DUAL_ELGBL_CD had values 02, 04, 08 (refer to Table A.6) and had a valid MA plan ID (non-missing) for the month.

2. Individual had full Medicaid coverage in any month with MA coverage during the year.

Individuals were identified as Qualified Medicare Beneficiary (QMB), Specified Low-Income Medicare Beneficiary (SLMB), Qualified Disabled Working Individual (QDWI), or Qualifying Individual (QI) based on DUAL_ELGBL_CD 01 / 02 /03 / 04 / 05 / 06 in the CMS MBSF data during any of the months with valid MA coverage.

Individuals were identified as not having Medicaid if the DUAL_ELGBL_CD was not between 01 and 08 in any of the months with MA coverage.

Table A.6: Mapping for Medicaid Coverage

Code value	Full/partial Medicaid coverage	QMB/SLMB/ QDWI/QI
0: Eligible is not a Medicare beneficiary		
1: Eligible is entitled to Medicare-Qualified Medicare Beneficiary (QMB) only	Partial	Yes
2: Eligible is entitled to Medicare-QMB and Medicaid coverage, including prescription drugs	Full	Yes
3: Eligible is entitled to Medicare-Specified Low-Income Medicare Beneficiary (SLMB) only	Partial	Yes
4: Eligible is entitled to Medicare-SLMB and Medicaid coverage, including prescription drugs	Full	Yes
5: Eligible is entitled to Medicare- Qualified Disabled Working Individual (QDWI)	Partial	Yes
6: Eligible is entitled to Medicare-Qualifying Individuals (QI)	Partial	Yes
8: Eligible is entitled to Medicare-Other Dual Eligibles (Non-QMB, SLMB, QDWI, or QI), including prescription drugs	Full	
9: Eligible is entitled to Medicare—but without Medicaid coverage (This code is to be used only with specific CMS approval)		
10: Separate CHIP Eligible is entitled to Medicare		
Null/missing: Source value is missing or unknown		

CHIP = Children's Health Insurance Program. CMS = Centers for Medicare & Medicaid Services. QDWI = Qualified Disabled Working Individual. QI = Qualifying Individual. QMB = Qualified Medicare Beneficiary. SLMB = Specified Low-Income Medicare Beneficiary.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Limitations

Table A.7: Data and Analytical Limitations

Limitation	Description	Mitigation
Multiple records for an individual	A small number of individuals in the HUD administrative data had multiple records in the same year. Individuals had multiple records for various reasons, including being associated with children, having different residence addresses, and receiving assistance through different HUD program categories.	When producing counts, we ensured that distinct SSNs were counted for relevant metrics to avoid double counting. Depending on the analysis (e.g., count by HUD program), we included individuals for relevant programs and present findings with notes to assist with interpretability.
Multiple plans	Some individuals with Medicare Advantage coverage were enrolled in multiple plans during a calendar year.	For **metrics related to MA penetration** (e.g., total number and percentage of individuals having MA), we counted an individual only once in a year, irrespective of the number of different plans in which an individual was enrolled. For **metrics associated with stability of plan coverage** (e.g., single/multiple plans), we used monthly plan information to create a summary variable that counts the number of distinct plans a member had in a year. For **metrics displaying count of members by plan** (e.g., list of property and plan with count of individuals), we used the more recent plan information.
Cell size	Restrictions on reporting counts of individuals (i.e., not reporting counts of fewer than 10 for HUD and CCW and fewer than 11 for exporting data outside the CMS data warehouse environment) limit the information available for certain geographic areas, properties, or Medicare Advantage plans.	These restrictions should be taken into account when interpreting findings (e.g., counts from property-level findings in a state may not add to the state-level counts). We included notes to assist with interpretation, as applicable.

CCW = Chronic Conditions Data Warehouse. CMS = Centers for Medicare & Medicaid Services. HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Source: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

APPENDIX B: DETAILED FINDINGS

This appendix provides detailed results not included in the main section of the report.

How many individuals received federal housing assistance (HUD-assisted)? Among HUD-assisted individuals, how many had Medicare coverage (HUD-Medicare) and Medicare Advantage coverage (HUD-MA)?

Table B.1: Total HUD-assisted, HUD-Medicare, and HUD-MA Individuals, by Year and Linkage Logic

Individuals receiving federal housing assistance (HUD-assisted individuals)	2018	2019	2020	2018–2020
Total	9,512,659	9,417,880	9,318,101	11,648,004
All ages - Match by SSN				
HH member match (HUD-Medicare)	2,558,746	2,518,407	2,454,457	2,949,041
% with Medicare coverage among HUD	*26.9%*	*26.7%*	*26.3%*	*25.3%*
With Medicare Advantage (HUD-MA)—SSN match only	1,043,483	1,143,783	1,242,970	1,500,385
% with MA coverage among HH SSN matches	*40.8%*	*45.4%*	*50.6%*	*50.9%*
% with MA coverage among HUD-assisted individuals	*11.0%*	*12.1%*	*13.3%*	*12.9%*
Among individuals with MA coverage across all ages: Other matches				
HH Member SSN + DOB match	1,009,919	1,108,416	1,205,698	1,453,982
% matches among MA SSN only	*96.8%*	*96.9%*	*97.0%*	*96.9%*
HH Member SSN + DOB + Gender match	996,620	1,093,219	1,188,487	1,433,116
% matches among MA SSN only	95.5%	95.6%	95.6%	95.5%
Ages 62+				
HUD-assisted individuals ages 62+	1,824,703	1,873,779	1,910,782	
% of all HUD-assisted indiviudals	19.2%	19.9%	20.5%	
HUD-Medicare match	1,755,928	1,781,659	1,761,628	
% with Medicare coverage	96.2%	95.1%	92.2%	
HUD-MA–SSN match	785,830	862,543	939,437	
% with MA coverage among HUD-Medicare individuals	44.8%	48.4%	53.3%	
% with MA coverage among HUD-assisted individuals	43.1%	46.0%	49.2%	
Ages 65+				
HUD-assisted individuals ages 65+	1,525,369	1,563,541	1,596,114	
% of all HUD-assisted individuals	16.0%	16.6%	17.1%	
HUD-Medicare match	1,481,866	1,515,037	1,535,101	
% with Medicare coverage	97.1%	96.9%	96.2%	
HUD-MA—SSN match	719,598	786,324	853,610	

Medicare Advantage Coverage Among Individuals Receiving Federal Housing Assistance

Individuals receiving federal housing assistance (HUD-assisted individuals)	2018	2019	2020	2018–2020
% with MA coverage among HUD-Medicare individuals	48.6%	51.9%	55.6%	
% with MA coverage among HUD-assisted individuals	47.2%	50.3%	53.5%	

DOB = date of birth. HH = head of household. HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
MBSF = Master Beneficiary Summary File. SSN = Social Security number.

Notes: MA plan was identified using Part C plan type indicator (ptc_plan_type_cd) in the MBSF data. Individuals can have multiple plans in a year or may have MA coverage for part of the year. Individuals are counted only once in the MA plan counts in a year, as long as the individual had a valid MA plan indicator for at least one month in the year.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

What proportion of HUD-assisted individuals had Medicare and MA coverage?

Table B.2: Proportion of HUD-assisted Individuals with Medicare Coverage (traditional and MA) and MA Coverage, by Year and Select Demographic Characteristics

Demographic characteristics		Proportion of HUD-assisted individuals with Medicare coverage (HUD-Medicare) (%)				Proportion of HUD-assisted individuals with MA coverage (HUD-MA) (%)			
		2018	2019	2020	2018–2020	2018	2019	2020	2018–2020
Total	All individuals	26.9	26.7	26.3	25.3	11.0	12.1	13.3	12.9
Age	Elderly (62+)	96.2	95.1	92.2	92.6	43.1	46.0	49.2	49.7
	Non-elderly (0–61)	10.4	9.8	9.4	9.9	3.4	3.7	4.1	4.2
	Elderly (65+)	97.1	96.9	96.2	96.2	47.2	50.3	53.5	53.9
	Non-elderly (0–64)	13.5	12.8	11.9	12.9	4.1	4.6	5.0	5.2
Gender	Female	28.7	28.4	28.0	26.9	12.1	13.4	14.7	14.2
	Male	23.9	23.8	23.5	22.6	9.1	10.1	11.1	10.7
Race	White	36.2	36.2	35.8	33.9	14.0	15.5	17.1	16.3
	Black	17.7	17.6	17.3	16.8	7.8	8.8	9.7	9.4
	Asian	52.1	52.7	52.6	50.4	19.7	21.9	23.9	23.6
	American Indian	21.8	21.4	21.0	19.6	7.0	7.8	8.7	8.1
	Pacific Islander	13.8	13.3	13.0	13.4	6.1	6.4	6.9	7.1
	Multiple races	15.6	15.9	16.1	14.8	7.2	8.3	9.3	8.3
	Other[b]	27.3	27.3	27.3	25.1	13.2	14.5	15.8	14.4
Ethnicity	Hispanic	22.0	22.6	22.4	21.1	11.5	13.1	14.0	13.3
	Non-Hispanic	28.0	27.8	27.4	26.4	10.8	11.9	13.2	12.9
Disability[a]	No disability	15.4	15.2	14.8	14.9	6.5	7.1	7.7	7.6
	Disability	67.0	65.3	64.2	63.7	26.5	29.0	31.8	31.8
Household size	Household size 1	74.8	73.2	71.6	70.9	31.7	34.2	37.1	36.8
	Household size 2	29.9	29.3	28.4	27.0	11.7	12.9	14.0	13.1
	Household size 3–5	5.1	4.8	4.6	4.8	1.7	1.8	2.0	2.1
	Household size 6+	2.0	1.8	1.7	1.9	0.6	0.6	0.7	0.7

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: For proportion, denominator is the count of distinct individuals who received federal housing assistance and had a specific demographic characteristic based on information captured in HUD longitudinal data during the specific period; numerator is, among denominator population, the number having Medicare (including MA) or MA coverage in the period. Demographics for individuals can change over time. For this table, used the first-year information for an individual. (a) Disability is based on mbr_dsblty_indr field captured

in the HUD longitudinal data. Definitions to establish eligibility or obtain HUD program benefits as a person with disabilities vary by program. See "Appendix B: Applicable Definition of Disability for Determining HUD Eligibility" in *A Primer on HUD Programs and Associated Administrative Data,* available at https://www.cdc.gov/nchs/data/datalinkage/primer-on-hud-programs.pdf. (b) "Other" race includes missing or unknown race.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

What was the demographic composition of HUD-assisted individuals, including those with Medicare (Traditional and MA and MA-only) coverage?

Table B.3: Number of HUD-assisted, HUD-Medicare, and HUD-MA Individuals (in Thousands), by Select Demographic Characteristics (2018-2020)

		HUD-Assisted				HUD-Medicare				HUD-MA			
		2018	2019	2020	2018–2020	2018	2019	2020	2018–2020	2018	2019	2020	2018–2020
Total	All individuals	9,513	9,418	9,318	11,648	2,559	2,518	2,454	2,949	1,043	1,144	1,243	1,500
Age	Elderly (62+)	1,825	1,874	1,911	2,281	1,756	1,782	1,762	2,112	786	863	939	1,133
	Non-elderly (0–61)	7,688	7,544	7,407	9,555	803	737	693	950	258	281	304	404
	Elderly (65+)	1,525	1,564	1,596	1,916	1,482	1,515	1,535	1,844	720	786	854	1,032
	Non-elderly (0–64)	7,987	7,854	7,722	9,921	1,077	1,003	919	1,277	324	357	389	519
Gender	Female	5,943	5,878	5,810	7,199	1,704	1,672	1,627	1,938	719	786	852	1,022
	Male	3,550	3,519	3,487	4,450	847	838	819	1,007	321	354	386	476
Race	White	4,073	3,961	3,857	5,055	1,474	1,432	1,381	1,715	571	613	658	823
	Black	4,565	4,560	4,547	5,615	808	804	789	942	358	401	441	530
	Asian	281	279	279	327	146	147	146	165	55	61	66	77
	American Indian	81	82	83	114	18	18	17	22	6	6	7	9
	Pacific Islander	70	70	70	92	10	9	9	12	4	4	5	7
	Multiple races	157	168	180	235	24	27	29	35	11	14	17	20
	Other[b]	288	299	304	417	78	82	83	105	38	44	48	60
Ethnicity	Hispanic	1,800	1,922	1,896	2,336	396	434	425	493	207	251	266	310
	Non-Hispanic	7,709	7,491	7,416	9,478	2,162	2,085	2,029	2,502	836	892	977	1,218
Disability[a]	No disability	7,397	7,240	7,150	9,273	1,140	1,097	1,062	1,379	483	513	553	705
	Disability	2,116	2,178	2,168	2,657	1,419	1,422	1,393	1,691	561	631	690	844
Household size	Household size 1	2,371	2,413	2,431	2,997	1,773	1,765	1,741	2,125	751	826	903	1,104
	Household size 2	1,800	1,787	1,772	2,491	539	524	503	673	212	231	248	327
	Household size 3–5	4,362	4,255	4,175	5,691	221	205	190	273	73	78	84	118
	Household size 6+	950	936	922	1,288	19	17	16	25	6	6	6	9

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: Demographic characteristics are based on information captured in HUD longitudinal data during the specific period. Demographics for individuals can change over time. For this table, we used the first-year information for an individual. (a) Disability is based on mbr_dsblty_indr field captured in HUD longitudinal data. Definitions to establish eligibility or obtain HUD program benefits as a person with disabilities vary by program. See "Appendix B: Applicable Definition of Disability for Determining HUD Eligibility" in *A Primer on HUD Programs and Associated Administrative Data,* available at https://www.cdc.gov/nchs/data/datalinkage/primer-on-hud-programs.pdf. (b) "Other" race includes missing or unknown race.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Table B.4: Distribution of HUD-Assisted, HUD-Medicare, and HUD-MA Populations, by Select Demographic Characteristics (2018–2020)

		HUD-Assisted Individuals				HUD-Medicare Individuals				HUD-MA Individuals			
		2018	2019	2020	2018–2020	2018	2019	2020	2018–2020	2018	2019	2020	2018–2020
Total	All individuals (in '000s)	**9,513**	**9,418**	**9,318**	**11,648**	**2,559**	**2,518**	**2,454**	**2,949**	**1,043**	**1,144**	**1,243**	**1,500**
Age	Elderly (62+)	19.2%	19.9%	20.5%	19.6%	68.6%	70.7%	71.8%	71.6%	75.3%	75.4%	75.6%	75.5%
	Non-elderly (0–61)	80.8%	80.1%	79.5%	82.0%	31.4%	29.3%	28.2%	32.2%	24.7%	24.6%	24.4%	26.9%
	Elderly (65+)	16.0%	16.6%	17.1%	16.4%	57.9%	60.2%	62.5%	62.5%	69.0%	68.7%	68.7%	68.8%
	Non-elderly (0–64)	84.0%	83.4%	82.9%	85.2%	42.1%	39.8%	37.5%	43.3%	31.0%	31.3%	31.3%	34.6%
Gender	Female	62.5%	62.4%	62.4%	61.8%	66.6%	66.4%	66.3%	65.7%	68.9%	68.7%	68.5%	68.1%
	Male	37.3%	37.4%	37.4%	38.2%	33.1%	33.3%	33.4%	34.1%	30.8%	31.0%	31.1%	31.7%
Race	White	42.8%	42.1%	41.4%	43.4%	57.6%	56.9%	56.3%	58.2%	54.7%	53.6%	53.0%	54.8%
	Black	48.0%	48.4%	48.8%	48.2%	31.6%	31.9%	32.1%	31.9%	34.3%	35.0%	35.5%	35.3%
	Asian	3.0%	3.0%	3.0%	2.8%	5.7%	5.8%	6.0%	5.6%	5.3%	5.3%	5.3%	5.1%
	American Indian	0.9%	0.9%	0.9%	1.0%	0.7%	0.7%	0.7%	0.8%	0.5%	0.6%	0.6%	0.6%
	Pacific Islander	0.7%	0.7%	0.8%	0.8%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
	Multiple races	1.6%	1.8%	1.9%	2.0%	1.0%	1.1%	1.2%	1.2%	1.1%	1.2%	1.3%	1.3%
	Other[b]	3.0%	3.2%	3.3%	3.6%	3.1%	3.2%	3.4%	3.6%	3.6%	3.8%	3.9%	4.0%
Ethnicity	Hispanic	18.9%	20.4%	20.4%	20.1%	15.5%	17.2%	17.3%	16.7%	19.9%	22.0%	21.4%	20.7%
	Non-Hispanic	81.0%	79.5%	79.6%	81.4%	84.5%	82.8%	82.7%	84.9%	80.1%	78.0%	78.6%	81.2%
Disability[a]	No disability	77.8%	76.9%	76.7%	79.6%	44.6%	43.6%	43.3%	46.8%	46.3%	44.9%	44.5%	47.0%
	Disability	22.2%	23.1%	23.3%	22.8%	55.4%	56.4%	56.8%	57.3%	53.8%	55.1%	55.5%	56.2%
Household size	Household size 1	24.9%	25.6%	26.1%	25.7%	69.3%	70.1%	70.9%	72.1%	71.9%	72.2%	72.6%	73.6%
	Household size 2	18.9%	19.0%	19.0%	21.4%	21.1%	20.8%	20.5%	22.8%	20.3%	20.2%	19.9%	21.8%
	Household size 3–5	45.9%	45.2%	44.8%	48.9%	8.6%	8.1%	7.7%	9.3%	7.0%	6.9%	6.8%	7.8%
	Household size 6+	10.0%	9.9%	9.9%	11.1%	0.7%	0.7%	0.6%	0.8%	0.5%	0.5%	0.5%	0.6%

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: Demographic characteristics are based on information captured in HUD longitudinal data during the specific period. Demographics for individuals can change over time. For this table, used the first-year information for an individual. (a) Disability is based on mbr_dsblty_indr field captured in the HUD longitudinal data. Definitions to establish eligibility or obtain HUD program benefits as a person with disabilities vary by program. See "Appendix B: Applicable Definition of Disability for Determining HUD Eligibility" in A *Primer on HUD Programs and Associated Administrative Data*, available at https://www.cdc.gov/nchs/data/datalinkage/primer-on-hud-programs.pdf. (b) "Other" race includes missing or unknown race.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Table B.5: Distribution of HUD-Medicare and HUD-MA Populations Ages 65+, by Select Demographic Characteristics (2018–2020)

		With Medicare coverage				With MA coverage			
		2018	2019	2020	2018–2020	2018	2019	2020	2018–2020
Total	**All individuals (in 1,000s)**	**1,482**	**1,515**	**1,535**	**1,844**	**720**	**786**	**854**	**1,032**
Gender	Female	69.1%	68.8%	68.5%	68.1%	70.3%	70.0%	69.7%	69.3%
	Male	30.5%	30.8%	31.1%	31.7%	29.3%	29.6%	29.8%	30.4%
Race	White	60.2%	59.0%	57.9%	60.0%	57.0%	55.5%	54.5%	56.6%
	Black	25.6%	26.5%	27.2%	27.1%	29.5%	30.5%	31.2%	31.0%
	Asian	8.6%	8.6%	8.7%	8.1%	7.2%	7.3%	7.3%	7.0%
	American Indian	0.6%	0.6%	0.6%	0.7%	0.5%	0.5%	0.6%	0.6%
	Pacific Islander	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
	Multiple Race	0.9%	1.0%	1.2%	1.2%	1.1%	1.2%	1.4%	1.3%
	Other[b]	3.7%	3.9%	4.1%	4.2%	4.3%	4.5%	4.6%	4.7%
Ethnicity	Hispanic	17.0%	19.1%	19.3%	18.5%	21.9%	24.5%	24.0%	23.1%
	Non-Hispanic	82.9%	80.9%	80.7%	83.1%	78.1%	75.5%	76.0%	79.0%
Disability[a]	No Disability	60.9%	59.6%	59.0%	61.4%	61.9%	60.2%	59.6%	62.0%
	Disability	39.1%	40.4%	41.0%	41.6%	38.1%	39.8%	40.4%	41.2%
Household size	Household Size 1	75.1%	75.3%	75.7%	76.9%	75.8%	75.9%	76.4%	77.4%
	Household Size 2	20.5%	20.3%	20.1%	21.5%	19.8%	19.6%	19.3%	20.7%
	Household Size 3–5	3.9%	3.8%	3.8%	4.4%	4.0%	3.9%	3.9%	4.4%
	Household Size 6+	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: Demographic characteristics are based on information captured in HUD longitudinal data during the specific period. Demographics for individuals can change over time. For this table, used the first-year information for an individual. (a) Disability is based on mbr_dsblty_indr field captured in the HUD longitudinal data. Definitions to establish eligibility or obtain HUD program benefits as a person with disabilities vary by program. See "Appendix B: Applicable Definition of Disability for Determining HUD Eligibility" in *A Primer on HUD Programs and Associated Administrative Data,* available at https://www.cdc.gov/nchs/data/datalinkage/primer-on-hud-programs.pdf. (b) "Other" race includes missing or unknown race.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Did MA Plan coverage vary by size of household or income?

Table B.6: Number of HUD-MA Individuals and Duration of MA Coverage During a Year, by Household Size and Income (2018–2020)

Characteristics		2018		2019		2020	
		Number of individuals	Number of months with MA coverage (avg, std)	Number of individuals	Number of months with MA coverage (avg, std)	Number of individuals	Number of months with MA coverage (avg, std)
Household size	1	750,588	11.1 (2.5)	825,927	11.2 (2.3)	902,954	11.4 (2.1)
	2	211,506	10.9 (2.7)	230,763	11.1 (2.4)	247,542	11.3 (2.2)
	3–5	73,473	10.7 (2.9)	78,418	10.8 (2.7)	84,106	11.1 (2.5)
	6+	5,518	10.5 (3.0)	5,789	10.7 (2.8)	6,088	10.9 (2.6)
HUD estimated household income	<$10,000	303,390	10.8 (2.8)	315,425	11.0 (2.5)	322,397	11.2 (2.3)
	$10,000–$24,999	655,156	11.1 (2.5)	727,938	11.2 (2.3)	811,089	11.4 (2.1)
	$25,000–$49,999	77,278	11.1 (2.4)	90,963	11.2 (2.3)	99,400	11.3 (2.1)
	$50,000–$99,999	7,236	11.1 (2.5)	8,952	11.1 (2.4)	9,576	11.2 (2.3)
	$100,000+	544	11.1 (2.5)	622	11.1 (2.4)	646	11.3 (2.1)

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: Characteristics based on information captured in HUD longitudinal data during the specific period. Household income calculated using HUD methodology.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Did HUD-MA individuals have MA plan coverage for all 12 months? Did individuals switch plans?

Table B.7: Number of HUD-MA Individuals and Percentage of Decedents, by Duration of MA Coverage and Number of MA Plans in Which Enrolled During a Year

Duration of coverage/multiple plan indicator		Number of HUD-MA individuals			% decedents (among HUD-MA)		
		2018	2019	2020	2018	2019	2020
MA plan coverage = Full year	Multiple plans	79,920	94,210	110,500	0.23%	0.24%	0.40%
	Single plan	784,244	869,744	976,488	0.28%	0.28%	0.44%
	Total	**864,164**	**963,954**	**1,086,988**	**0.28%**	**0.28%**	**0.43%**
	% Receiving full-year coverage	**82.8%**	**84.3%**	**87.5%**			
MA plan coverage = Partial year	Multiple plans	16,659	16,873	14,992	1.86%	2.51%	4.34%
	Single plan	162,660	162,956	140,990	3.20%	3.41%	5.95%
	Total	**179,319**	**179,829**	**155,982**	**3.08%**	**3.33%**	**5.79%**
	% Receiving full-year coverage	**17.2%**	**15.7%**	**12.5%**			
All HUD-MA	Multiple plans	96,579	111,083	125,492	0.51%	0.58%	0.87%
	Single plan	946,904	1,032,700	1,117,478	0.78%	0.78%	1.13%
	Total	**1,043,483**	**1,143,783**	**1,242,970**	0.76%	0.76%	1.11%
	% Single plan	**90.7%**	**90.3%**	**89.9%**			

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

What was the most common type of health plan coverage?

**Table B.8: Number and Percentage of HUD-MA Individuals and HUD-assisted Properties by Health Plan Type (2018–2020)**

MA plan type	Individuals receiving federal housing assistance and enrolled in MA (HUD-MA)		HUD-assisted properties with any number of individuals with MA coverage	
	Count	%	Count	%
Distinct Count (2018–2020)	**1,500,385**		**29,972**	
Health Maintenance Organization (HMO)	1,083,699	72.2%	27,196	90.7%
HMO point-of-service (HMOPOS)	126,558	8.4%	11,854	39.6%
Local Preferred Provider Organization (PPO)	201,060	13.4%	19,107	63.7%
Medical Savings Account	88	0.0%	48	0.2%
Private fee-for-service (PFFS) plan	4,747	0.3%	1,724	5.8%
Section 1876 Cost Plan	11,883	0.8%	1,562	5.2%
National Program of All-inclusive Care for the Elderly (PACE)	18,437	1.2%	3,907	13.0%
Regional Preferred Provider Organization (PPO)	100,694	6.7%	10,020	33.4%
Medicare-Medicaid Plan (MMP) HMO	114,200	7.6%	6,374	21.3%
Medicare-Medicaid Plan HMO Point-of-Service (MMP HMOPOS)	120	0.0%	68	0.2%

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: Individuals were counted as enrolled in a type of MA plan if the individual was enrolled in a plan of that type as of December (or the latest MA enrollment month) in a calendar year. Individuals may be enrolled in different types of MA plans or move properties across years.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.1: MA Plan Parent Organizations with the Largest Proportions of HUD-MA Individuals
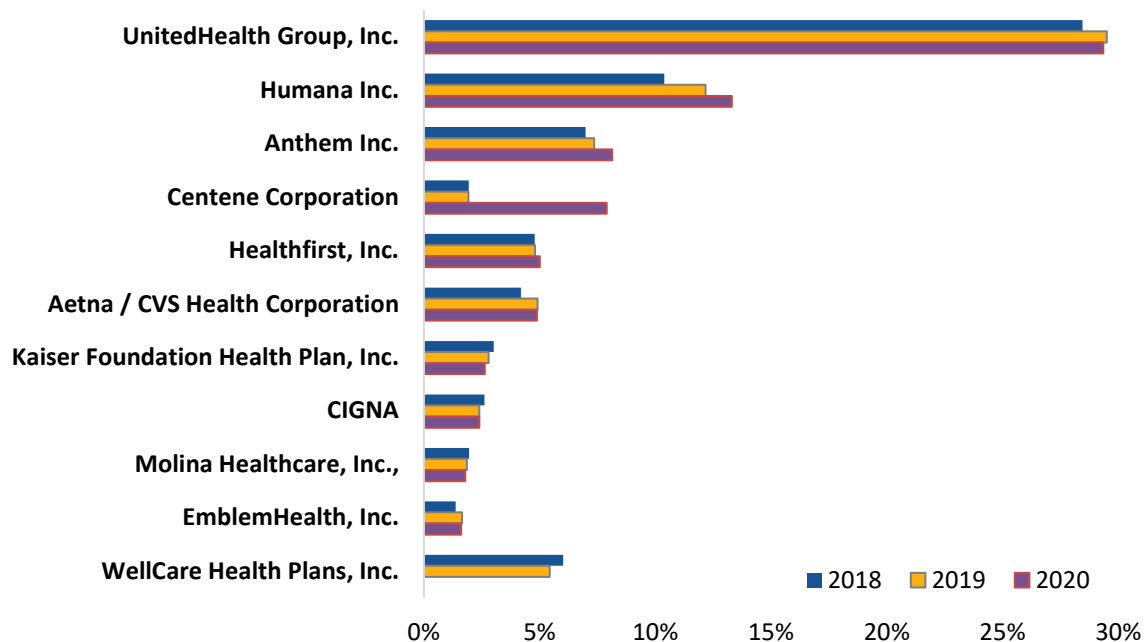
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

What proportion of HUD-assisted individuals with Medicare Advantage coverage also had Medicaid coverage? Did it vary by HUD program category?

Table B.9: Proportion of HUD-MA Individuals with Full-Benefit Medicaid Coverage, by HUD Program Category (2018-2020)

HUD program category	Full Medicaid Coverage *during any month* of MA coverage (%)			Full Medicaid Coverage *for all* MA coverage period (%)		
	2018	**2019**	**2020**	**2018**	**2019**	**2020**
Project-based Section 8 (PBS8)	62.3	63.7	64.5	45.1	47.2	51.5
Public housing	76.5	76.8	77.6	55.9	57.8	61.9
Section 202 for older adults	51.6	52.8	53.3	39.1	41.0	44.1
Section 811 for individuals with disabilities	73.7	74.8	75.2	53.8	55.5	60.4
Vouchers	88.3	87.8	87.8	62.8	64.4	69.1
Other	71.2	73.7	75.2	51.4	54.6	59.9
Overall	**75.0**	**75.6**	**76.2**	**54.1**	**56.0**	**60.5**

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: Full-benefit Medicaid coverage was identified based on DUAL_ELGBL_CD in the CMS MBSF data. Individual was flagged to have full-benefit Medicaid coverage if the indicator had values 02, 04, 08 (Eligible is entitled to Qualified Medicare Beneficiary (QMB) and full Medicaid coverage, including prescription drugs; Eligible is entitled to Medicare-Specified Low-Income Medicare Beneficiary (SLMB) and full Medicaid coverage, including prescription drugs; Eligible is entitled to other dual eligible [Non-QMB, SLMB, Qualified Disabled Working Individual (QDWI), or Qualifying Individual (QI)] with full Medicaid coverage, including prescription drugs, respectively) and had a valid MA plan ID (non-missing) for the month. Denominator for the proportion is the number of individuals receiving specific federal housing assistance program support. Numerator is the number (among denominator) who had full Medicaid coverage during the calendar year.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Table B.10: Proportion of HUD-MA Individuals with Medicare Savings Program (QMB, SLMB, QDWI, or QI) Medicaid Coverage or No Medicaid Coverage, by HUD Program Category (2018–2020)

HUD benefit program	% having QMB / SLMB / QDWI / QI at any time			% not having Medicaid at any time		
	2018	**2019**	**2020**	**2018**	**2019**	**2020**
Project-based Section 8 (PBS8)	71.0	72.9	73.2	22.9	21.8	21.2
Public housing	69.8	71.3	71.0	21.7	21.3	21.0
Section 202 for older adults	69.1	70.6	70.8	25.3	24.3	23.8
Section 811 for individuals with disabilities	78.6	80.1	79.7	10.8	9.9	10.0
Vouchers	79.1	80.0	79.9	14.4	14.2	14.0
Other	72.2	74.9	76.3	21.3	19.3	17.5
Overall	**73.9**	**75.4**	**75.5**	**19.4**	**18.7**	**18.2**

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage. QDWI = Qualified Disabled Working Individual. QI = Qualifying Individual. QMB = Qualified Medicare Beneficiary. SLMB = Specified Low-Income Medicare Beneficiary.

Notes: Denominator is the number of individuals with specific federal housing assistance program support and had an MA plan. QMB/SLMB/QDWI/QI = Based on DUAL_ELGBL_CD indicator in the CMS MBSF data. Individual was flagged if the indicator had values 01, 02, 03, 04, 05, 06 during any month with valid MA plan coverage (non-missing MA plan ID). Numerator is the number (among denominator) who never had Medicaid during the calendar year (and did not have any of the DUAL_ELGBL_CD [01, 02, 03, 04, 05, 06, 08] during all months with MA coverage).

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

How many HUD-assisted individuals with Medicare Advantage coverage received assistance through each HUD program category?

Table B.11: Number of Individuals, by HUD Program Category (2018–2020)

HUD program category		**2018**	**2019**	**2020**	**2018–2020**
HUD-assisted individuals (in '000s)	*Overall*	9,513	9,418	9,318	11,648
	Section 202 for older adults	134	134	133	164
	Section 811 for individuals with disabilities	35	36	36	46
	Project-Based Section 8 (PBS8)	2,038	2,038	2,051	2,717
	Other assisted multifamily	57	49	42	75
	Public housing	1,983	1,907	1,822	2,481
	Vouchers	5,270	5,258	5,239	6,434
HUD-Medicare individuals (in '000s)	*Overall*	2,559	2,519	2,455	3,005
	Section 202 for older adults	129	129	127	158
	Section 811 for individuals with disabilities	24	24	23	29
	Project-Based Section 8 (PBS8)	789	783	771	951

	Other assisted multifamily	18	15	13	22
	Public housing	487	460	428	555
	Vouchers	1,112	1,108	1,092	1,290
HUD-MA individuals (in '000s)	Overall	1,043	1,144	1,243	1,500
	Section 202 for older adults	67	71	75	93
	Section 811 for individuals with disabilities	6	7	8	10
	Project-Based Section 8 (PBS8)	334	365	398	492
	Other assisted multifamily	8	7	7	11
	Public housing	216	226	234	299
	Vouchers	413	467	521	620

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: A small number of individuals received multiple HUD program benefits during a year. The 2018–2020 column shows distinct counts of individuals across the period. Individuals may receive different program benefits in the three-year time span and have been included (only once) for all relevant programs.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.2: Distribution of HUD-assisted and HUD-MA Populations, by HUD Program Category (2018–2020)
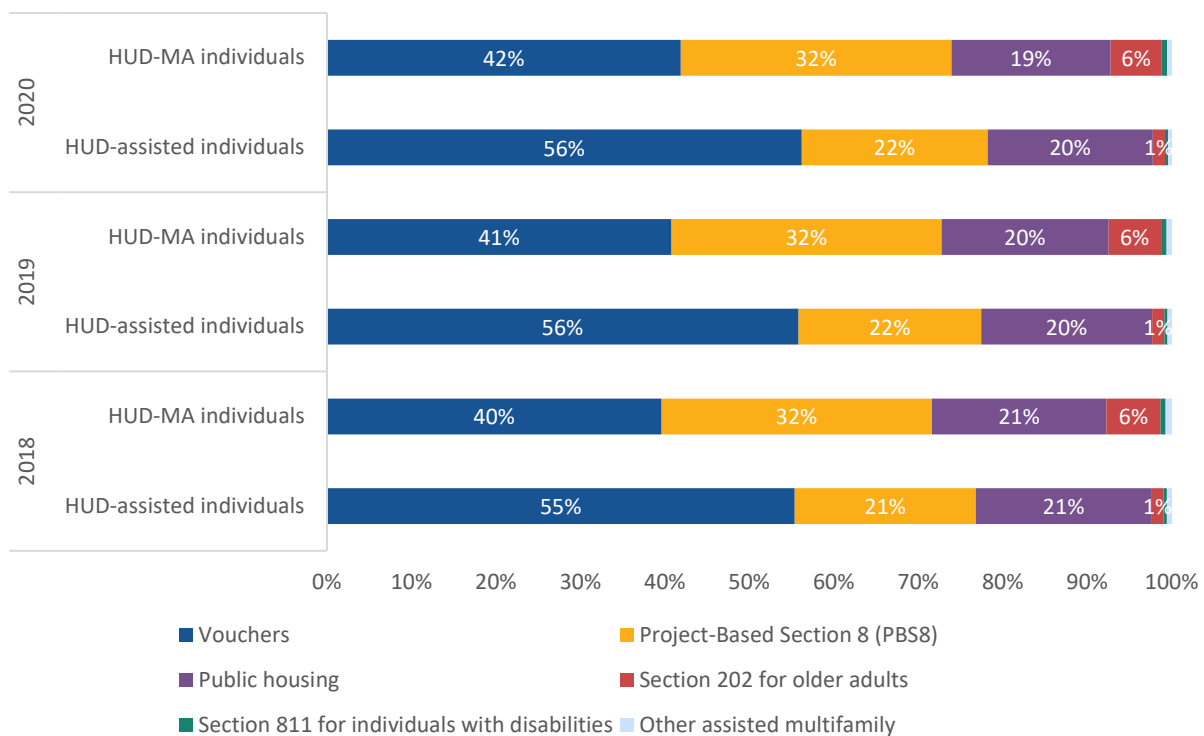

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: HUD-assisted individuals = Individuals receiving federal housing assistance. HUD-MA individuals = Individuals receiving HUD assistance with MA coverage.

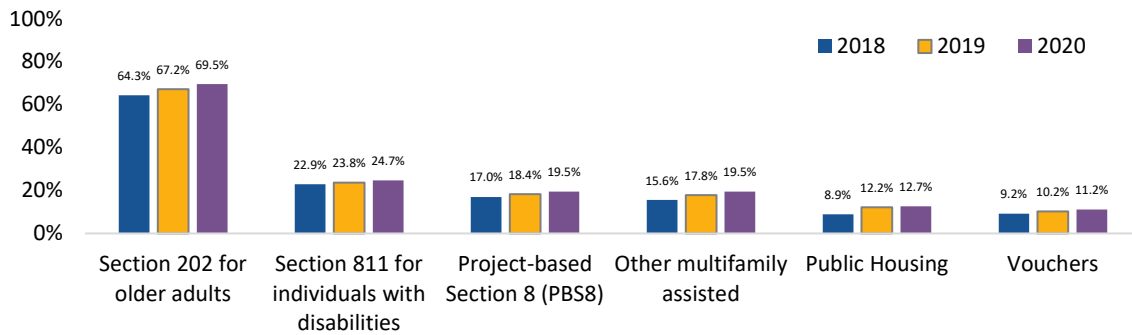**Sources:** Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.3: Proportion of HUD-assisted Individuals with Medicare Advantage Coverage, by HUD Program Category (2018–2020)
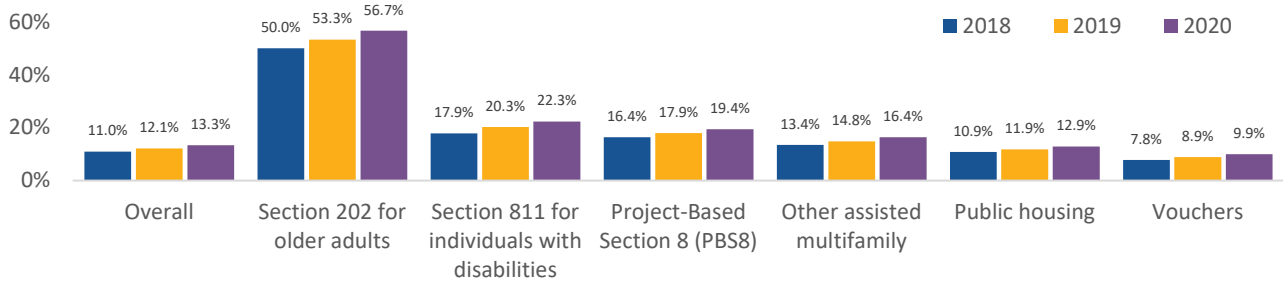
HUD = U.S. Department of Housing and Urban Development.
Notes: For calculation of proportion, denominator is the distinct number of individuals receiving specific HUD benefit program assistance in a year; numerator is, among denominator, the number of individuals who had MA plan coverage in the same year. A small number of individuals had multiple benefit programs. For this analysis, if an individual received assistance through multiple programs, the individual was included in the denominator for all relevant programs.
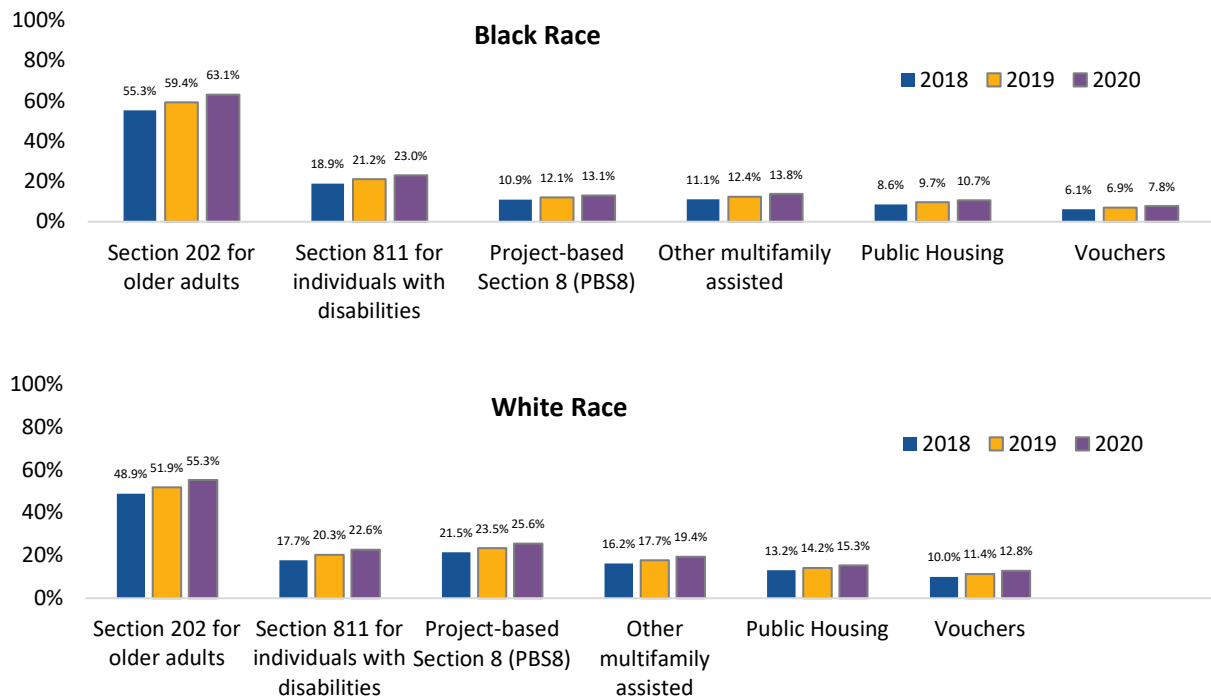**Sources:** Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.4: Distribution of HUD-assisted and HUD-MA Populations Ages 65+, by HUD Program Category (2018–2020)
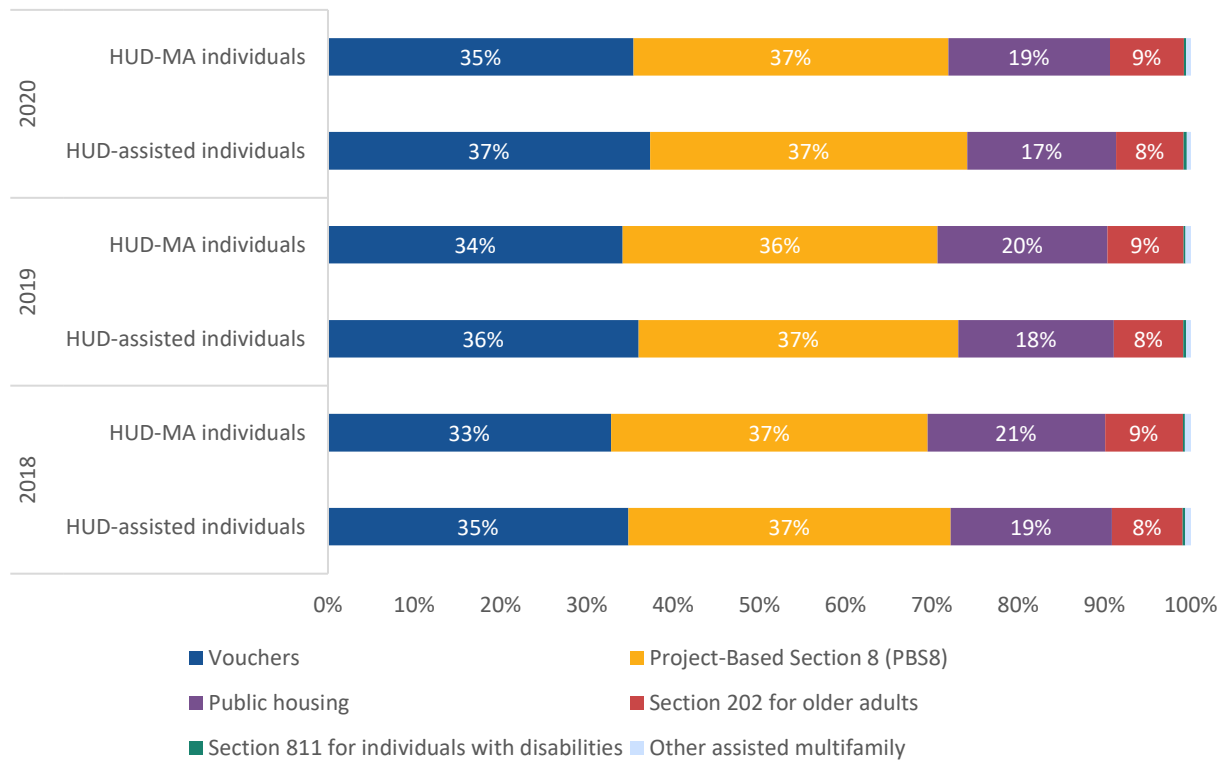
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: HUD-assisted individuals = Individuals receiving federal housing assistance. HUD-MA individuals = Individuals receiving HUD assistance with MA coverage.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.5: Proportion of HUD-assisted Individuals Age 65+ with Medicare Advantage Coverage, by HUD Program Category (2018–2020)
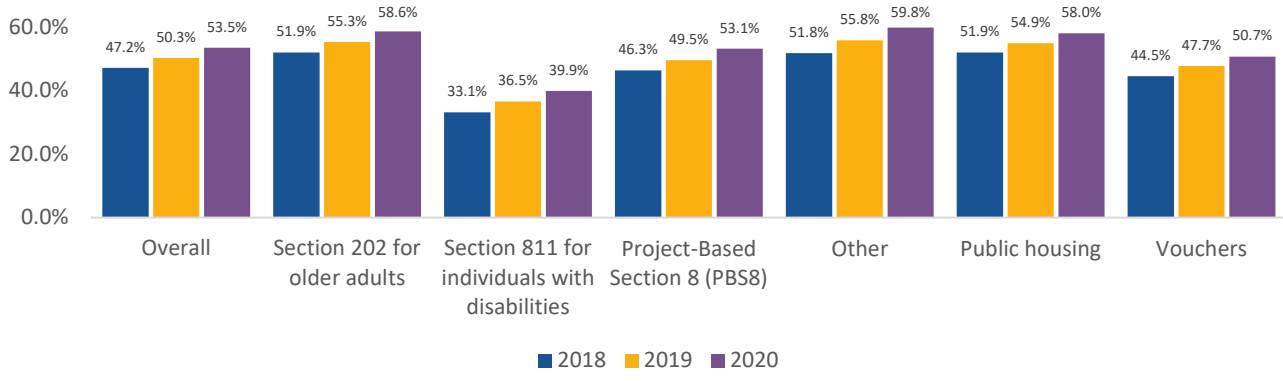
Notes: For calculation of proportion, denominator is the distinct number of individuals receiving specific HUD benefit program assistance in a year; numerator is, among denominator, the number of individuals who had MA plan coverage in the same year. A small number of individuals had multiple benefit programs. For this analysis, if an individual had multiple programs, the individual was included in the denominator for all relevant programs.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.6: Proportion of HUD-assisted Individuals with Reported Hispanic Ethnicity with Medicare Advantage Coverage, by HUD Program Category (2018–2020)

Notes: Hispanic indicator based on ethnicity information captured in HUD longitudinal data.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data

Figure B.7: Proportion of HUD-assisted Individuals with Reported Race as Black or White with Medicare Advantage Coverage, by HUD Program Category (2018–2020)

Notes: Race based on HUD longitudinal data, irrespective of ethnicity, and excludes any individuals who identified multiple races (e.g., White and Black), but White can include White Hispanic and White non-Hispanic.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

How many HUD-assisted properties had HUD-MA individuals?

Table B.12: Number of HUD-assisted Properties (2018–2020)

	2018	2019	2020
Properties with HUD-assisted individuals	31,720	30,313	30,114
Ages 62+	29,369	28,473	28,343

	2018	2019	2020
Ages 65+	28,397	27,627	27,573
With Medicare coverage	31,028	29,889	29,716
With Medicare Advantage (MA) coverage	26,673	26,562	26,974
Properties with HUD-assisted individuals and two or more MA plans	19,887	20,527	21,605
Ages 62+	17,643	18,300	19,347
Ages 65+	17,030	17,626	18,669
Properties with more than 10 HUD-assisted individuals with MA coverage	14,504	15,374	16,249
Ages 62+	12,404	13,089	13,849
Ages 65+	11,779	12,386	13,134
Properties with more than 10 HUD-assisted individuals with MA coverage and two or more MA plans	13,664	14,522	15,589
Ages 62+	11,685	12,378	13,305
Ages 65+	11,090	11,732	12,626
Properties with more than 10 HUD-assisted individuals with MA coverage and only one MA plan	840	852	660
Ages 62+	719	711	544
Ages 65+	689	654	508

Notes: Across all three study years (2018–2020), HUD-assisted individuals of any age resided in a total of 33,759 HUD-assisted properties. Properties associated with receiving federal housing assistance (HUD-assisted properties) were identified using a combination of three fields (development number and project number and name) captured in the HUD longitudinal data.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.8: Proportion of Individuals Residing in HUD-assisted Properties with More Than 10 Residents with MA Coverage, by HUD Program Category[a, b] (2018–2020)
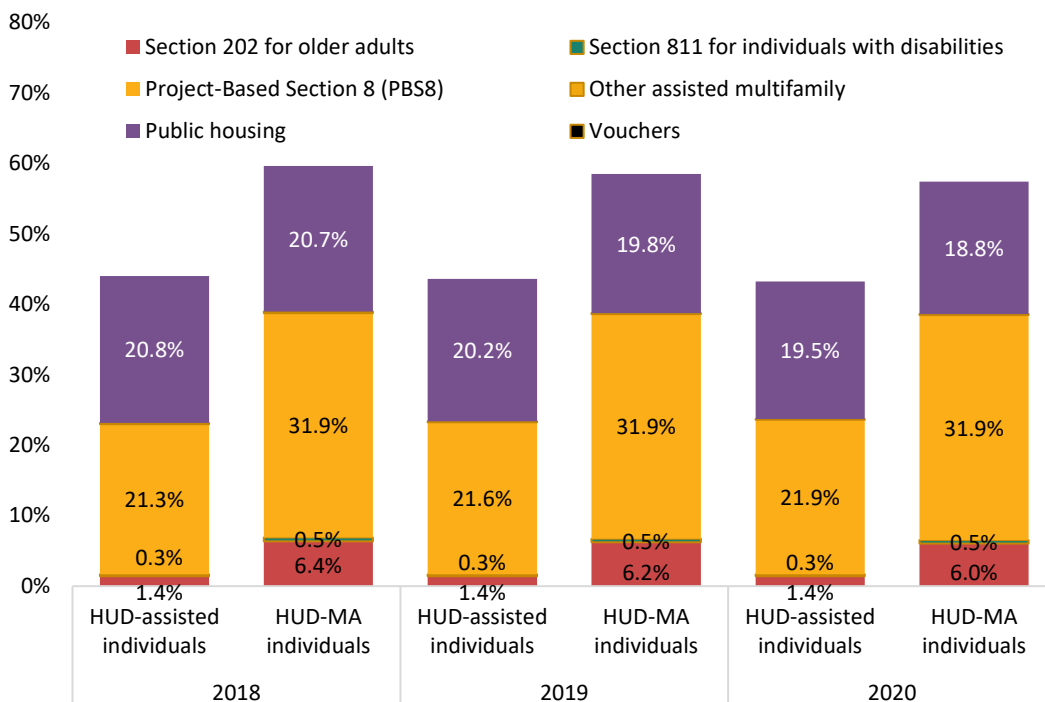
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: HUD-assisted individuals = Individuals receiving federal housing assistance. HUD-MA individuals = Individuals receiving HUD assistance with MA coverage. Denominator for HUD-assisted individuals is all individuals receiving federal housing assistance. Denominator for HUD-MA individuals is all HUD-assisted individuals with MA coverage. (a) Individuals living in a property receiving federal housing assistance only received benefits from the following HUD programs: public housing assistance Project-Based Section 8, Section 101 (Rent Supplement), Rental Assistance Program, Section 236, Section 221, Section 202, Section 811, Section 202/162. (b) Proportions for HUD program categories Other Assisted Multifamily and Vouchers round to 0% and are not visible in the graph.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

What proportion of HUD-assisted property residents had partial-year federal housing assistance?

Table B.13: Individuals Receiving Federal Housing Assistance, by Partial Year Status (2018–2020)

		2018	2019	2020
HUD-assisted individuals	*Full-year participants in the same property*	3,960,541	3,884,610	3,829,571
	Full-year participants in multiple properties	2,415	1,790	1,628
	Partial-year participants	303,997	299,495	273,457
	% Partial year	7.1%	7.2%	6.7%
Reason for partial-year participation	*Portability move-in (vouchers only)*	60,409	59,164	55,371
	Move-in certification	243,595	240,337	218,094

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Does the number of MA plans with enrollees residing in a property vary?

Table B.14: Number of HUD-assisted Properties and HUD-assisted Individuals Ages 65+ with MA Coverage by Number of MA Plans Present at a Property (2018–2020)

| Number of MA plans per property	Number of HUD-assisted properties with >10 residents			Number of HUD-assisted properties with >10 residents with MA coverage			Number of individuals ages 65+ in HUD-assisted properties with >10 residents with MA coverage		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
1	5,618	4,943	4,205	840	852	660	10	9	6
2	6,634	6,381	6,466	2,879	2,862	3,043	52	45	49
3	5,176	5,491	5,705	3,470	3,848	4,112	72	81	83
4	3,711	3,981	4,202	3,226	3,542	3,698	90	99	102
5	2,166	2,530	2,686	2,068	2,443	2,590	76	92	99
6	1,248	1,162	1,335	1,238	1,152	1,323	60	64	71
7	469	458	542	467	456	539	36	35	38
8	107	127	189	107	127	189	15	18	22
9	33	36	57	33	36	57	9	11	14
10+	13	12	15	13	12	15	5	4	6

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: HUD properties were identified by state using project or development number. Some properties can be in multiple states and have been counted as separate properties for this analysis.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

## Were there geographic concentrations of HUD-MA individuals?

Figure B.9: States with the Largest Proportions of HUD-assisted and HUD-MA Individuals (2020)
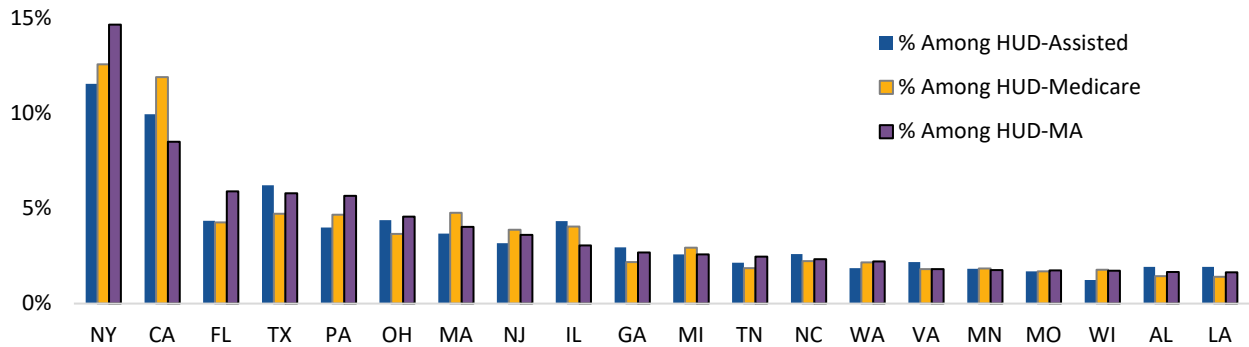
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

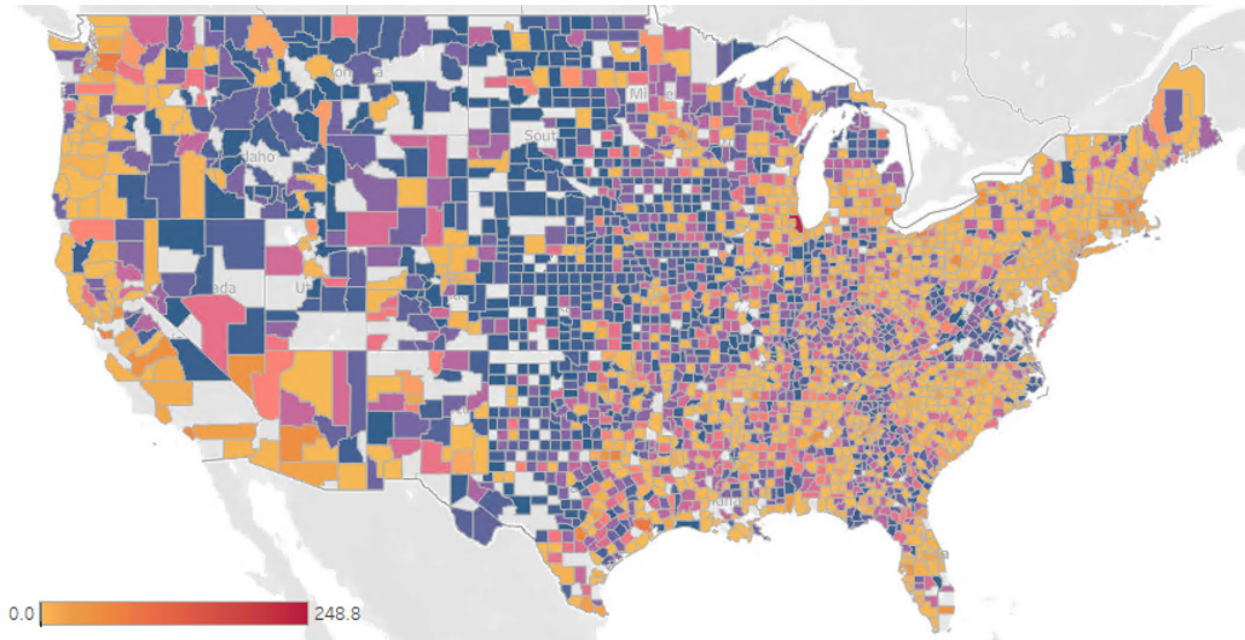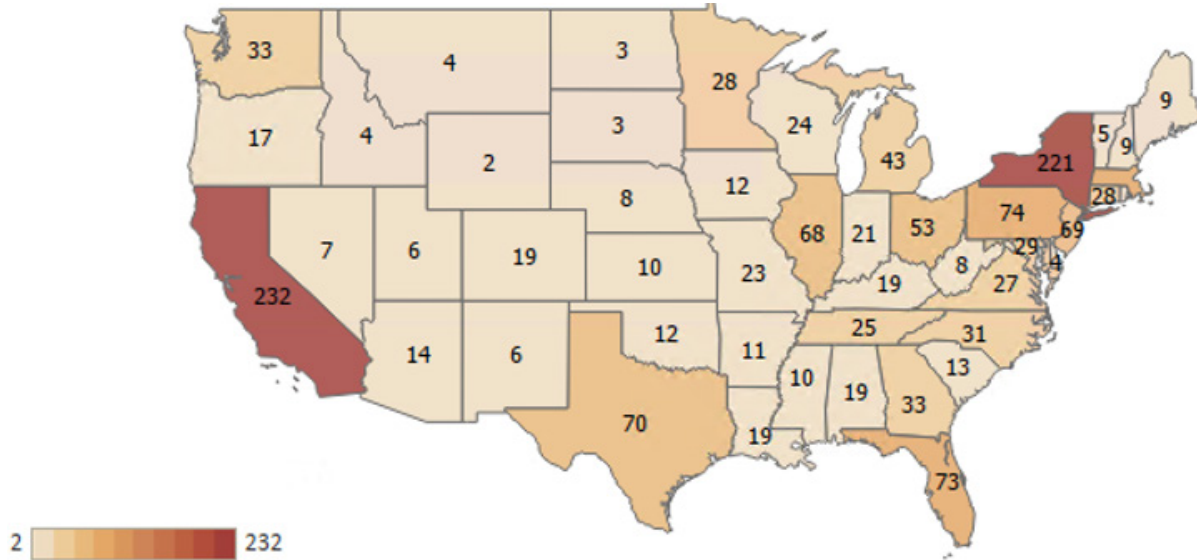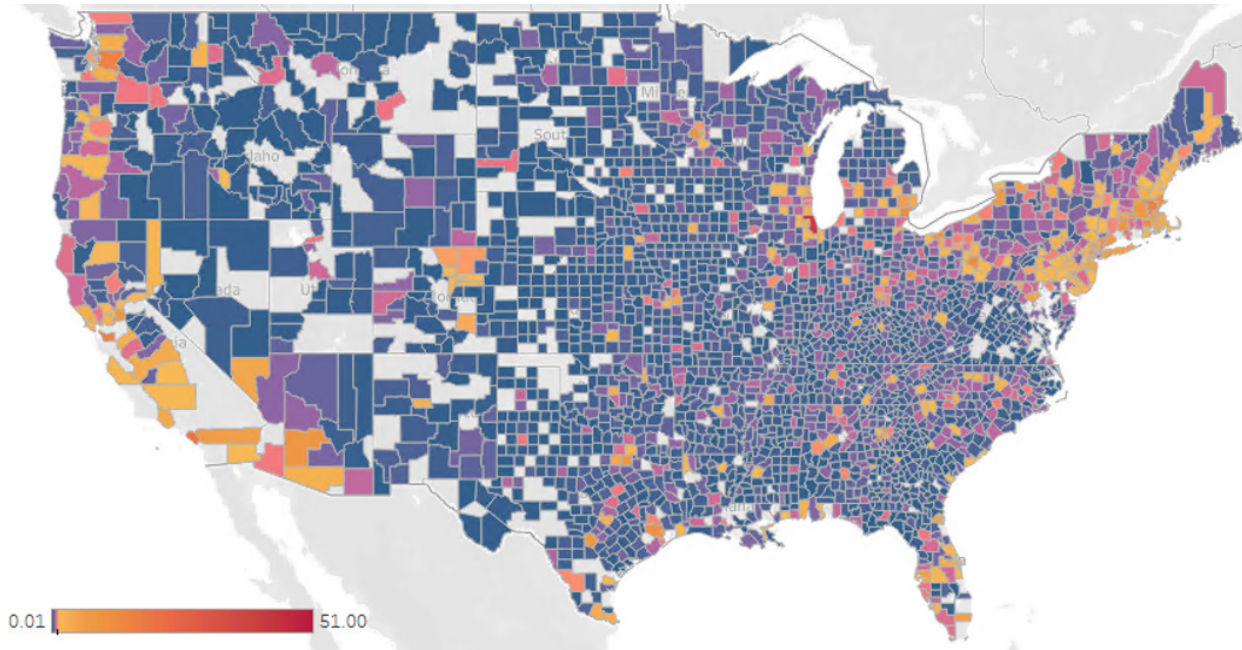**Figure B.10: Number of HUD-assisted Individuals (in Thousands), by State (2020)**
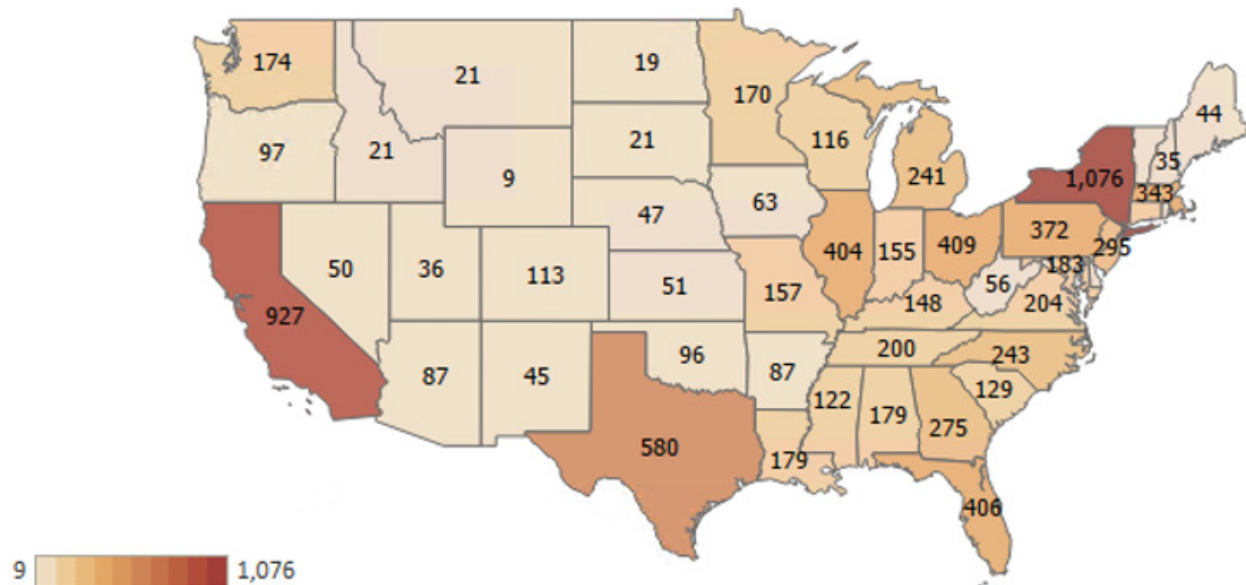
HUD = U.S. Department of Housing and Urban Development.
Notes: This map depicts the number of HUD-assisted indiviudals (in thousands) in each state in the contiguous United States. Alaska and Hawaii are not shown. In 2020, approximately 15,000 HUD-assisted individuals resided in Alaska, and approximately 48,000 HUD-assisted individuals resided in Hawaii.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.11: Number of HUD-assisted Individuals (in Thousands), by County (2020)

HUD = U.S. Department of Housing and Urban Development.
Notes: This map depicts the number of HUD-assisted indiviudals (in thousands) in each county in the contiguous United States.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.12: Number of HUD-assisted Individuals Ages 65+ (in Thousands), by State (2020)
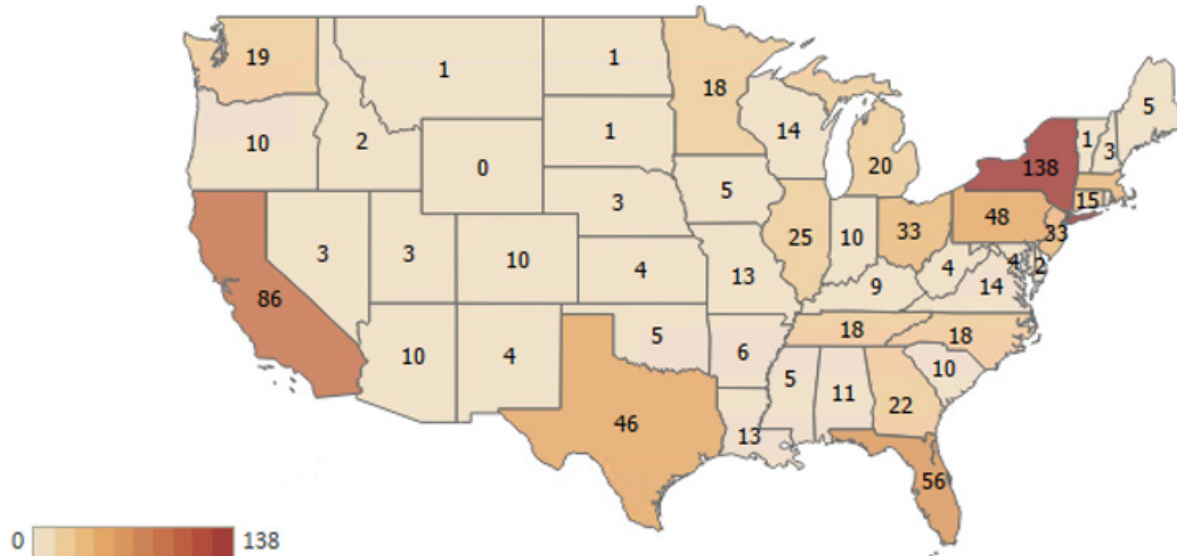

HUD = U.S. Department of Housing and Urban Development.
Notes: This map depicts the number of HUD-assisted indiviudals ages 65 and older (in thousands) in each state in the contiguous United States. Alaska and Hawaii are not shown. In 2020, approximately 2,000 HUD-assisted individuals ages 65 and older resided in Alaska, and approximately 8,000 HUD-assisted individuals ages 65 and older resided in Hawaii.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

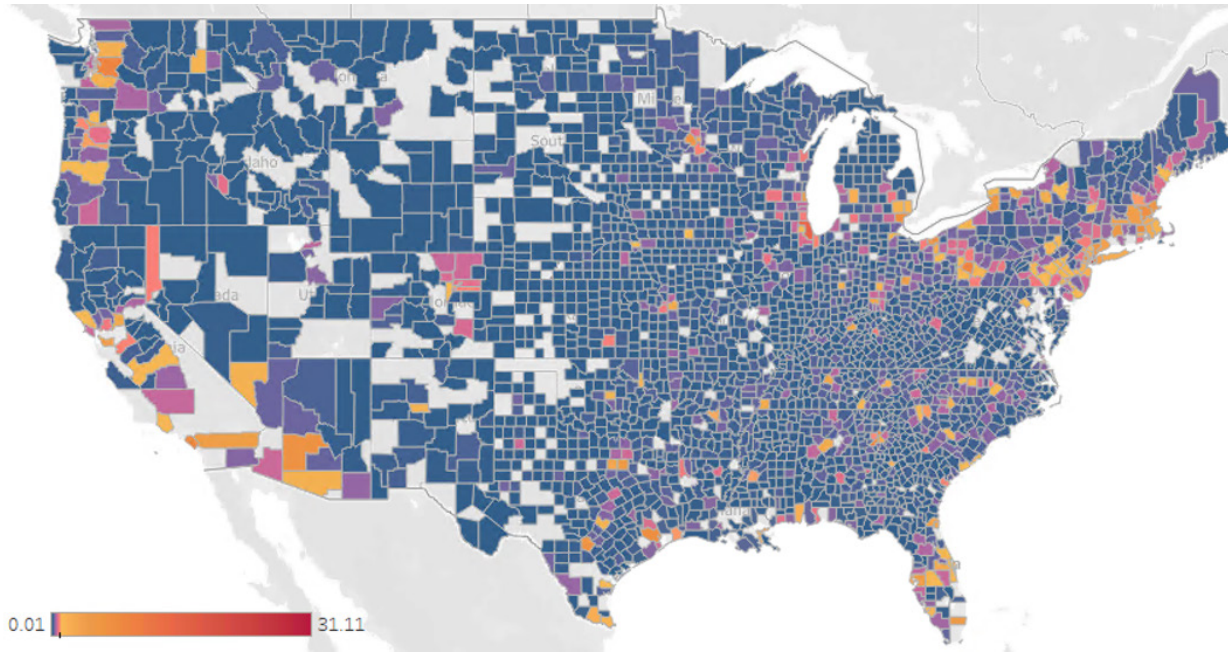**Figure B.13: Number of HUD-assisted Individuals Ages 65+ (in Thousands), by County (2020)**

HUD = U.S. Department of Housing and Urban Development.
Notes: This map depicts the number of HUD-assisted indiviudals ages 65 and older (in thousands) in each county in the contiguous United States.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.14: Number of HUD-MA Individuals Ages 65+ (in Thousands), by State (2020)

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Notes: Alaska and Hawaii are not shown. In 2020, 20 HUD-MA individuals ages 65 and older resided in Alaska, and approximately 6,000 HUD-MA individuals ages 65 and older resided in Hawaii.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.15: Number of HUD-MA Individuals Ages 65+ (in Thousands), by County (2020)

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.

Notes: This map depicts the number of HUD-MA indiviudals ages 65 and older (in thousands) in each county in the contiguous United States.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Table B.15: Proportion of HUD-assisted Individuals Residing in a Metropolitan Statistical Area (MSA) (2018–2020)

		2018	2019	2020
HUD-assisted individuals (%)	*In MSA*	18.5	18.7	18.9
	Not in MSA	5.5	5.5	5.5
	Unknown	76.0	75.8	75.5
HUD-MA individuals (%)	*In MSA*	33.7	33.3	32.8
	Not in MSA	5.8	6.1	6.3
	Unknown	60.5	60.7	60.9

HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage. MSA = metropolitan statistical area.

Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

Figure B.16: Proportion of HUD-MA Individuals Receiving Public Housing and Assisted Multifamily Assistance, by State (2020)
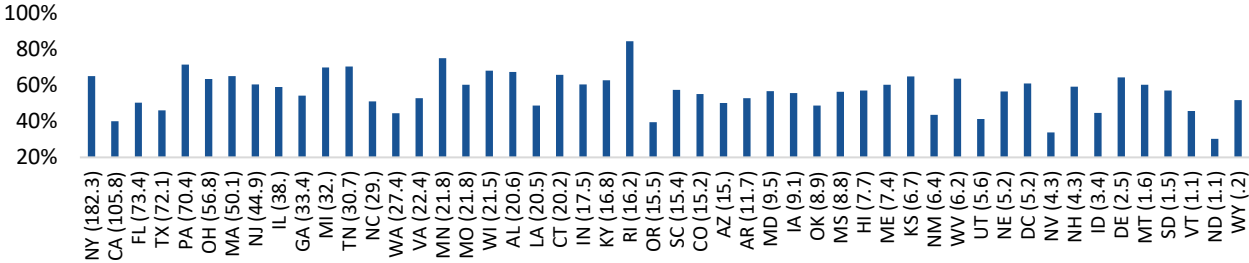
HUD = U.S. Department of Housing and Urban Development. MA = Medicare Advantage.
Sources: Authors' analysis of HUD longitudinal data and CMS Master Beneficiary Summary File merged data.

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