CHARTBOOK
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Rural-Urban Differences among Older Adults

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Executive Summary

Background

Rural populations are older, on average, than urban populations, and the proportion of older adults is increasing more quickly in rural communities due to declining birth rates and migration patterns among younger adults. Additionally, the demographics of rural areas are changing, as immigration and socioeconomic forces influence who lives in rural areas. These trends demand that policymakers, researchers, service providers, and health care workers regularly update their understanding of the characteristics of older adults in rural communities in order to improve how they serve these populations and to allocate resources more effectively and efficiently. Toward that end, this chartbook presents the characteristics of older adults in rural counties, as well as rural-urban differences among older adults, across four domains: *Demographics, Socioeconomic Characteristics, Health Care Access and Use,* and *Health Characteristics*.

Findings

Within each of the four examined domains, there are numerous important differences between rural and urban older adults.

Domain 1, *Demographics*, includes age, regional distribution, sex, race and ethnicity, marital status, and migration patterns. A few charts also break down rural-urban differences for the "oldest old," adults age 85 and over. Generally, rural counties have a larger percentage of population age 65 and over. Rural older adults are more likely than urban older adults to be non-Hispanic White; to be married, widowed, or divorced; and to be veterans; and to be lifelong residents of the state in which they were born. While the majority of older adults are women in both rural and urban counties, the share of men is higher in rural counties than in urban.

- The share of population age 65 and over is 18.1% in rural counties and 14.3% in urban counties.
- The share of older adults who are veterans is 21% in rural counties and 19.1% in urban counties.
- The share of older adults who are non-Hispanic White is 88.9% in rural counties and 75.4% in urban counties.
- The share of older adults who live in the state in which they were born is 65.3% in rural counties and 43.3% in urban counties.

Domain 2, *Socioeconomic Characteristics*, includes income, retirement funding, financial insecurity, and home ownership. Generally, rural adults age 65 and over are less financially well-off than their urban counterparts. Rural older adults are more likely to have low or moderate incomes, while urban older adults disproportionately have high incomes. However, rural older adults are more likely to be homeowners and to have paid off their mortgage. Other measures of socioeconomic status (financial assistance, Social Security and retirement funds, credit cards and credit card debt, financial insecurity) do not show statistically significant rural-urban differences.

- Urban older adults have nearly twice as much total household wealth and assets ($471,290) compared to rural older adults ($264,573).
- A large share (80.2%) of rural older adults own a home, and of those, 75.4% have paid off their mortgage. In comparison, 72.2% of urban older adults own a home, and 61.2% have paid off their mortgage.

Domain 3, *Health Care Access and Use*, includes health insurance coverage, doctor visits, and medication usage. These characteristics tend to be similar among rural and urban older adults. Regardless of rural-urban status, most older adults have public health insurance (specifically Medicare), supplement their public health insurance with private, and report low rates of uninsurance. Rural older adults report slightly higher coverage by both private and public health plans and accordingly, lower rates of uninsurance across all racial groups except American Indians. The vast majority of all older adults have a regular doctor and have seen their doctor within the past year, but rural older adults are slightly less likely to have seen their doctor within the past year. A high share of all older adults are prescribed medications, and how they obtain their medication is also similar between rural and urban counties.

- Of those with a regular doctor, 91.3% of rural older adults have seen their doctor in the past year, compared to 93.4% of urban older adults.
- About 90% of older adults in both rural and urban counties had been prescribed a medication in the past year, and nearly one-third of older adults in both county types had filled a prescription by mail.

Domain 4, *Health Characteristics*, includes physical health, mental health, and self-rated health. On average, rural older adults rate their health as worse than urban older adults (although this difference is not statistically significant). Rural older adults are also more likely to have a disability (vision, hearing, cognitive, or ambulatory), to have had a heart attack or stroke, and to have heart or lung disease. However, rates of several chronic conditions, including high blood pressure, diabetes, osteoporosis, and cancer, are similar for rural and urban older adults. Both classes of older adults also report similar outcomes across mental health and well-being indicators. While there are variations across these measures, the only measure with a significant difference is the ability to adjust to change, with rural older adults having slightly more difficulty than urban older adults.

- Rural older adults are more likely to have a disability (39%) compared to their urban counterparts (34.7%).
- Rural older adults are more likely to have had a heart attack (11.8%) or stroke (8.3%) compared to urban older adults (heart attack 8.6%; stroke 5.8%).
- Rural older adults were more likely to be current smokers than urban older adults (19.5% vs. 14.7%).
- Rural older adults are less likely to "agree a lot" that they are able to adjust to change (47.7%) compared to urban older adults (53.8%).

Implications

This chartbook provides information on rural-urban differences among older adults across several domains. These charts should be interpreted as exploratory, descriptive charts describing rural/urban differences for older adults, on average, across the U.S. This information should will contribute to a fuller understanding of the health and wellbeing of all older adults and is particularly important for rural areas, which have disproportionately older populations. The charts herein can serve as a valuable resource for policymakers, researchers, social service providers, and health care workers to inform policy and practice in rural health and aging.

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Introduction

The goal of this chartbook is to explore rural-urban differences in older adults (age 65 and over) in the United States. While there is much research about older adults in general, less work has focused on differences between rural and urban older populations. This chartbook compiles data from multiple sources to illustrate rural-urban differences in older adults across a variety of measures in four domains: *Demographics, Socioeconomic Characteristics, Health Care Access and Use,* and *Health Characteristics*.

Background

The share of population age 65 and over is increasing across the United States,[1] but rural communities are experiencing even faster growth of their older adult population due to declining birth rates and migration patterns among younger adults.[2–4] The demographics of rural areas are also changing in other ways due to immigration and socioeconomic forces.[5–7] Older adults, who are more likely than their younger counterparts to have chronic conditions and other health issues requiring acute and long-term care, may have disparate outcomes by geographic location for a variety of reasons.[8,9]

Aging is important to examine within the unique context of rural areas, which have particular barriers to health care and which experience poorer health outcomes, on average, relative to urban areas.[8,10,11] In general, individuals in rural areas have fewer financial resources, are more geographically isolated, and have poorer health outcomes than their urban counterparts. For individuals who live to older adulthood, there are rural-urban disparities in life expectancy at age 65 (17.5 years for non-metropolitan residents vs. 19 years for residents of large metropolitan areas.)[12] Furthermore, individuals in rural areas tend to have unique challenges in accessing health care and other resources, including workforce shortages, lack of specialty care, and issues with transportation to health care facilities.[12–14] When considering the implications for older adults in rural areas, these factors may present challenges to supporting a quickly aging population.

Given this context, in order to make better policy decisions and allocations of resources, it is especially important to have a complete understanding of the differences in demographics, socioeconomic standing, health care access and use, and health status between rural and urban older adults. This chartbook summarizes the key similarities and differences in each of these four domains.

Data and Methods

Most charts use data from either the 2013-2017 American Community Survey (ACS) 5-Year Summary Files, obtained through the IPUMS National Historical Geographical Information System (NHGIS),[i] or the 2015 (Round 5) National Health and Aging Trends Study (NHATS).[ii] Two charts use data from the 2016 Medicare Current Beneficiary Survey (MCBS).[iii]

Notes below each chart identify statistical significance for rural-urban differences. If only a subset of the differences illustrated in a chart are statistically significant, asterisks in the chart indicate different levels of significance: * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$. See the appendix for more detailed information on the data sources and methodology.

[i] https://www.nhgis.org/
[ii] https://www.nhats.org/
[iii] https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS

Rural and urban location are classified using the Office of Management and Budget's delineations of metropolitan and non-metropolitan areas, with all metropolitan counties referred to as "urban" throughout this chartbook, and non-metropolitan counties referred to as "rural." The 2013-2017 ACS data use the OMB's 2015 delineations while charts illustrating NHATS data use the 2013 delineations.[15]

Throughout the chartbook, "older adult" is defined as age 65 and over, unless otherwise specified.

Implications

This chartbook provides information on rural-urban differences among older adults across several domains. This information will contribute to a fuller understanding of the health and wellbeing of all older adults and is particularly important for rural areas, which have disproportionately older populations. The charts herein will serve as a valuable resource for policymakers, researchers, social service providers, and health care workers to inform policy and practice in rural health and aging.

Overall, the differences we find in demographics between rural and urban older adults are nearly all statistically significant – highlighting the real demographic differences between the two populations. This points to the need for geographically tailored policies and programs that can best serve the particular populations within rural and urban areas.

Further, we find differences between rural and urban older adults in access to financial resources; while rural older adults are more likely to own their homes outright and pay lower rent (for those who do not own), they also have considerably less wealth. Rural areas have lower costs of living, on average, compared to urban areas, but rural older adults may still be in more precarious positions should a financial emergency arise (e.g., unexpected medical expense).

We also find many similarities between rural and urban older adults, including rates and types of health care coverage, including prescription drug coverage through Medicare Part D. Equity in prescription drug coverage is particularly important given high prescription drug costs in the US. Still, we found higher disability rates among rural older adults, including more difficulties with hearing, ambulation, cognition and vision. These differences are important when considering Medicare policies for specific services (including a lack of coverage for long-term care services). These differences are also important when considering what the social service or aging service needs are for rural vs. urban communities; inequities in disability and health status may come with meaningful implications for service need and funding requirements (e.g., for home-delivered meals, transportation, home chore services, etc.).

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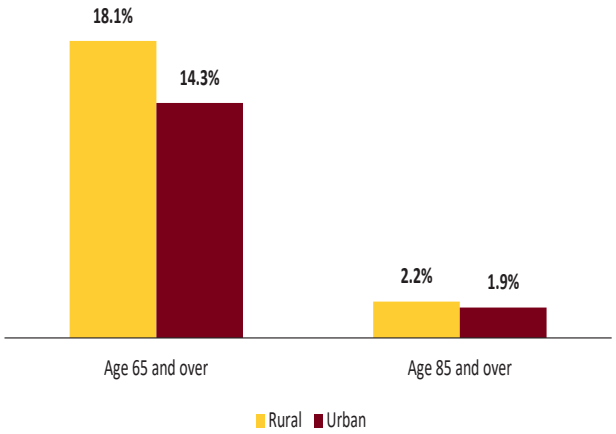
Domain 1: Demographics

This domain includes age, sex, race and ethnicity, marital status, and migration patterns. A few charts also break down rural-urban differences for the "oldest old," adults age 85 and over. Generally, rural counties have a larger percentage of population age 65 and over. Rural older adults are more likely than urban older adults to be non-Hispanic White; to be married, widowed, or divorced; and to be veterans. While the majority of older adults are women in both rural and urban counties, the share of men is higher in rural counties than in urban.

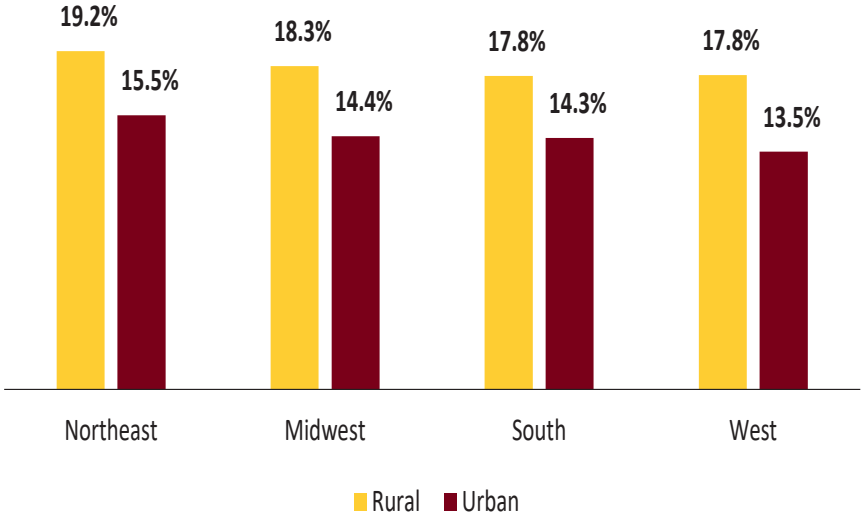
Chart 1.1. Percentage of Total Population by Age 65+ and 85+



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

The population of rural counties includes a higher share of older adults (age 65 and over) and a higher share of the oldest adults (age 85 and over) than in urban counties.

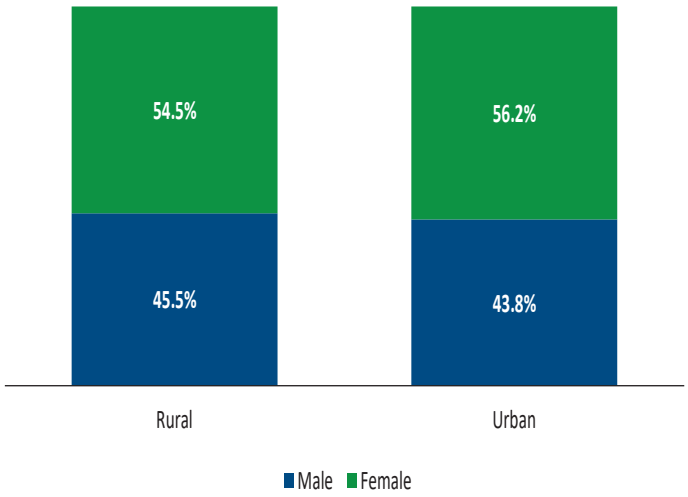
Chart 1.2. Percentage of Population that are Older Adults by Region



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.01$.

The Northeast, Midwest, South, and West each have a higher share of older adults in rural areas than in urban, and the rural-urban difference is consistent across regions.

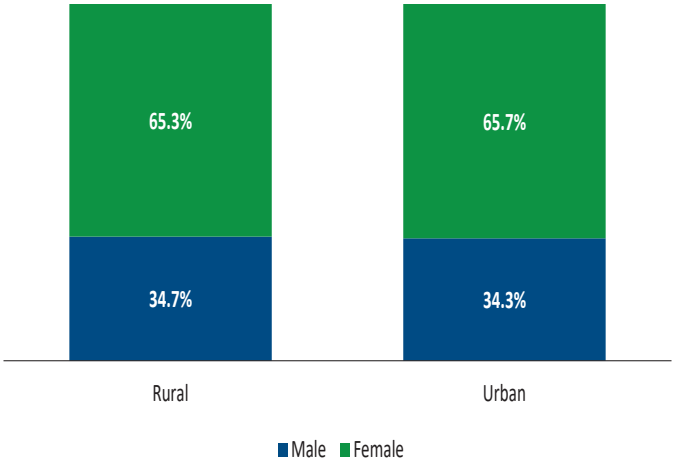
Chart 1.3. Sex Composition of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

Across both rural and urban counties there is a higher share of female older adults than males. However, rural counties have a somewhat higher share of male older adults than urban counties. The rural-urban differences are small but still statistically significant.

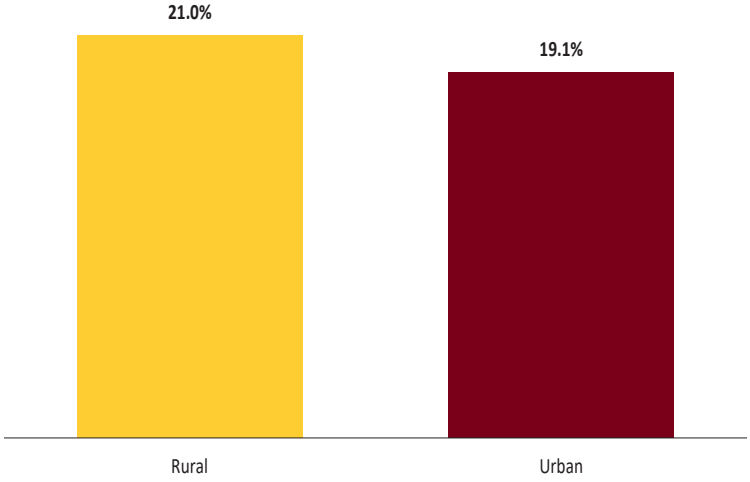
Chart 1.4. Sex Composition of the Oldest Old (Age 85+)



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are not statistically significant.

Relative to the entire population age 65 and over, females form a larger share of the oldest old. The difference between rural and urban counties is small, with a slightly (0.4 percentage point) higher share of males among rural adults age 85 and over. This difference is not statistically significant, however.

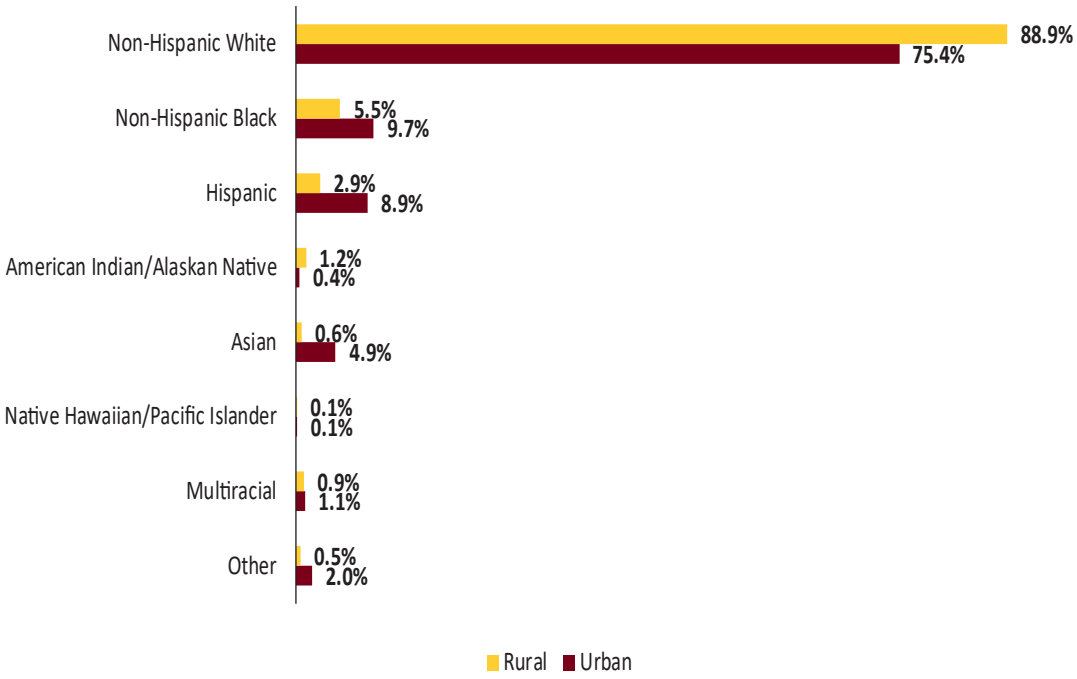
Chart 1.5. Veteran Status of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

More than one in five rural older adults is a veteran, which is a significantly higher share than in urban counties.

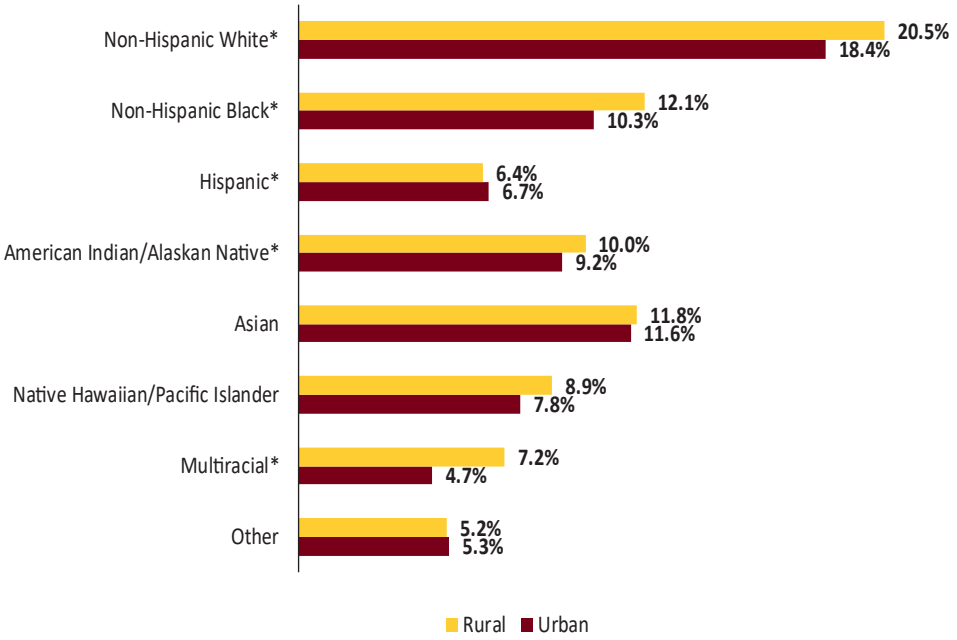
Chart 1.6. Racial and Ethnic Composition of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

Though both rural and urban older adults are primarily non-Hispanic White, this group comprises almost 90% of older adults in rural counties, compared to just over 75% of older adults in urban counties. There is also a significantly higher percentage of American Indian/Alaskan Native older adults in rural counties, and significantly higher percentages of non-Hispanic Black, Asian, and Hispanic older adults in urban counties.

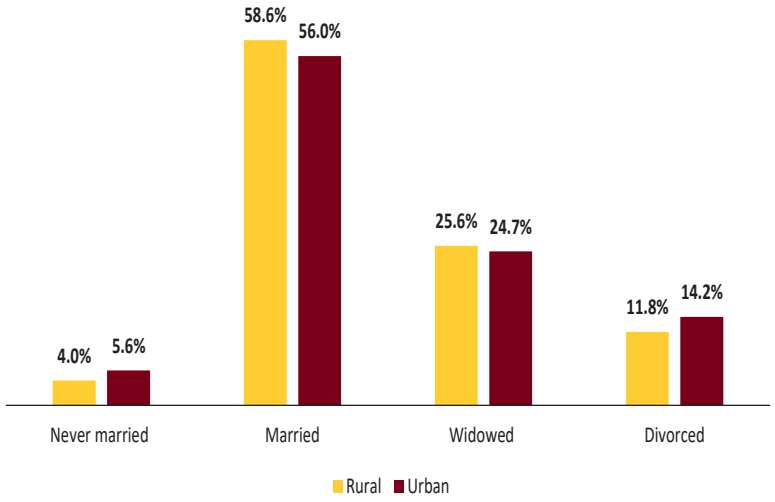
Chart 1.7. Percentage of each Racial and Ethnic Group that are Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Marked rural-urban difference significant at *p < 0.05.

Older adults comprise a higher proportion of the non-Hispanic White population than any other racial group, and this is especially pronounced in rural counties. All other racial and ethnic groups have comparatively younger age distributions. For nearly all groups, older adults comprise a higher share in rural counties than in urban counties, with the exception of Hispanics and those of "Other" race. All of these differences are statistically significant except between Asian older adults, Native Hawaiian/Pacific Islanders, and those of "Other" race.

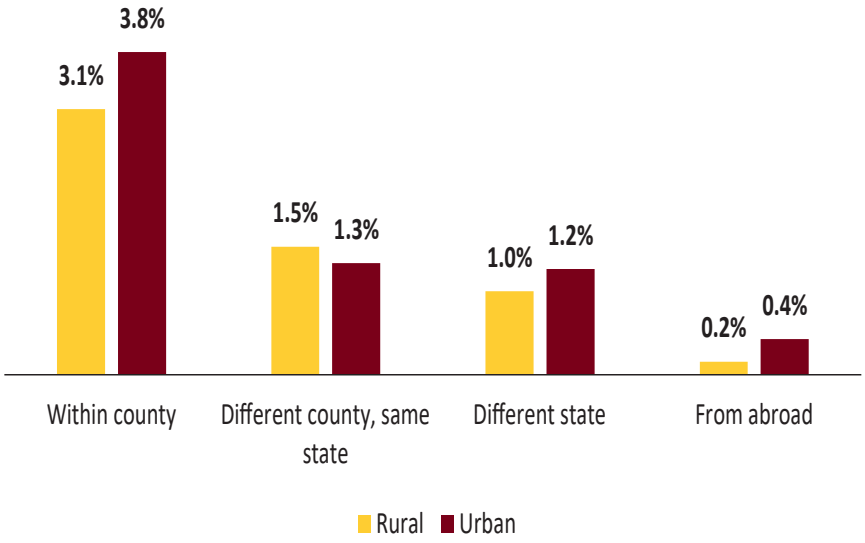
Chart 1.8. Marital Status of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at p < 0.05.

There are somewhat higher shares of married and widowed older adults in rural counties, while a higher share of urban older adults never married or divorced. Though most of these differences are small, they are all statistically significant.

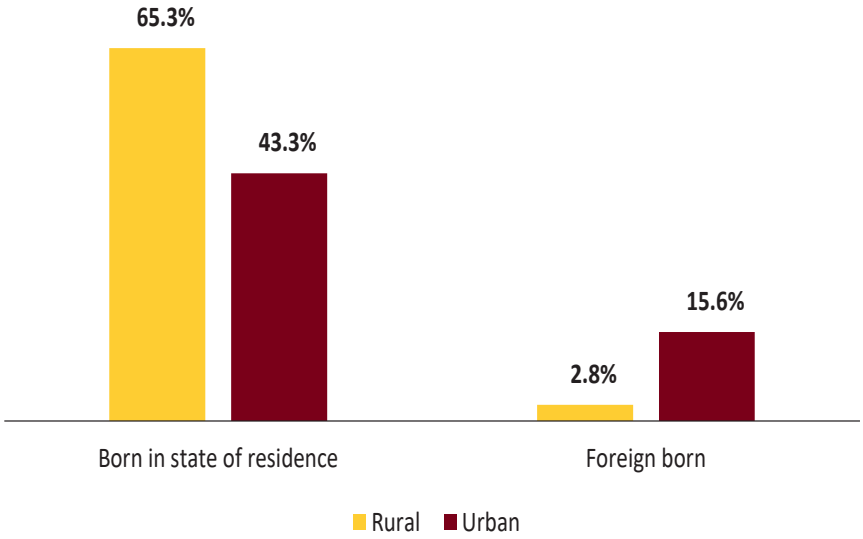
Chart 1.9. Percentage of Older Adults who Moved in Past Year by Relative Origin



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

Overall, the percentage of older adults who reported a move in the past year is greater in urban counties (6.7%) than in rural counties (5.7%). This difference is due to urban older adults moving at somewhat higher rates within the same county (+0.7%), from a different state (+0.3%), and from abroad (+0.3%). In contrast, the share of older adults who moved from a different county within the same state is greater in rural counties than in urban counties (+0.2%). Though small, these differences are all statistically significant.

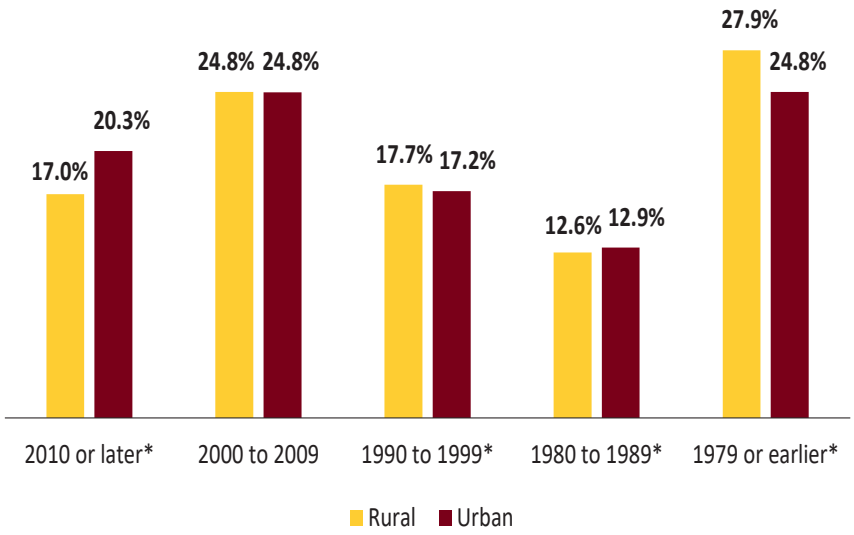
Chart 1.10. Birthplace of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.01$.

Rural older adults are much more likely ot be living in the state in which they were born than to have been born abroad or in a state other than their current residence (31.8%). In contrast, urban older adults live in the state in which they were born and states other than where they were born (41.6%) at similar rates. Additionally, urban older adults are more than 5 times as likely to be born abroad as rural older adults.

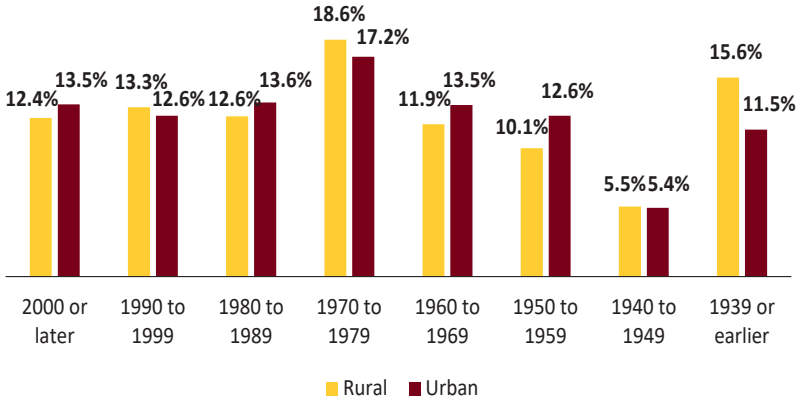
Chart 1.11. Year Older Adult Householder Moved into Unit



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Marked rural-urban differences are significant at *p < 0.01.

Similar shares of rural (55.1%) and urban (54.9%) older adults moved into their home during the time periods between 1980 and 2009 (although these differences are still significant for the periods 1980 to 1989 and 1990 to 1999). In contrast, the largest rural-urban differences are at either end of this spectrum. Rural older adults are much more likely to have moved into their home in 1979 or earlier, whereas urban older adults are much more likely to have moved into their home in 2010 or later.

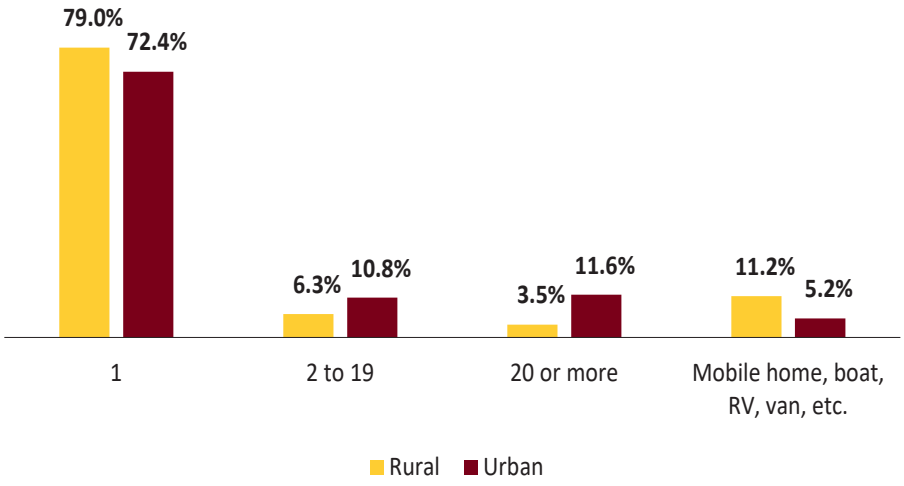
Chart 1.12. Year Older Adult Householder's Structure was Built



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at p < 0.01.

The majority of rural older adults (61.7%) and urban older adults (60.2%) live in a home that was built in 1979 or earlier. In particular, rural older adults are significantly more likely to live in homes built in 1939 or earlier.

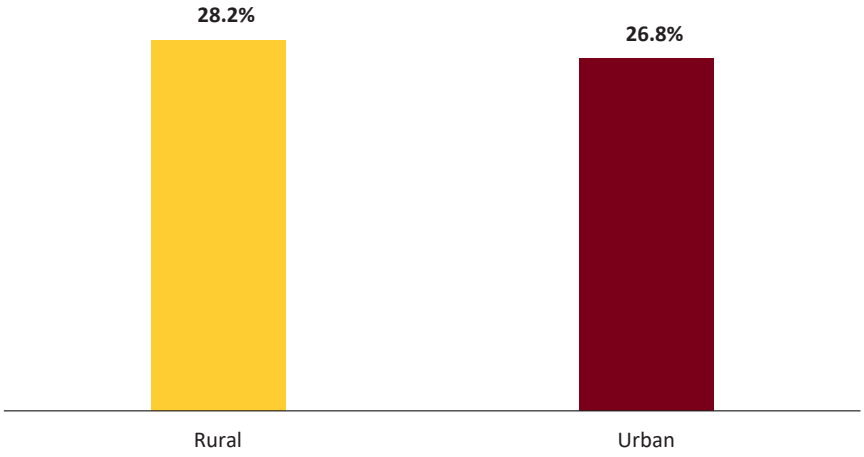
Chart 1.13. Number of Units in Older Adult Householder's Structure



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.01$.

The majority of both rural and urban older adults live in a single unit structure. However, rural older adults are twice as likely to be living in a mobile home or similar structure whereas urban older adults are more likely than rural older adults to be living in a multi-unit structure.

Chart 1.14. Percentage of Older Adults Living Alone



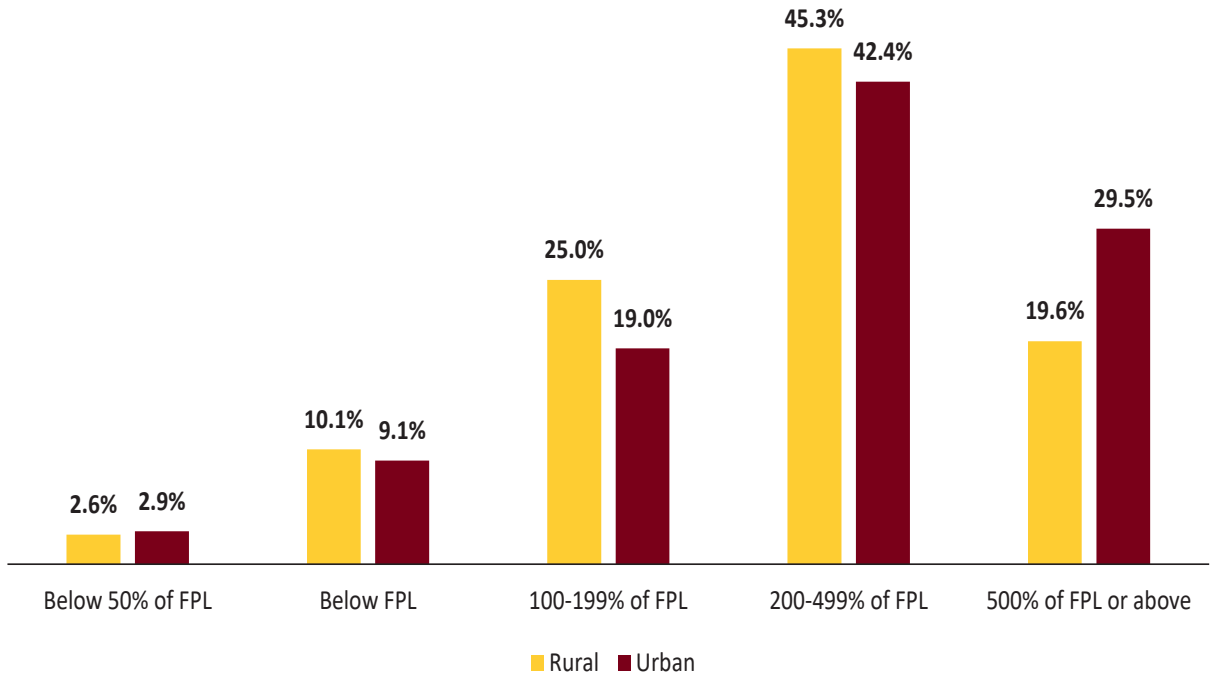
Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

More than one in four older adults in both rural and urban counties live alone, but this rate is significantly higher among rural older adults.

Domain 2: Socioeconomic Characteristics

This domain includes income, retirement funding, financial insecurity, and home ownership. Generally, rural adults age 65 and over are less financially well-off than their urban counterparts. Rural older adults are more likely to have low or moderate incomes, while urban older adults disproportionately have high incomes. However, rural older adults are more likely to be homeowners and to have paid off their mortgage. Other measures of socioeconomic status (financial assistance, Social Security and retirement, credit cards and credit card debt, financial insecurity) do not show statistically significant rural-urban differences. These differences should be considered in light of rural/urban differences in cost of living, as well as variation by region.

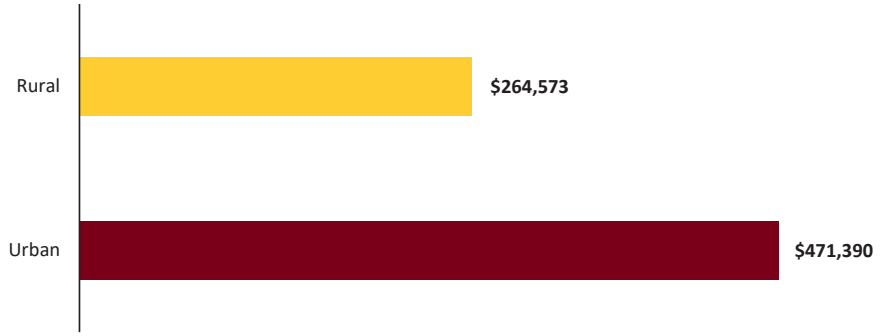
Chart 2.1. Percentage of Older Adults by Ratio of Income to Federal Poverty Level (FPL)



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$. Columns do not add to 100% because "Below 50% of FPL" is a subset of "Below FPL."

While a higher share of rural older adults is living in poverty (i.e., below FPL), a slightly higher share of urban older adults is living in deep poverty (i.e., below 50% of FPL). Higher shares of rural older adults have low or moderate incomes (100 to 499% of FPL), and a much higher share of urban older adults have high incomes (500% of FPL or above).

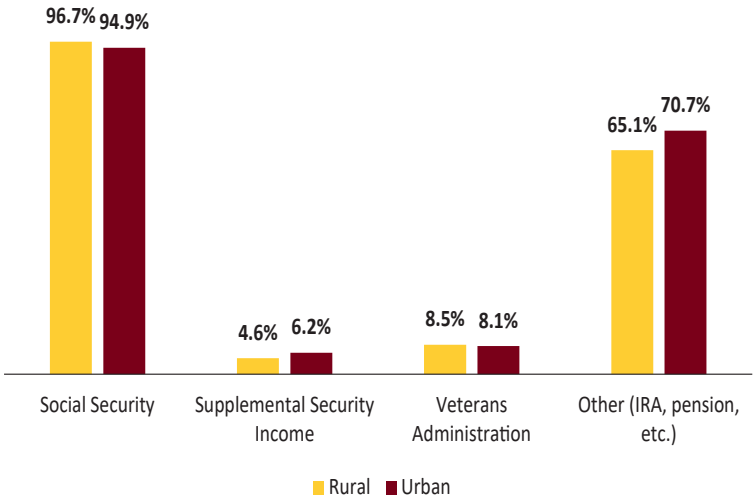
Chart 2.2. Average Household Wealth and Assets for Older Adults



Source: 2015 NHATS.
Note: Rural-urban difference is significant at $p < 0.001$.

Urban older adult households have significantly higher total wealth and asset values, almost double that of rural older adult households.

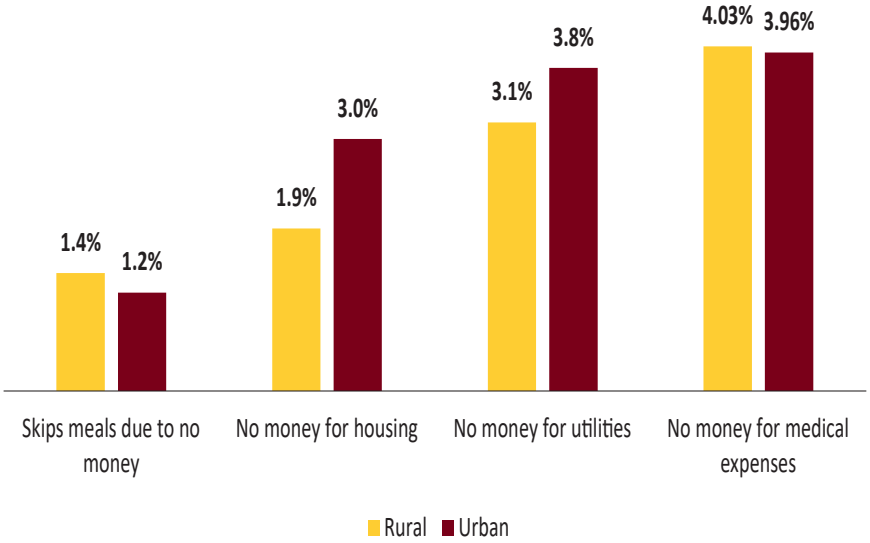
Chart 2.3. Source of Retirement Income among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.
Categories are not mutually exclusive.

Across the various sources of retirement income, nearly all rural and urban older adults receive Social Security, and majorities of older adults have a private source, such as an IRA or pension. A relatively small percentage of both rural and urban older adults report receiving Supplemental Security Income (SSI) or payments from the Veteran's Administration (VA).

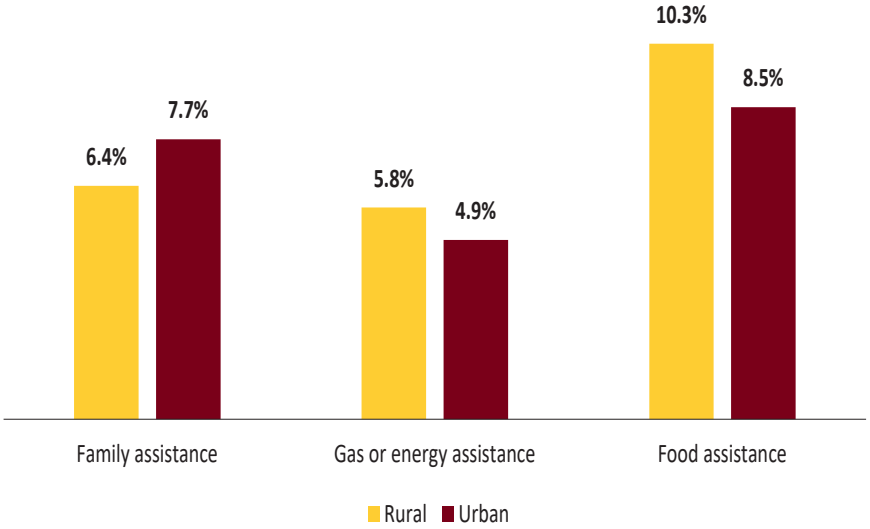
Chart 2.4. Financial Insecurity among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.
Categories are not mutually exclusive.

Across four indicators of financial insecurity, rates of older adults reporting financial difficulties in various domains are relatively low for both rural and urban older adults. While rural/urban differences are not statistically significant and are relatively low, these rates still represent large numbers of individuals. (E.g., in the 2013-2017 ACS estimates, 4% of all older adults amounts to 1.9 million individuals.)

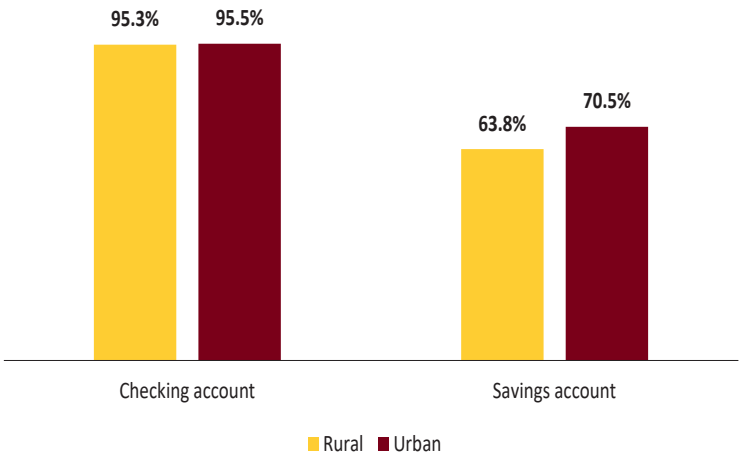
Chart 2.5. Financial Assistance among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Although the differences are not statistically significant, higher shares of rural older adults received publicly funded gas or energy assistance, and food assistance (including SNAP/food stamps, Meals on Wheels, or other food assistance), while a higher share of urban older adults received financial assistance from family.

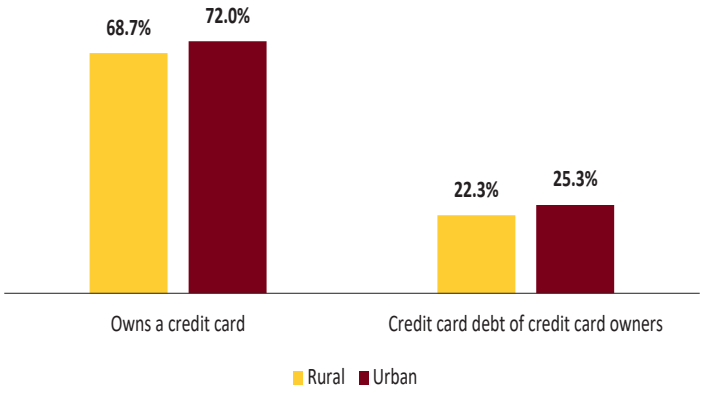
Chart 2.6. Bank Accounts of Older Adults' Households



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Rates of checking account ownership are uniformly high among rural and urban older adults. Substantial majorities of both groups also own savings accounts, but it appears that the rate is somewhat lower for rural older adults.

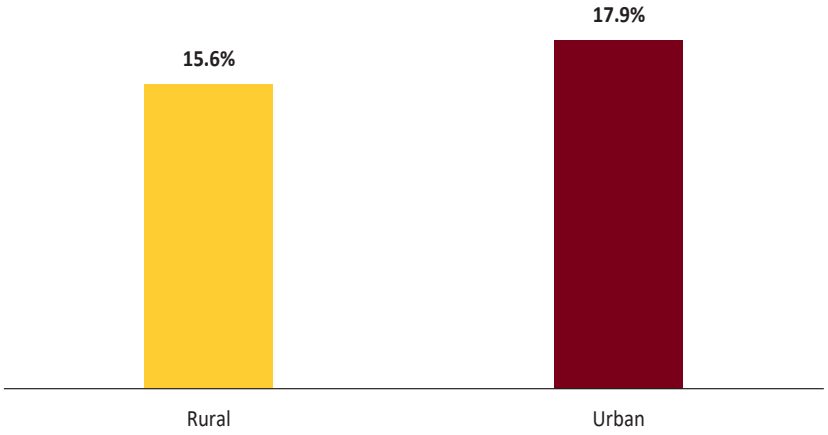
Chart 2.7. Credit Cards and Credit Card Debt among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Rural and urban older adults reported similar rates of credit card ownership, and of those who own a credit card, similar rates of credit card debt.

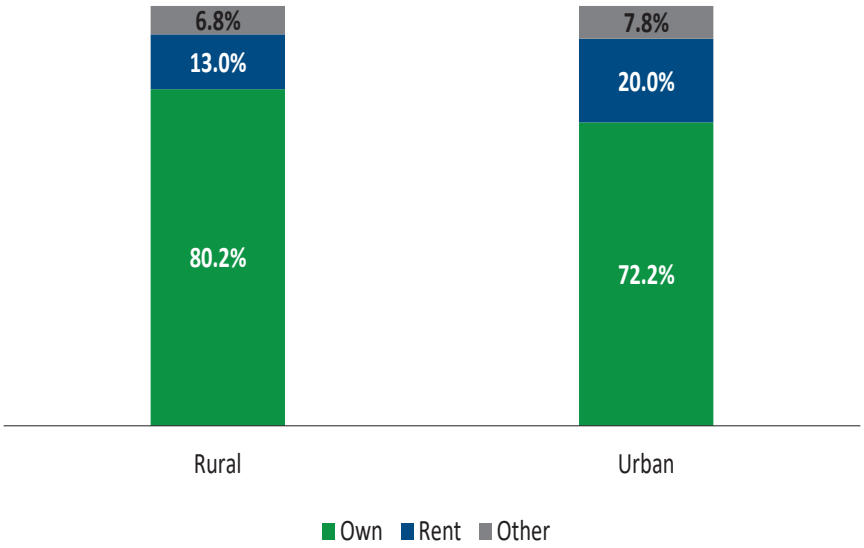
Chart 2.8. Labor Force Participation of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban difference is significant at $p < 0.05$.

The share of older adults still in the labor force is about 1 in 6 in both rural and urban counties, but the share is significantly higher among urban older adults.

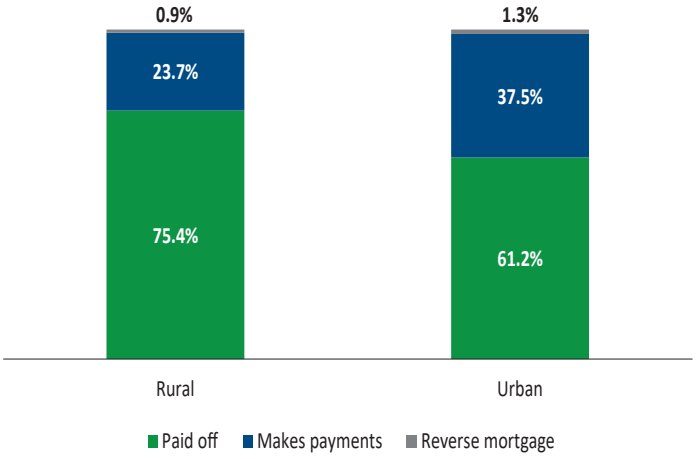
Chart 2.9. Housing Tenure of Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are significant at $p < 0.001$.

In both rural and urban counties, majorities of older adults own their homes rather than rent or any other situation (such as residing in a long-term care facility or nursing home). However, rural older adults are significantly more likely to be homeowners, and significantly less likely to rent or live in any other situation.

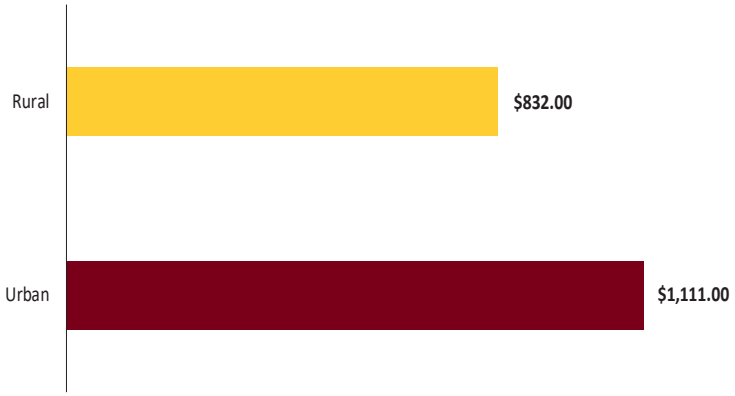
Chart 2.10. Mortgage Status of Older Adult Homeowners



Source: 2015 NHATS.
Note: Rural-urban differences are significant at $p < 0.001$.

Majorities of older adult homeowners in both rural and urban counties have paid off their mortgages, but a significantly higher share of urban older adults are still making payments.

Chart 2.11. Average Rent of Older Adult Renters



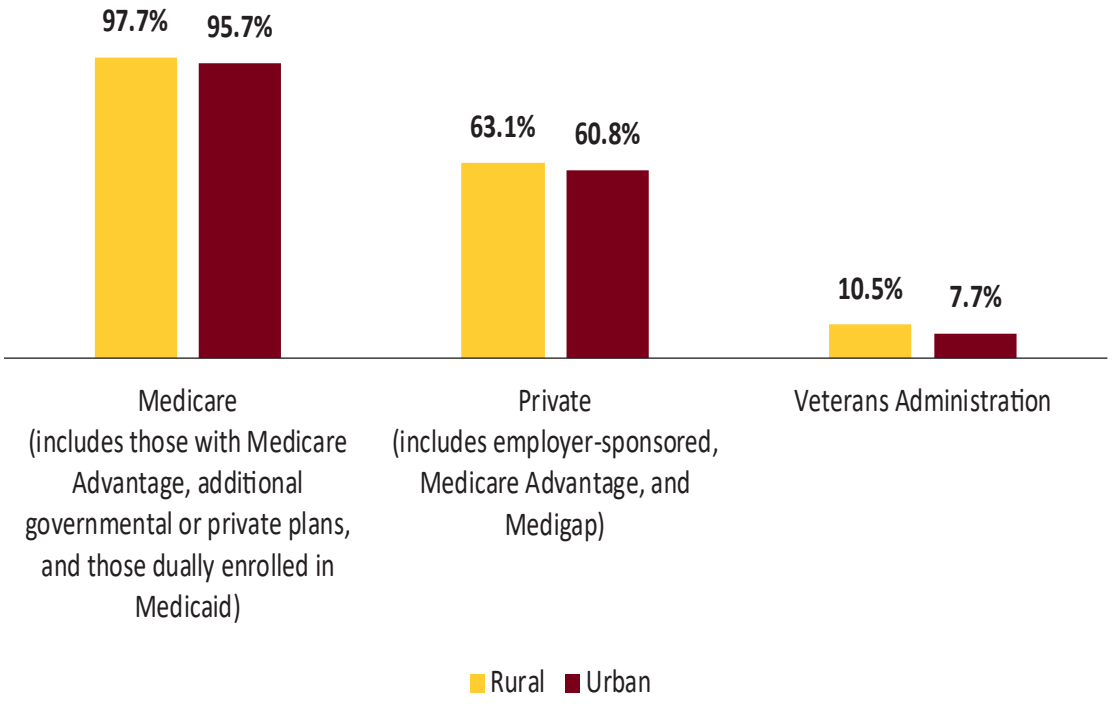
Source: 2015 NHATS.
Note: Rural-urban difference is significant at $p < 0.01$.

Average rent is significantly higher for urban older adults who rent compared to average rent for rural older adults.

Domain 3: Health Care Access and Use

This domain includes health insurance coverage, doctor visits, and medication usage. These characteristics tend to be similar among rural and urban older adults. Regardless of rural-urban status, most older adults have public health insurance (specifically Medicare), supplement their public health insurance with private, and report low rates of uninsurance. Rural older adults report slightly higher coverage by both private and public health plans and accordingly, lower rates of uninsurance across all racial groups except American Indians. The vast majority of all older adults have a regular doctor and have seen their doctor within the past year, but rural older adults are slightly less likely to have seen their doctor within the past year. A high share of all older adults are prescribed medications, and how they obtain their medication is also similar between rural and urban counties.

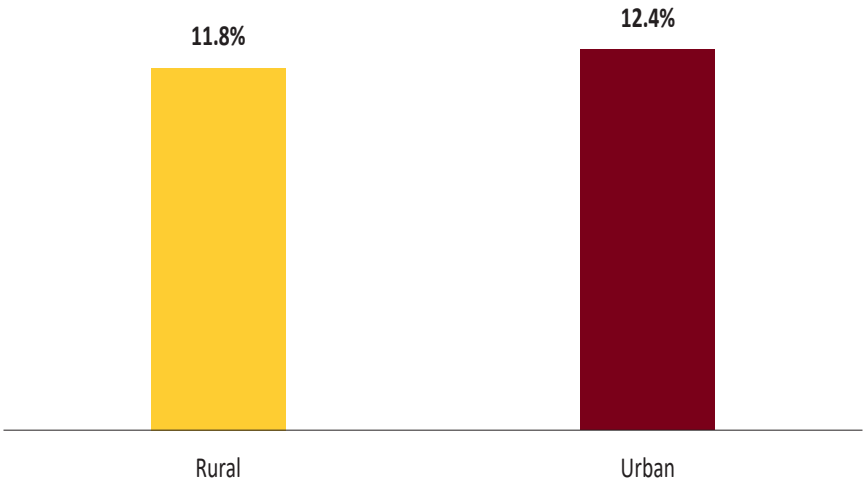
Chart 3.1. Health Plan Enrollment of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.
Categories are not mutually exclusive.

For each of three types of health plans (private, Medicare, and Veterans Administration), older adults are enrolled at slightly (but still significantly) higher rates in rural counties than in urban counties. Categories are not mutually exclusive; for example, older adults may be enrolled in Medicare and a private, supplemental "Medigap" plan, Medicare Advantage plan, or employer-sponsored plan.

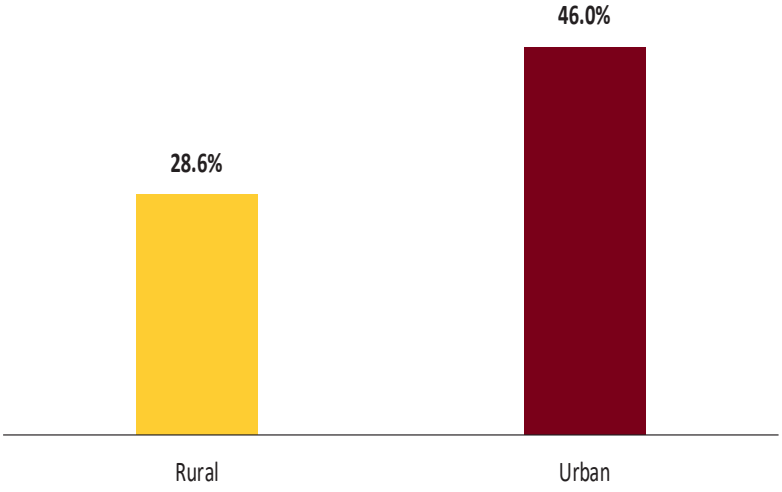
Chart 3.2. Older Adults Enrolled in Both Medicare and Medicaid



Source: 2015 NHATS.
Note: Rural-urban difference is not statistically significant.

In both rural and urban counties, fewer than 1 in 8 older adults is a "dual enrollee," enrolled in both Medicare and Medicaid. The rate is slightly higher among urban older adults, but the difference is not statistically significant.

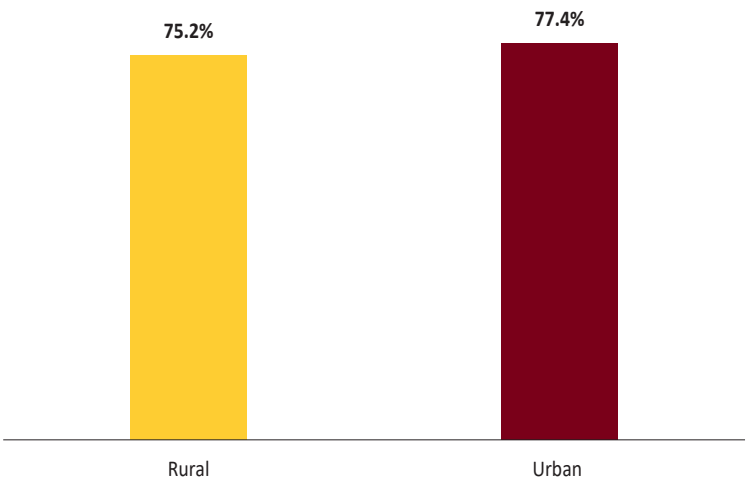
Chart 3.3. Medicare Advantage Enrollment among Older Adults



Source: 2016 MCBS.
Note: Rural-urban difference is significant at $p < 0.001$.

Older adults in urban counties are enrolled in Medicare Advantage at a significantly higher rate than rural older adults. This may indicate a gap in available plans, affordability, and attractiveness of plans, and access to enrollment assistance by rurality.

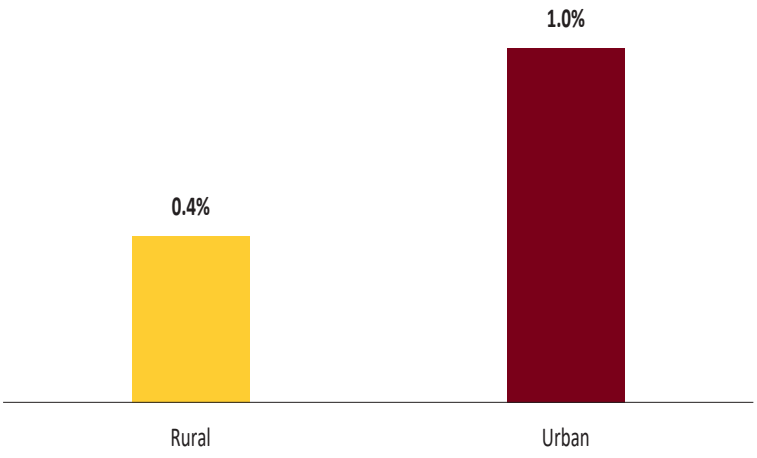
Chart 3.4. Prescription Drug Plan (Part D) Enrollment Rates Among Older Adults



Source: 2016 MCBS.
Note: Rural-urban difference is not statistically significant.

More than three-quarters of older adults in both rural and urban areas were enrolled in a Medicare prescription drug plan (Part D) as of 2016, with no significant differences by location.

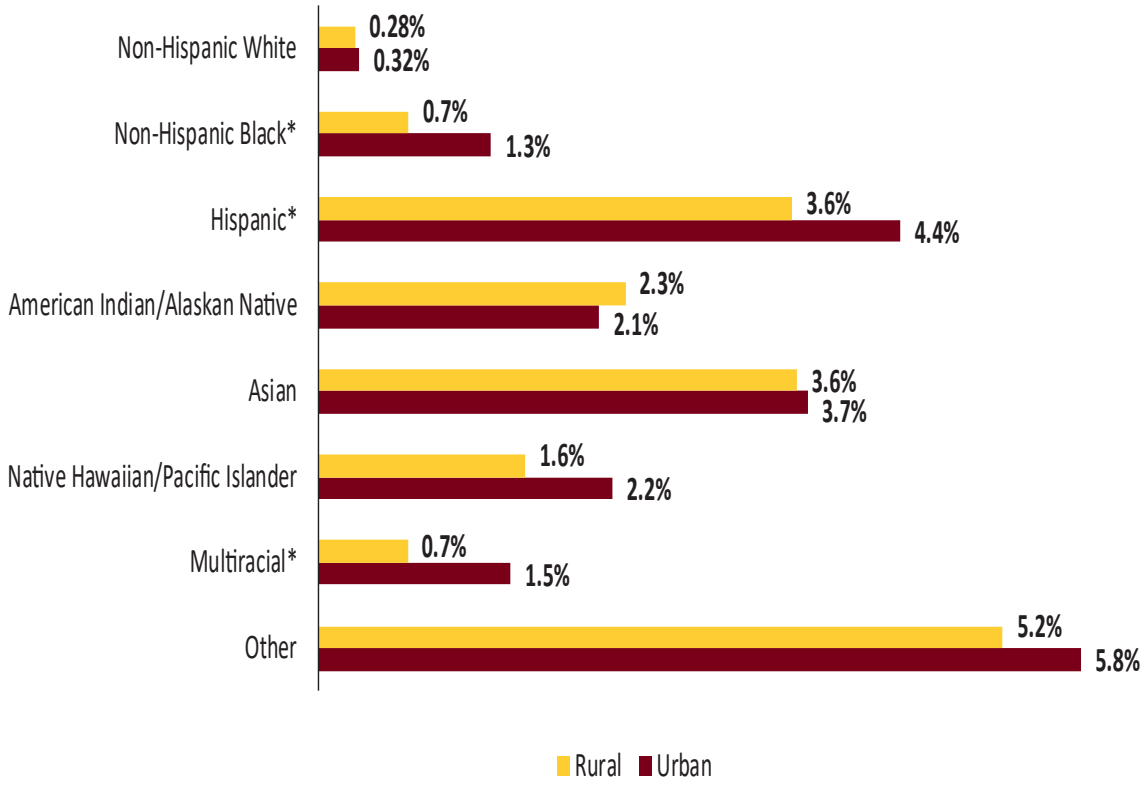
Chart 3.5. Uninsurance Rates among Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban difference is significant at $p < 0.05$.

While the rate of uninsurance among older adults is low in both rural and urban counties, those in urban counties are more than twice as likely to be uninsured.

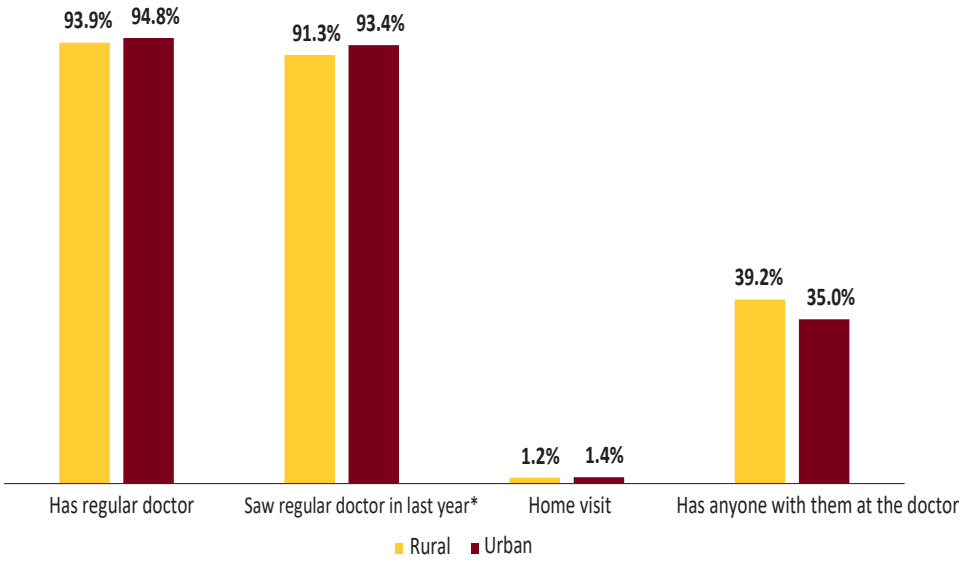
Chart 3.6. Uninsurance Rates by Racial and Ethnic Groups among Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Marked rural-urban differences are significant at *p < 0.05.

Among older adults, all minority groups have higher uninsurance rates than non-Hispanic Whites, with the highest rates occurring among those who are Hispanic, Asian, or some other race (possibly because these groups are most likely to include immigrants ineligible for public health plans). Within these racial and ethnic groups, uninsurance rates are higher for urban older adults, with one exception: among American Indian older adults, those in rural counties have a slightly higher uninsurance rate, though this difference is insignificant.

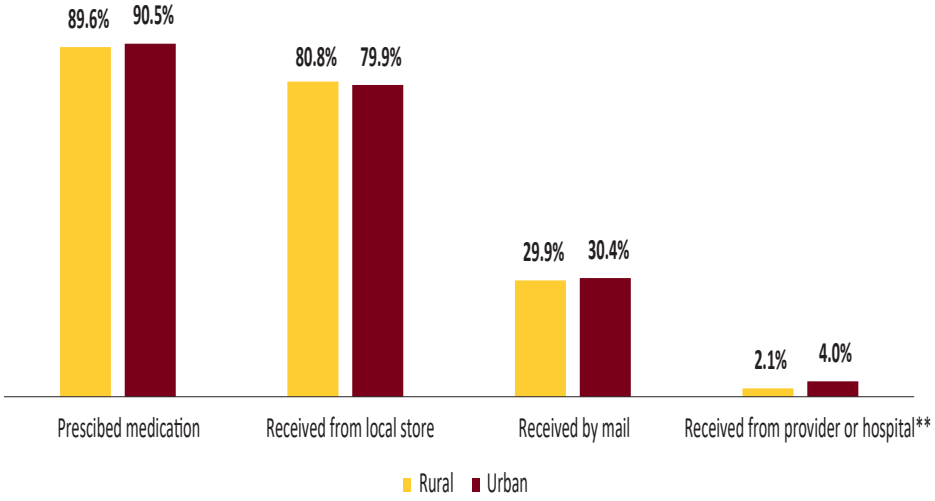
Chart 3.7. Doctor Visit Patterns of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Marked rural-urban difference is significant at *p < 0.05.

Large shares of both rural and urban older adults reported having a regular doctor, but a significantly higher share of urban older adults saw their regular doctor within the past year. Very few urban or rural adults had a home visit with their regular doctor.

Chart 3.8. Prescription Medication Acquisition among Older Adults



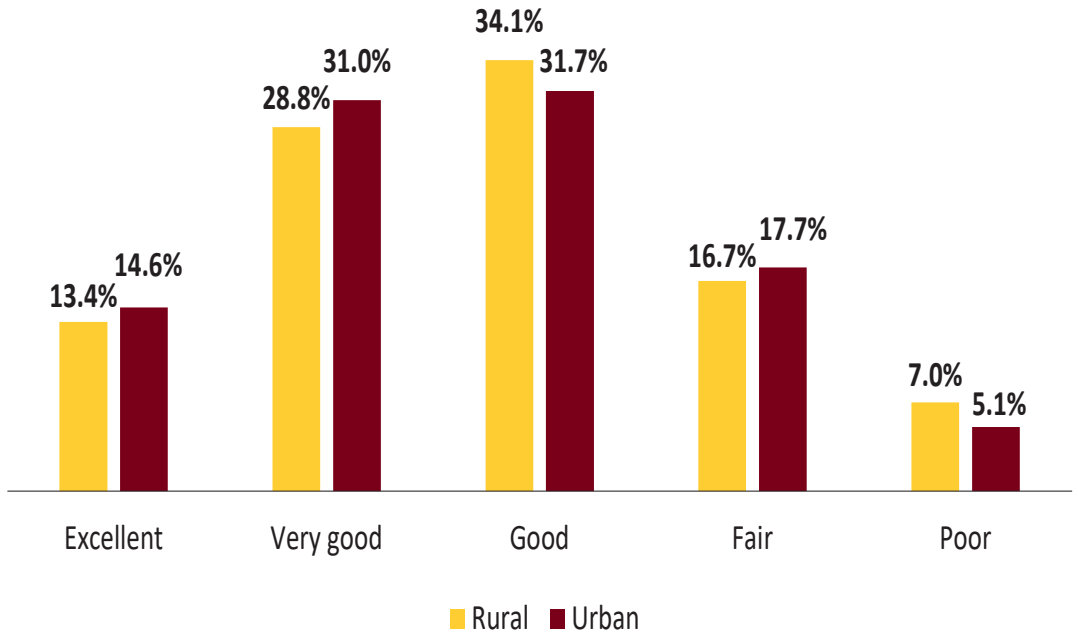
Source: 2015 NHATS.
Note: Marked rural-urban difference is significant at **p < 0.01. The categories "Received from local store," "Received by mail," and "Received from provider or hospital" are not mutually exclusive.

Large majorities of both rural and urban older adults were prescribed medications within the past month, and most picked up their medications at a local store or pharmacy. Almost a third of both rural and urban older adults received prescriptions by mail. A very small proportion of older adults received their medications directly from their provider or hospital, though urban older adults reported this method nearly twice as much as rural older adults.

Domain 4: Health Characteristics

This domain includes physical health, mental health, and self-rated health. On average, rural older adults rate their health as worse than urban older adults (although this difference is not statistically significant). Rural older adults are also more likely to have a disability (vision, hearing, cognitive, or ambulatory), to have had a heart attack or stroke, and to have heart or lung disease. However, rates of several chronic conditions, including high blood pressure, diabetes, osteoporosis, and cancer, are similar for rural and urban older adults. Both classes of older adults also report similar outcomes across mental health and well-being indicators. While there are variations across these measures, the only measure with a significant difference is the ability to adjust to change, with rural older adults having slightly more difficulty than urban older adults.

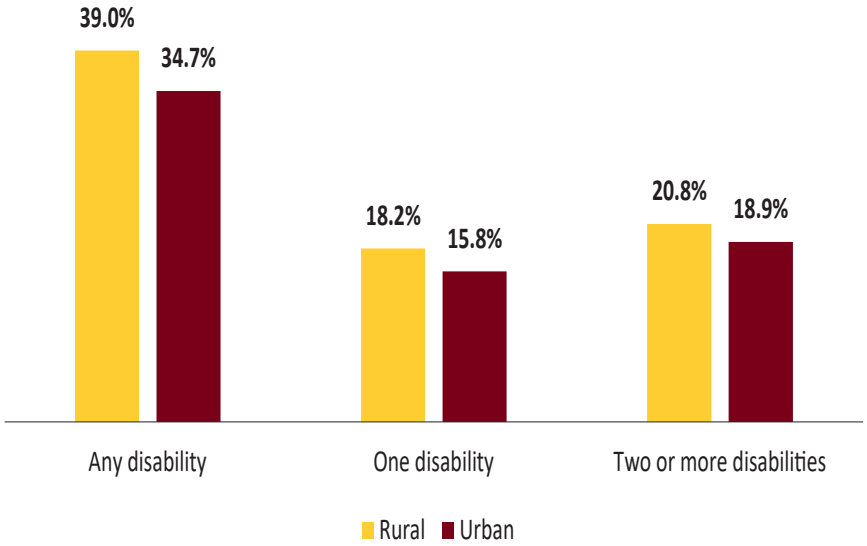
Chart 4.1. Self-Rated Health Status of Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

No differences in self-rated health are statistically significant, but rural older adults were slightly more likely to rate their health as good or poor, while urban older adults were slightly more likely to rate their overall health as excellent or very good.

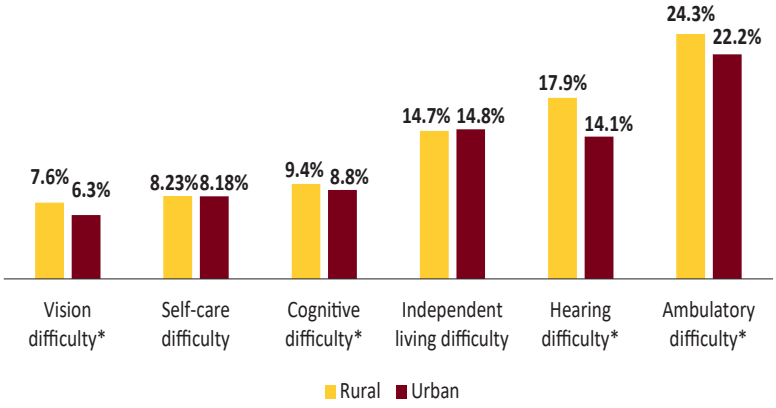
Chart 4.2. Disability Status of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Rural-urban differences are significant at $p < 0.05$.

Over one-third of both rural and urban adults indicated having a disability, and a higher share of both rural and urban adults indicated having two or more disabilities rather than just one. Rural older adults reported a significantly higher frequency of disability than their urban counterparts across all 3 categories.

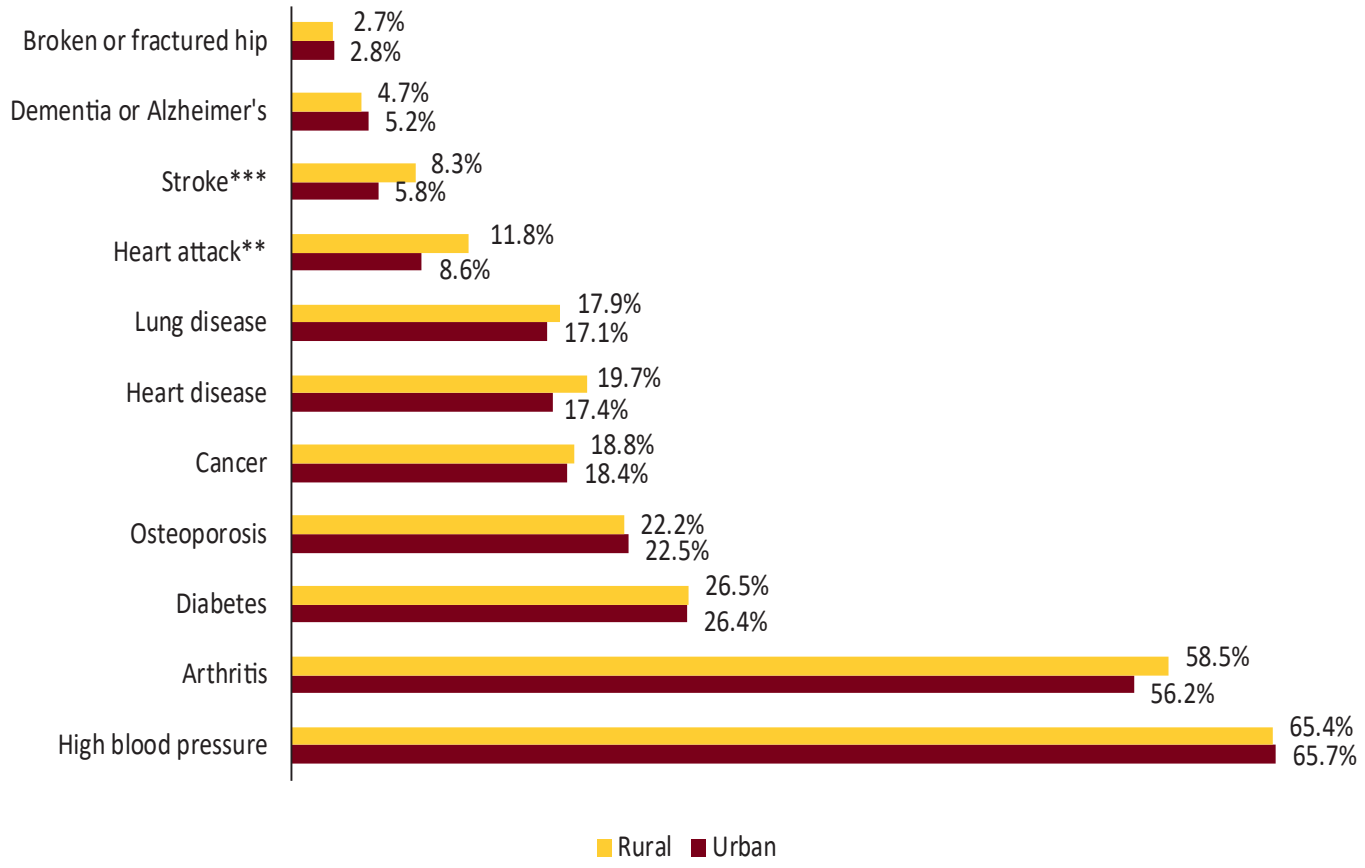
Chart 4.3. Disability Type of Older Adults



Source: 2013-2017 ACS, IPUMS NHGIS.
Note: Marked rural-urban differences are significant at $*p < 0.05$.

For both rural and urban older adults, ambulatory difficulties were the most common. A significantly higher share of rural older adults indicated having difficulties with vision, cognition, hearing, and ambulation. Rural and urban older adults responded nearly equally regarding independent living and self-care difficulties.

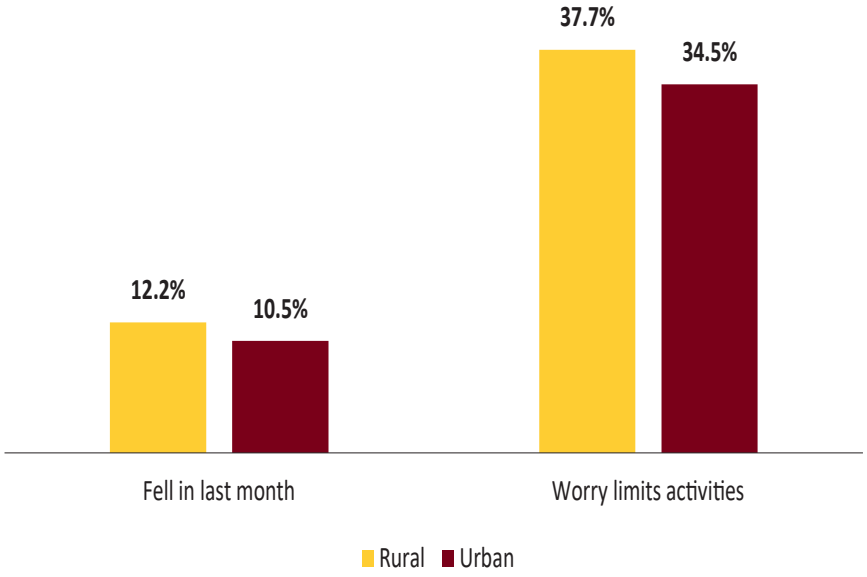
Chart 4.4. Physical Health Conditions of Older Adults



Source: 2015 NHATS.
Note: Marked rural-urban differences are significant at **p < 0.01, ***p < 0.001.

Among both rural and urban older adults, arthritis and high blood pressure were the most prevalent conditions. Instances of broken or fractured hips, high blood pressure, diabetes, osteoporosis, lung disease, dementia or Alzheimer's disease, and cancer occurred at nearly equal rates across the two geographic groups. Rural older adults reported higher rates of strokes, heart disease, and heart attacks, but only the rural-urban differences of heart attacks and strokes were significantly different.

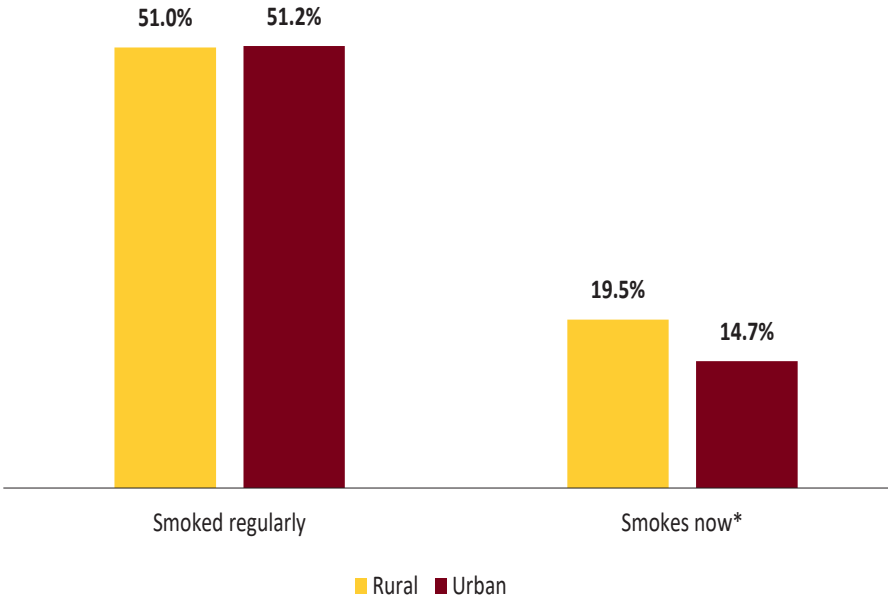
Chart 4.5. Falls and Fall-Related Worry of Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

More than one in ten older adults in both rural and urban counties reported falling, and more than one in three older adults reported limiting their activities because of concern about falling. Although the rural-urban differences were not statistically significant, rural older adults reported slightly higher shares in both categories. These measures can be indicative of both physical health and quality of life.

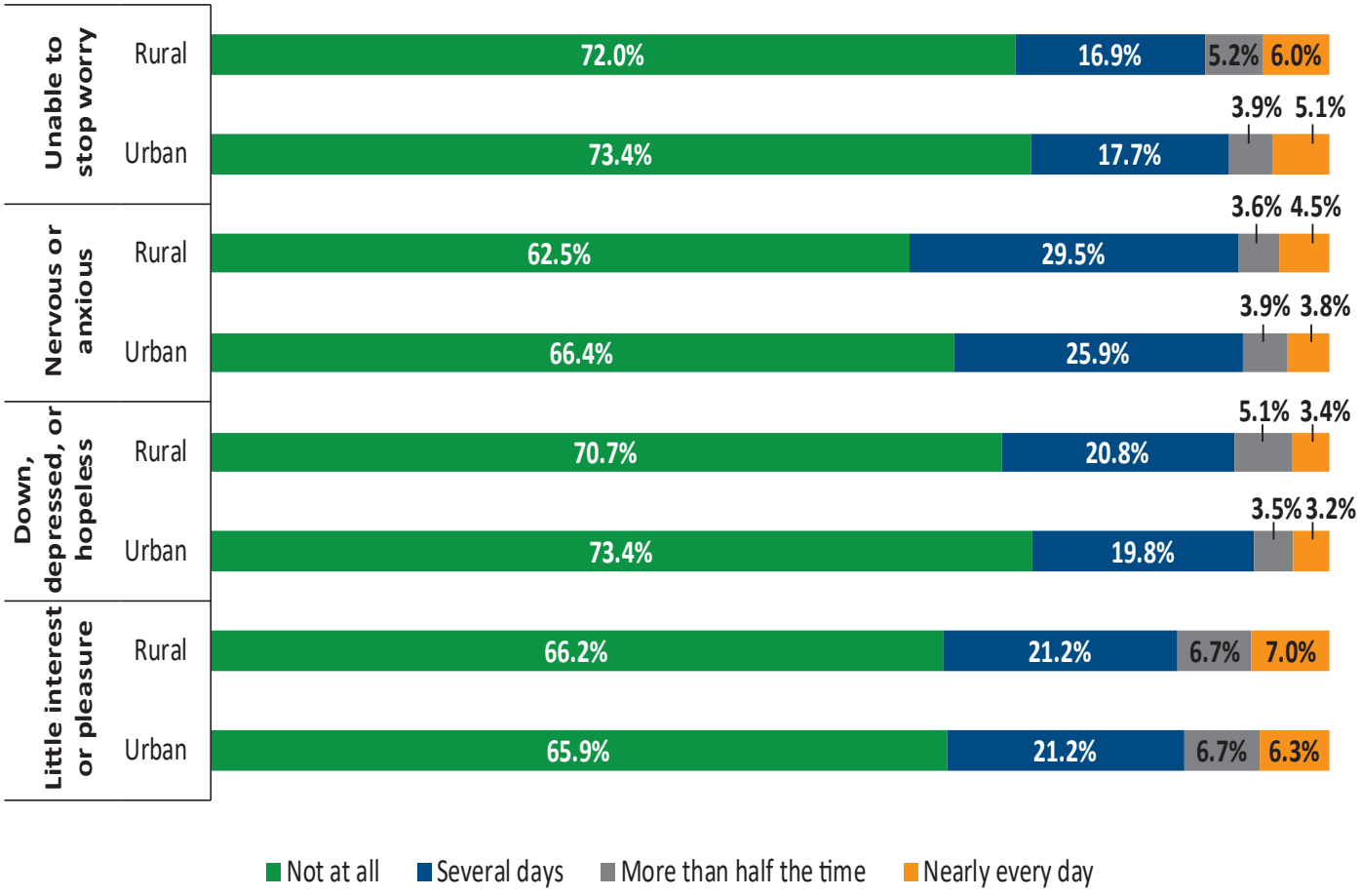
Chart 4.6. Smoking Status of Older Adults



Source: 2015 NHATS.
Note: Marked rural-urban difference is significant at *p < 0.05.

Across rural and urban counties, the rate of older adults who smoked regularly in the past is nearly equal, but a significantly higher share of rural older adults reported smoking currently.

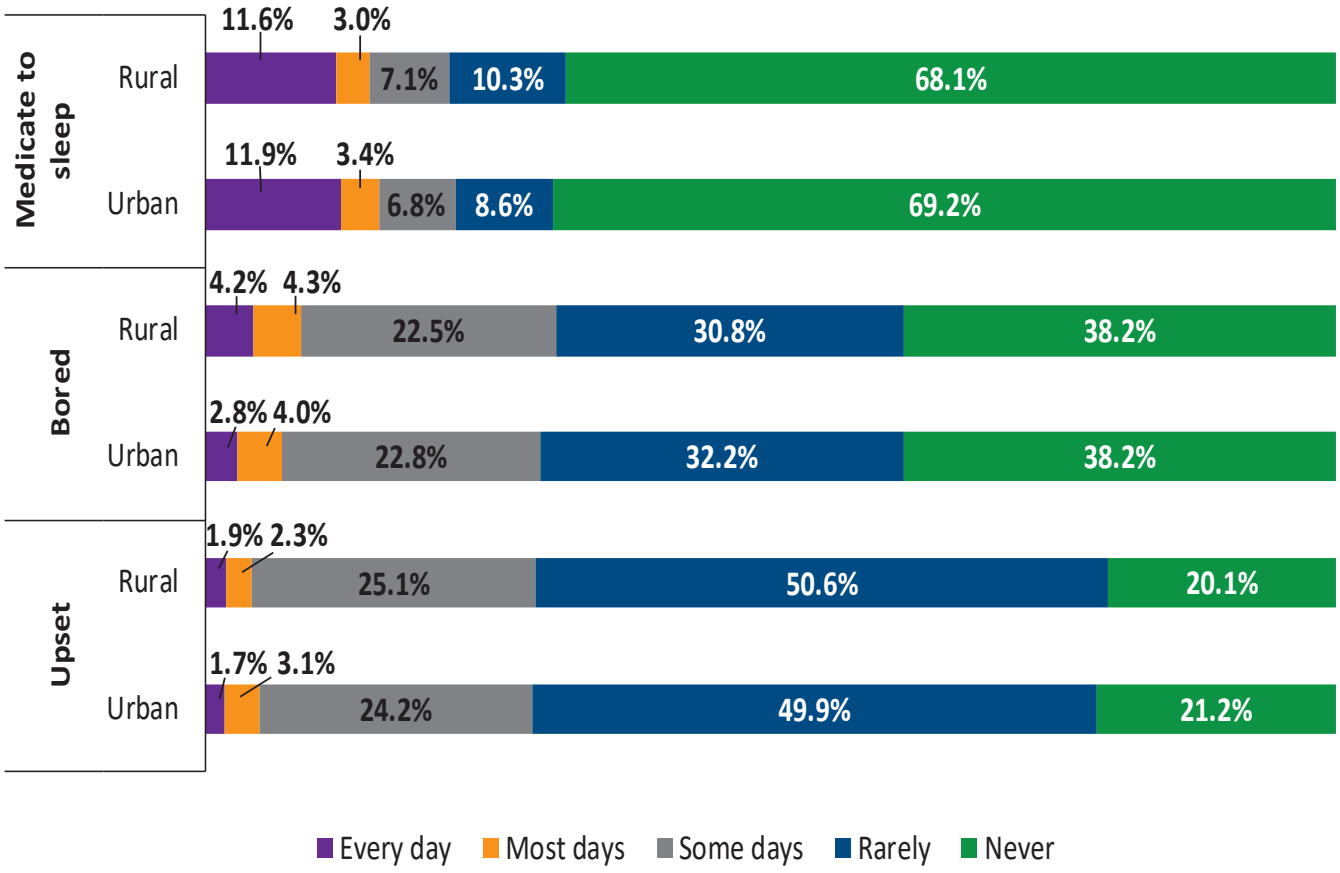
Chart 4.7. Frequency of Emotions Indicating Anxiety or Depression among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Rural and urban older adults answered similarly about frequencies of negative feelings in the past month, with majorities of both groups responding "not at all" for each sentiment. Still, more than one-fifth of older adults in both rural and urban locations indicated that they experienced these emotions "several days," "more than half the time," or "nearly every day."

Chart 4.8. Frequency of Negative Emotions or Behaviors among Older Adults

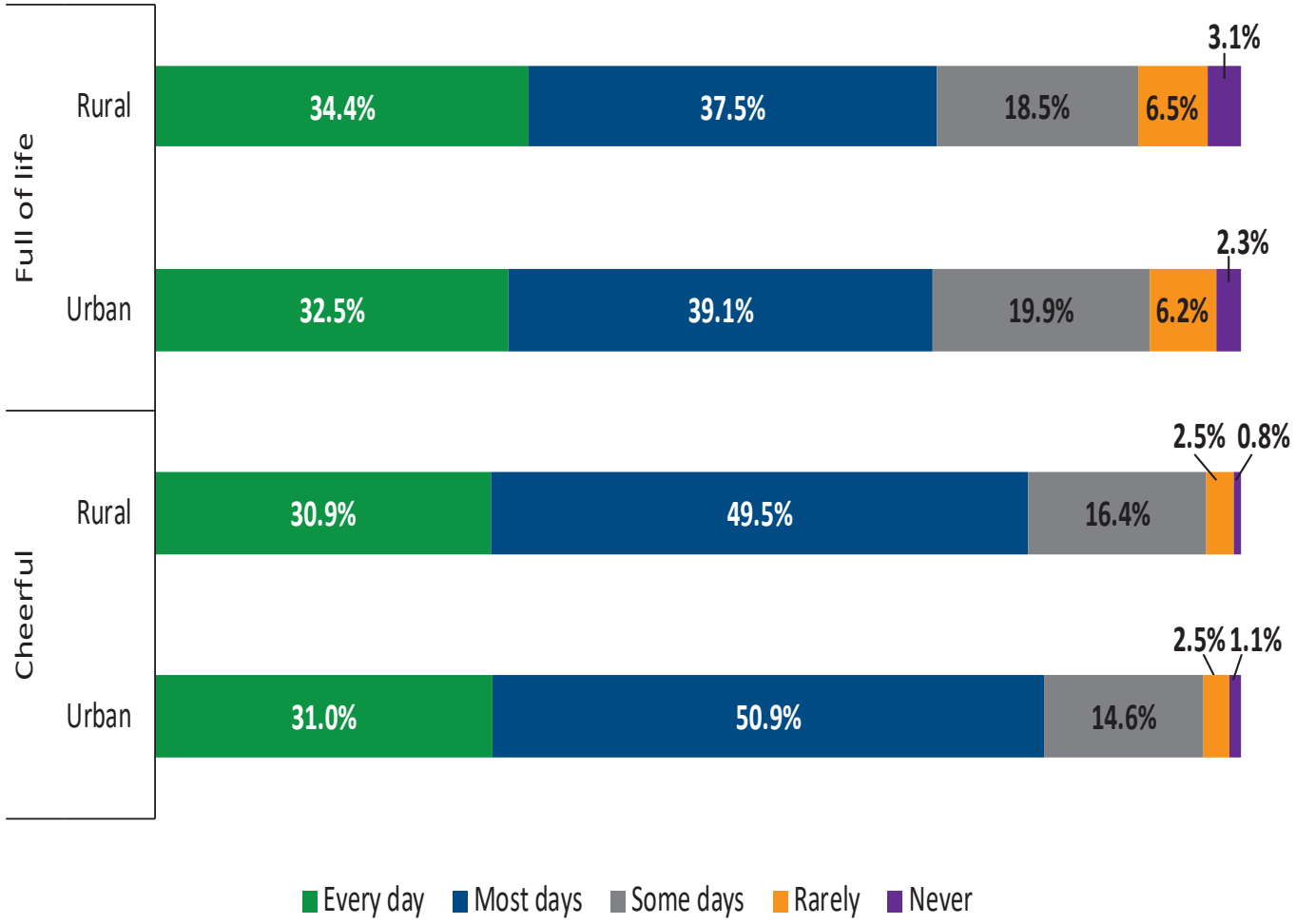


Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Rural and urban older adults answered similarly in how often they took medication to help them sleep, felt bored, or felt upset in the past month. More than 1 in 10 older adults in both rural and urban counties reported using medication to sleep every day; about 3-4% of both groups reported feeling bored every day; and close to 2% of both groups reported feeling upset every day.

Chart 4.8 shows how the population age 65 and over, by rural-urban status, responded to questions about how often in the past month they have taken medication to help them sleep, felt bored, and felt upset. Rural and urban older adults both reported similar frequencies within each question, but there is variation across the different questions. More than one in ten of older adults in both rural and urban locations reported using medication to sleep every day, less than 5% of rural and urban older adults reported feeling bored every day, and less than 2% of rural and urban older adults reported feeling upset every day. Yet, more than two-thirds of older adults in both locations reported never using medication to sleep and approximately one-fifth of older adults in both locations reported never feeling upset.

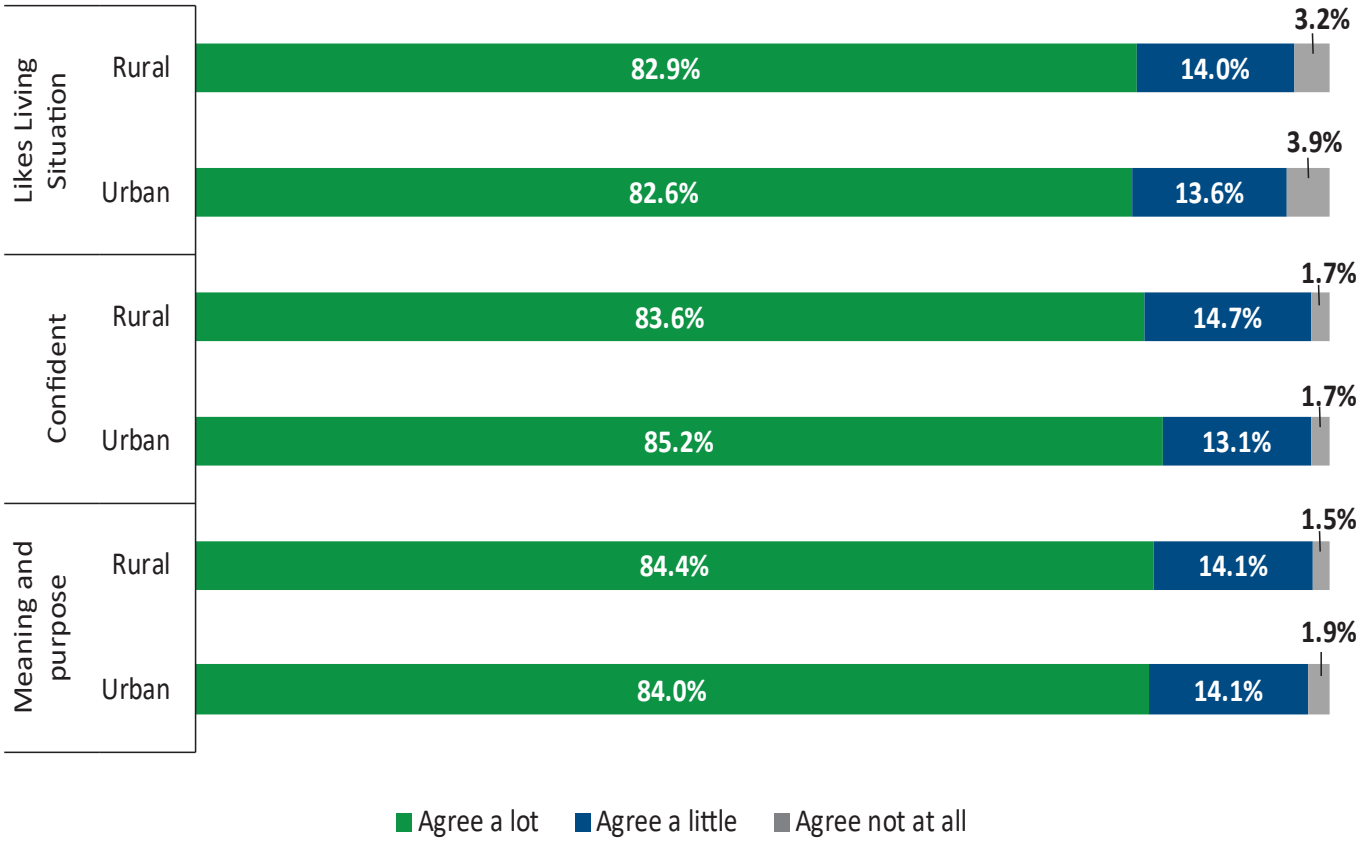
Chart 4.9. Frequency of Positive Emotions among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Rural and urban older adults also answered similarly about how often they felt full of life or cheerful over the past month. Approximately one-third of older adults in both groups reported feeling full of life every day, and nearly the same proportion reported feeling cheerful every day. Still, more than 3% of rural and 2% of urban older adults reported "never" feeling full of life.

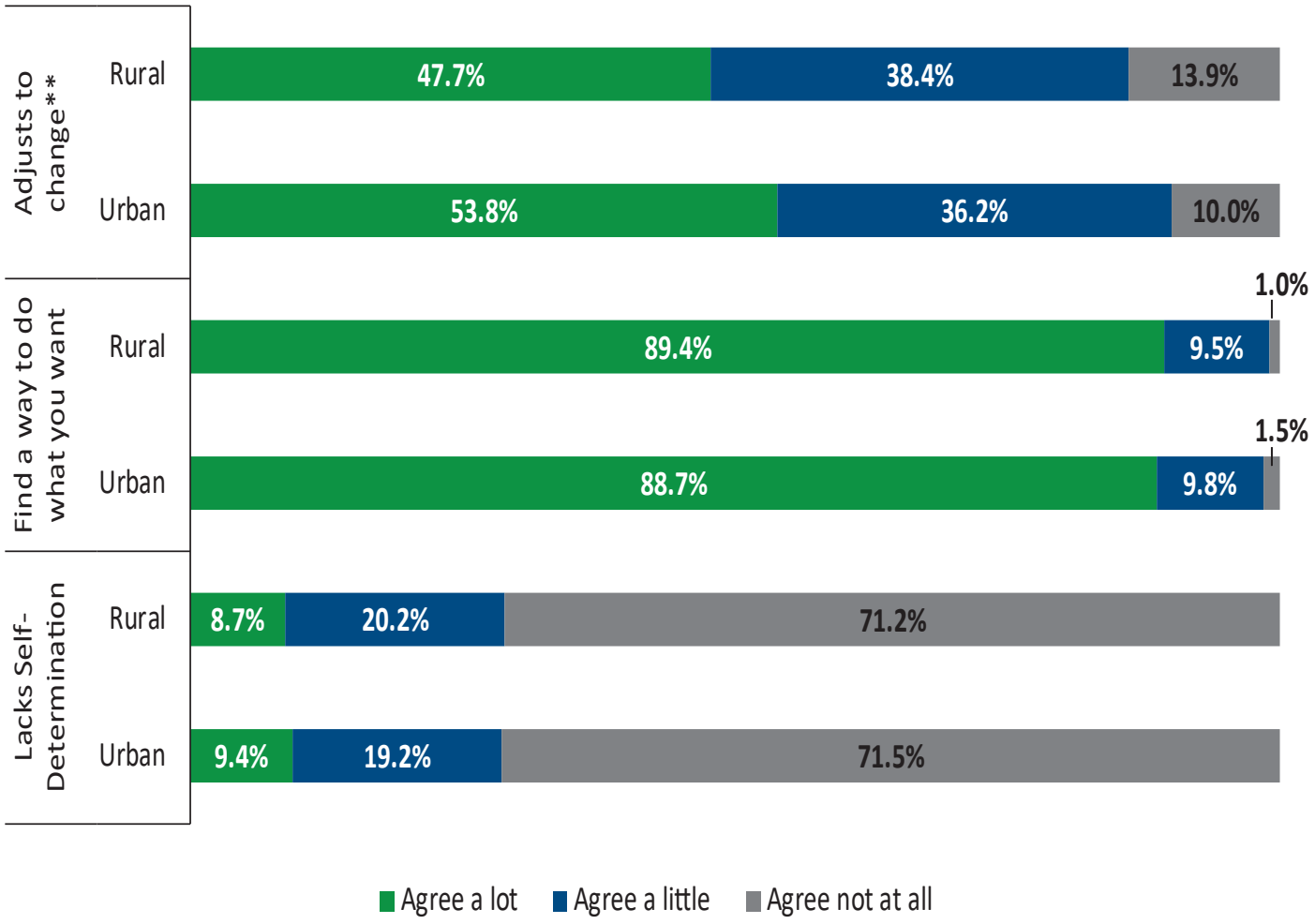
Chart 4.10. Life Satisfaction among Older Adults



Source: 2015 NHATS.
Note: Rural-urban differences are not statistically significant.

Rural and urban older adults answered nearly identically about how they agreed with the statements: "I like my living situation very much," "I feel confident and good about myself," and "My life has meaning and purpose." Vast majorities "agree a lot" with each statement, and small (though still concerning) percentages "agree not at all."

Chart 4.11. Sense of Autonomy and Control among Older Adults



Source: 2015 NHATS.
Note: Marked rural-urban difference is significant at **p < 0.01.

Given three statements about autonomy and control ("Other people determine most of what I can and cannot do," "If I want to do something, I find a way to do it," and "I have an easy time adjusting to change"), the only statement that differed significantly between rural and urban older adults was about adjusting to change. Rural older adults were more likely to "agree not at all" and less likely to "agree a lot," indicating that they have a more difficult time adjusting to change.

Appendix

American Community Survey (ACS) Data Documentation

Overview: We obtain ACS data from the IPUMS NHGIS (National Historical Geographical Information System, https://nhgis.org). The ACS data we use here are from the 2013-2017 5-Year Summary File, including tables B01001, B11007, B21001, B25055, B27010, B01001A-I, B05003, B07001, B12002, B17001, B17020, B17024, B18101-7, C18108, B230301, B25027, B25116, B26101, B26201, B27001, C27001A-I, B27002, B27003, C27006, and C27009.

Estimates and Margins of Error: Deriving the measures of interest from ACS data generally require calculating sums and proportions from ACS count estimates, as detailed below. We calculate margins of error for derived sums by taking the square root of the sum of squares of individual margins of error for each component estimate, following the notation of Fuller (2018):

$$MOE_{sum} = \sqrt{MOE_{est1}^2 + MOE_{est2}^2 \ldots}$$

We calculate margins of error for derived proportions as specified by the Census Bureau (2008):

$$MOE_p = \pm \frac{\sqrt{MOE_{num}^2 - (\hat{p}^2 * MOE_{den}^2)}}{\hat{X}_{den}}$$

where MOE_{num} is the margin of error for the numerator, MOE_{den} is the margin of error for the denominator $\hat{X}_{den}$ is the estimate used as the denominator for the derived proportion, and $\hat{p}$ is the derived proportion.

We apply significance tests using a traditional z-score method, as suggested by Fuller (2018):

$$Z = \frac{|Est_1 - Est_2|}{\sqrt{MOE_{est1}^2 + MOE_{est2}^2}}$$

Measure Creation: Each calculation was performed separately for rural (i.e., non-metropolitan) and urban (metropolitan) populations. Lists in square brackets with items separated by semi-colons [;] denote operations performed on each of the different categories in the list separately.

Percent of population that is 65+:

- Numerator = derived sum of males and females in all age groups of 65 years and over
- Denominator = total population

Percent of population that is 85+:

- Numerator = derived sum of males and females in all age groups of 85 years and over
- Denominator = total population

Sex composition for 65+:

- Numerator = derived sum of [males; females] in all age groups of 65 years and over
- Denominator = derived sum of males and females in all age groups of 65 years and over

Sex composition for 85+:

- Numerator = derived sum of [males; females] in all age groups of 85 years and over
- Denominator = derived sum of all males and females in all age groups of 85 years and over

Racial breakdown of entire population 65+:

- Numerator = derived sum of [non-Hispanic White alone; non-Hispanic Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian or Pacific Islander alone; Some other race; Two or more races; Hispanic or Latino] males and females in all age groups of 65 years and over
- Denominator = derived sum of all males and females in all age groups of 65 years and over

Share within each racial group that is 65+:

- Numerator = derived sum of [non-Hispanic White alone; non-Hispanic Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian or Pacific Islander alone; Some other race; Two or more races; Hispanic or Latino] males and females in all age groups of 65 years and over
- Denominator = [non-Hispanic White alone; non-Hispanic Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian or Pacific Islander alone; Some other race; Two or more races; Hispanic or Latino] total population age 65 years and over

Veterans:

- Numerator = derived sum of males and females who are veterans in all age groups of 65 years and over
- Denominator = derived sum of all males and females in all age groups of 65 years and over

Uninsured rate by race and ethnicity for 65+:

- Numerator = [non-Hispanic White alone; non-Hispanic Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian or Pacific Islander alone; Some other race; Two or more races; Hispanic or Latino] individuals in all age groups of 65 years and over who do not have health insurance coverage
- Denominator = [non-Hispanic White alone; non-Hispanic Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian or Pacific Islander alone; Some other race; Two or more races; Hispanic or Latino] total population age 65 years and over

Health insurance rate by type of insurance for 65+:

- Numerator = derived sum of males and females with [private health insurance; public health insurance; Medicare; VA Health Care] in all age groups of 65 years and over
- Denominator = derived sum of all males and females in all age groups of 65 years and over

Marital status for 65+:

- Numerator = derived sum of males and females [never married; now married (spouse absent or spouse present); widowed; divorced] in all age groups of 65 years and over
- Denominator = derived sum of all males and females in all age groups of 65 years and over

Poverty status for 65+

- Numerator = derived sum of males and females [below poverty level; under .5 of poverty level; .50 to .74 of poverty level; .75 to .99 of poverty level; 1 to 1.25 of poverty level; 1.25 to 1.49 of poverty level; 1.5 to 1.74 of poverty level; 1.75 to 1.99 (sum of 1.75 to 1.84 and 1.85 to 1.99) poverty level; 2 to 2.99 of poverty level; 3 to 3.99 of poverty level; 4 to 4.99 of poverty level; 5 of poverty level or more] in all age groups of 65 years and over
- Denominator = derived sum of all males and females in all age groups of 65 years and over

Disability status and type for 65+:

- Numerator = derived sum of males and females with [any disability; one type of disability; two or more types of disability; hearing difficulty; vision difficulty; cognitive difficulty; ambulatory difficulty; self-care difficulty; independent living difficulty] in all age groups of 65 years and over
- Denominator = derived sum of all males and females in all age groups of 65 years and over

Labor force participation and employment status for 65+:

- Numerator for labor force = derived sum of males and females in labor force in all age groups of 65 years and over
- Denominator for labor force = derived sum of all males and females in all age groups of 65 years and over
- Numerator for employment status = derived sum of males and females who are employed in all age groups of 65 years and over
- Denominator for employment status = derived sum of all males and females in all age groups of 65 years and over

Housing tenure for 65+:

- Numerator = derived sum of 1- and 2-or-more person households who [rent; own their home] with householder in all age groups of 65 years and over
- Denominator = derived sum of all 1- and 2-or-more person households with householder in all age groups of 65 years and over

Number of persons in household for 65+:

- Numerator = derived sum of [1-person households; 2-or-more person households] with householders in all age groups of 65 years and over
- Denominator = derived sum of all 1- and 2-or-more person households with householder in all age groups of 65 years and over

Migration in last year for 65+:

- Numerator = derived sum of individuals who [moved within the same county; moved from a different county within the same state; moved from a different state; moved from abroad] in all age groups of 65 years and over
- Denominator = derived sum of all individuals in all age groups of 65 years and over

National Health & Aging Trends Study (NHATS) Data Documentation

Overview: The National Health & Aging Trends Study (NHATS) is a survey of nationally-representative Medicare beneficiaries age 65 and over. The study began in 2011, and there have been eight completed rounds of interviews. They replenished the sample in 2015, during Round 5. The survey captures responses from a variety of domains, including multiple aspects of health behaviors and conditions, medical care, insurance plans, housing arrangements, activities and social engagements, and economic and social well-being.

Sample: We use NHATS data from Round 5. This includes both new respondents who started survey participation in 2015 (Round 5 participants) as well as original respondents who started the survey in 2011 (Round 1 participants). Each group composes roughly half the sample (Round 1 n = 4,152; Round 5 n = 4,182; total n = 8,334), and there are no statistically significant differences between them in rural-urban composition.
Though there are respondents that started the survey in 2011, all responses in the Round 5 data come from 2015. Although these data are not current, we do not have reason to believe that any observed levels or rural-urban differences have substantially changed since 2015.

Analytic sample weights for the full sample (Round 1 and Round 5 respondents included) were used to reproduce the population that is alive and eligible for NHATS (Medicaid beneficiaries age 65 and over) during the previous NHATS fieldwork period, according to NHATS recommendation and documentation. All frequencies and cross-tabulations were run using Stata's survey set (*svyset*) command, and include cluster and stratum variables.

Statistical Significance Testing: Hypothesis tests for most measures are adjusted Chi-Square values obtained via Stata's *svy:tab* command. For differences in means of continuous variables, where noted, hypothesis tests are t-values obtained via Stata's *svy:regress* command.

Rural/Urban County Identification: NHATS includes a variable indicating rural/urban residence. This is derived from identifiers of county metropolitan and non-metropolitan status from Rural-Urban Continuum Codes of the U.S.D.A.'s Economic Research Service, which bases its coding on the Office of Management and Budget's 2013 delineations of metropolitan statistical areas.

Measures Used: Here we outline which specific NHATS variables were used to create the measures featured in the charts. Descriptions of the variables, including instrument questions, can be found by the corresponding section here.

Health Care (HC)

- hc5health hc5disescn1 hc5disescn2 hc5disescn3 hc5disescn4 hc5disescn5 hc5disescn6 hc5disescn7 hc5disescn8 hc5disescn9 hc5disescn10 hc5brokebon1 hc5fllsinmth hc5worrylimt hc5depresan1 hc5depresan2 hc5depresan3 hc5depresan4 hc5sleepmed

Medical Care (MC)

- mc5meds mc5whrgtmed1 mc5whrgtmed2 mc5whrgtmed3 mc5havregdoc mc5regdoclyr mc5hwgtregd8 mc5ansitindr

Smoking (SD)

- sd5smokedreg sd5smokesnow

Well-being (WB)

- wb5offelche1 wb5offelche2 wb5offelche3 wb5offelche4 wb5truestme1 wb5truestme2 wb5truestme4 wb5agrwstmt1 wb5agrwstmt2 wb5agrwstmt3

Insurance Policies (IP)

- ip5covmedcad ip5mgapmedsp ip5cmedicaid

Housing Tenure (HP)

- hp5ownrentot hp5mrtpadoff hp5rentamt

Income and Assets (IA)

- ia5recssils1 ia5recssils2 ia5rvapayls1 ia5rvapayls2 ia5penjobou1 ia5penjobou2 ia5iraothac1 ia5iraothac2 ia5iraothac3 ia5toincesjt ia5bnkacccd4 ia5bnkacccd8
- Household measures were created by calculating whether the respondent or the respondent's spouse had/received specific type of income in question
- Total income and wealth was calculated by adding the following variables: ia5penjtamt ia5retjtwrt ia5skbdjtwrt ia5bkcdjtwrt ia5brejtwrt hp5homevalue co5valuevehi

Economic Well-being (EW)

- ew5finhlpfam ew5pycredbal ew5crecardeb ew5progneed1 ew5progneed2 ew5progneed3 ew5mealskip1 ew5nopayhous ew5nopayutil ew5nopaymed

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