



# Aging in Wyoming: An Atlas of Resources Targeting Wyoming's Older Adults

COMMISSIONED BY THE WYOMING DEPARTMENT OF HEALTH, AGING DIVISION

Produced by the Wyoming Center on Aging  
University of Wyoming | August 2016



**Wyoming Center on Aging**



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## **Table of Contents**

<b>Acknowledgements.....</b>	<b>ii</b>
<b>Introduction.....</b>	<b>1</b>
<b>Background .....</b>	<b>2</b>
<b>Methods .....</b>	<b>2</b>
<b>Demographic Profile of Wyoming.....</b>	<b>4</b>
<b>Age Structure and Population Growth .....</b>	<b>4</b>
<b>Socio-Demographic Composition of Wyoming's Older Population .....</b>	<b>9</b>
<b>Asset-Mapping.....</b>	<b>17</b>
<b>Transportation .....</b>	<b>21</b>
<b>Housing .....</b>	<b>24</b>
<b>Services .....</b>	<b>34</b>
<b>Conclusion.....</b>	<b>45</b>
<b>References.....</b>	<b>47</b>

## Introduction

Across the U.S., communities are experiencing an ongoing demographic revolution, resulting in populations that are older and living longer than previous generations. According to the American Community Survey (ACS), about 20% of Wyoming's population was aged 60 or older in 2014. Included in this group are about 2% of the state's residents who are aged 85 and older. By all accounts, the older population is expected to continue growing beyond 2030, as the generation of Baby Boomers (the large cohort born between 1946 and 1964) age and retire. Furthermore, it is projected that the fastest growing age group will be individuals aged 85 and older—a group most likely to experience disabilities and impairments that often require specialized programs and services to address.

Although Wyoming shares this common demographic trend with many other states, it is relatively unique with regard to its topography and the distribution of its population. Cities and towns are widely dispersed across the state's 97,093 square miles; and long distances between points of interest are not uncommon. Additionally, the population of the state is very small relative to others states. According to estimates produced by the ACS, there were just fewer than 600,000 Wyoming residents in 2014, equating to only about 5.8 persons per square mile (compared to 87.4 persons per square mile, nationally).

Wyoming's older adults reside in an expansive frontier environment that creates unique challenges with respect to delivering programs and services to older adult residents in the state. Compared to other places where populations are more condensed and centralized, Wyoming must overcome challenges that are associated with distributing resources to a small population that is so widely dispersed.

Policymakers and service providers can benefit by having accurate information about where older adults reside relative to programs and services that are critically important to serve this population. Thus, the purpose of this report is to fill this niche by systematically creating maps that show the distribution of specific resources available in Wyoming for older adults within the context of the state's demographic structure.

For this project, we have employed a variation of the relatively new research technique known as *asset mapping*, an applied research methodology with origins in the practice of Asset-Based Community Development (ABCD; Kretzmann & McKnight, 1993). During the process of asset mapping, applied researchers conduct inventories of assets that address pre-specified areas of concern (e.g., related to health/wellness; local institutions that may provide additional leadership and/or services to older people). Information about assets is then displayed on detailed maps using Geographical Information Systems (GIS) software. Asset maps have been used in community improvement and revitalization projects as a means to facilitate re-visualizing relationships between community resources in original contexts via graphic format, to reach new understanding of how assets may interrelate.

Planning for the future of aging in Wyoming will require accurate information about the number of older adults in the state, and where they reside. Wyoming's unique geographical features create challenges with respect to dispersing resources equitably within the target population, particularly to those who live in extremely remote areas. We believe the outputs of this project will serve to inform policymakers and professionals who serve older adults to

advise decisions about what areas need funding and priority, and in which geographical locales they are needed.

## **Background**

An important challenge in implementing programs and services for any target group including older adults, is assuring that placement of programs is appropriate to provide optimal access to prospective participants. This challenge is especially concerning in Wyoming, where the small population is dispersed across a vast geographical area. Delivering services equitably to older residents is difficult and requires decisions about how best to prioritize and distribute scarce resources most effectively. Program planners can make the most efficient use of resources by placing programs and services where there is greatest need and by avoiding duplication of services. To do this, they must have an accurate sense of where members of the target population currently reside, as well as what other programs and services presently exist.

We hope that this report and the maps contained within serve as a valuable resource to a number of stakeholders across Wyoming, including policymakers who prioritize and fund programs aimed at their older constituents; applied researchers who evaluate programs and services for efficiency; program planners and administrators who need accurate estimates of the number of prospective participants in their programs; direct service providers, who may wish to stay abreast of the make-up of the aging network in the state; and older adults who may be curious about what services are available to them in their areas. To our knowledge, no similar reference has yet been compiled to meet this need in Wyoming. The outputs of this project—a demographic profile of the state and an exhaustively researched set of maps, depicting the distribution of Wyoming's older adult population as well as resources targeting this group—we believe, begins to fill this niche.

## **Methods**

As an initial step toward understanding characteristics of Wyoming's older adult population, we created a demographic profile of the state using data from the U.S. Census and the American Community Survey (ACS) an annual nationally representative survey to collect vital information about the population between decennial censuses. For purposes of this section of the report, we primarily used information drawn from the most current 5-year ACS files (2010-2014), along with U.S. Census data for the state, counties, and selected cities. We summarized demographic characteristics including age-structure and growth of the older adult population, gender, race and education distributions, householder status, living arrangement, household income, and disability status.

The mapping portion of this study was conducted in two phases. In Phase 1, we performed a 'hot-spot' analysis using bivariate kernel density estimation to visualize the distribution of older adults within the state of Wyoming. In bivariate kernel density estimation, each data point is smoothed out into a region of space surrounding it (simultaneously in the x (east-west) and y (north-south) directions) using a bandwidth value as the maximum distance at which a data point can have an effect. Aggregating the individually smoothed contribution of each data point gives an overall picture of the spatial structure of the data and its underlying density function.

We obtained population estimates for each Census Designated Area (CDA; N=204) from the 2014 ACS. A CDA is a concentration of population defined by the Census Bureau for statistical purposes, and includes cities, towns, and unincorporated areas. These included 105 places where people live in Wyoming that are not incorporated, and the state's 99 incorporated municipalities (i.e., towns and cities). We defined older adults as those age 60 years or greater. Each CDA was weighted by the total number of older adults (i.e. the total number of points matched the total population per CDA). Next, we created a 1km x 1km grid representing the spatial extent of the state. Using bandwidth values of 72 km in the x direction and 63.4 km in the y direction, we estimated the smoothed older adult population density of Wyoming for each cell of the grid. All calculations were performed using Program R (R Core Team, 2015).

In Phase 2, we developed a database containing known resources that are available across Wyoming to serve older adults. The database included fields for 1) type of resource; and 2) the physical address of the resource. Resource types that were assessed included transportation services, boarding homes, independent living facilities, assisted living facilities, nursing homes, adult day care, Wyoming Home Services, home health, senior centers, and physicians. When all resource data were compiled, we created a series of maps showing the distribution of the older population, along with the resources available across the state.

Finally, in recognition that accessibility to different forms of services is an important factor in maintaining the well-being of Wyoming's older population, we calculated the Euclidean distance (i.e., as the crow flies) of each (CDA) to the nearest resource, for each resource type. We then grouped the minimum distance for each CDA into four categories, 0 to 10 miles, 10.1 to 20 miles, 20.1 to 50 miles and greater than 50 miles. Concurrently, we grouped the total older adult population of each CDA into categories of 0 to 3000, 3001 to 10,000 and greater than 10,000 and calculated the percent of CDA's within each combination of distance and population categories.



## Results

### Demographic Profile of Wyoming

#### Age Structure and Population Growth

According to the U.S. Census, there were 563,626 residents living in Wyoming in 2010. About a third of these (187,708 individuals—33% of the population) were age 50 or older (see **Table 1**). Residents who were age 50 to 59 (85,051 individuals) made up 15% of the population; residents age 60 to 79 (84,627 individuals) made up another 15%; and persons age 80 and older made up about 3% of the population, representing 18,030 individuals.

**Table 1.** Population of Wyoming by age category

<b><u>Age Category</u></b>	<b><u>Number</u></b>	<b><u>%</u></b>
<b>Under 18</b>	135,402	24%
<b>Age 18 to 49</b>	240,516	43%
<b>Age 50 to 59</b>	85,051	15%
<b>Age 60 to 79</b>	84,627	15%
<b>Age 80 and older</b>	18,030	3%
<b>Total</b>	<b>563,626</b>	<b>100%</b>

*Source: U.S. Census Bureau, 2010 Census. Summary File 1, Table QT-P2*

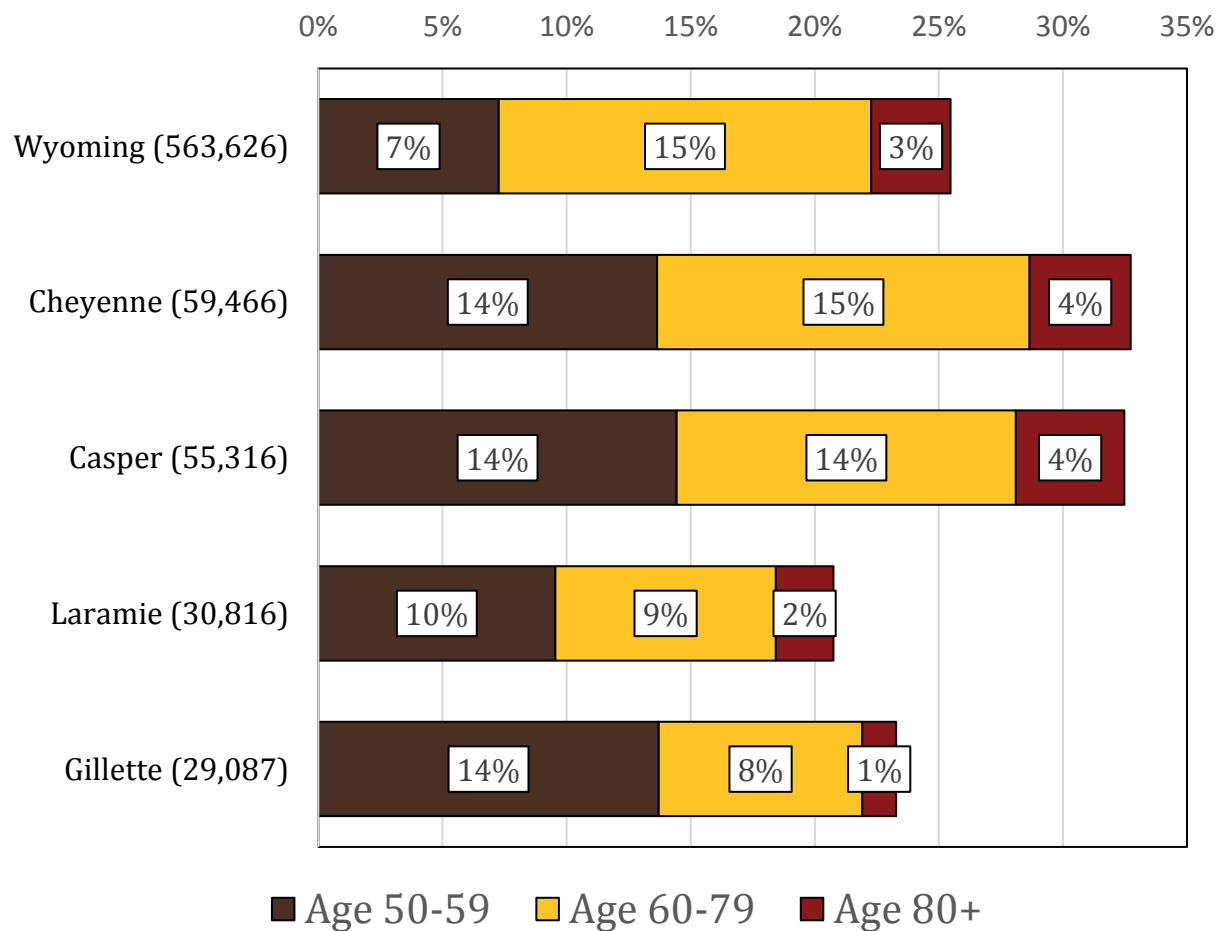
**Table 2** shows population growth in Wyoming and the state's four largest cities during the previous decade. Overall, the population of Wyoming grew by about 14% between 2000 and 2010. The city with the greatest growth was Gillette, which grew by more than 48%. With respect to older adults, the population of state residents age 60 and older grew by nearly 33%. The city with the largest rate of growth of residents age 60 and older was Gillette, which grew by more than 65%. These rates of change are expected to continue in the future as Baby Boomers continue to enter the older adult demographic.

**Table 2.** Population growth of older adults by age group in Wyoming and its four largest cities, 2000 to 2010.

Community	All ages			Age 50 to 59			Age 60+		
	Pop. in 2000	Pop. in 2010	% growth	Pop. in 2000	Pop. in 2010	% growth	Pop. in 2000	Pop. in 2010	% growth
Wyoming	493,782	563,626	14.1%	58,313	85,051	45.9%	77,348	102,657	32.7%
Cheyenne	53,011	59,466	12.2%	5,993	8,120	35.5%	9,403	11,344	20.6%
Casper	49,644	55,316	11.4%	5,361	7,989	49.0%	8,606	9,974	15.9%
Laramie	27,204	30,816	13.3%	2,207	2,942	33.3%	2,863	3,452	20.6%
Gillette	19,646	29,087	48.1%	1,996	3,989	99.8%	1,683	2,781	65.2%

Source: U. S. Census Bureau. 2010 Census, Summary File 1, Table QT-P1; and 2000 Census, Summary File 1, Table QT-P1

**Figure 1.** Total population and proportions of older adults by age in Wyoming and its four largest cities

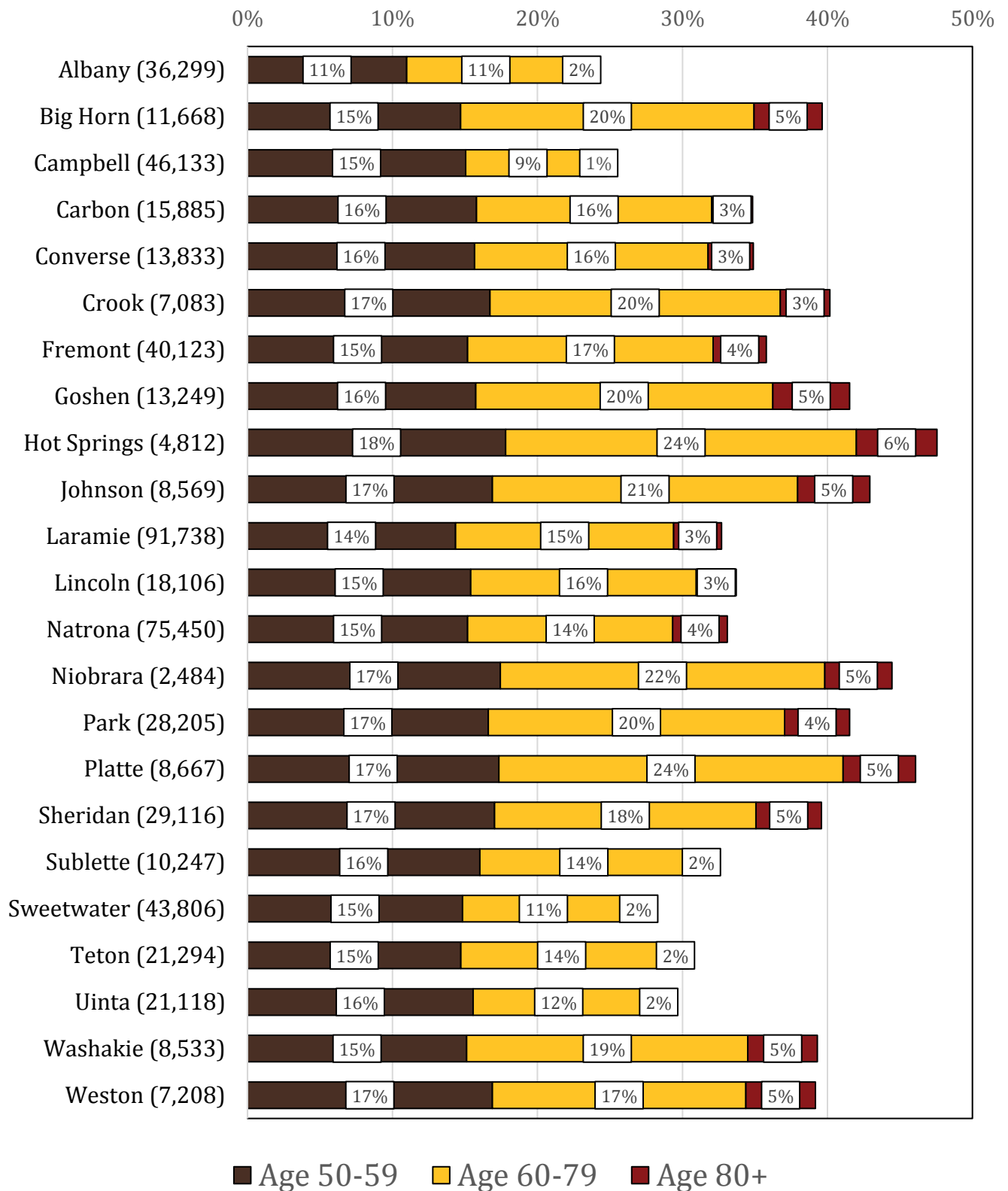


Source: U.S. Census Bureau, 2010 Census. Table DP-1

**Figure 1** shows the proportion of older adults living in Wyoming's four largest cities, relative to the age structure of the state. In 2010, 33% of Cheyenne's population was age 50 and older, including 4% who were age 80 and older. Similarly, 32% of Casper's population was age 50 and older. The cities of Laramie and Gillette had older populations that were proportionately smaller relative to the state over all. Just 21% of Laramie's population was age 50 and older, compared to 23% in Gillette.

**Figure 2** shows the proportion of adults age 50 and older living in each of Wyoming's 23 counties. In 2010, counties with the largest share of older adults included Hot Springs (48%), Platte (46%), Niobrara (44%), and Johnson (43%) Counties. Counties with smallest proportions of older adults were Albany (24%), Campbell (25%), and Sweetwater (26%).

**Figure 2.** Total population and proportions of older adults by age in Wyoming counties



## Socio-Demographic Composition of Wyoming's Older Population

**Table 3.** Race and Hispanic ethnicity of all residents and residents age 60 years and older

	Total Population		Age 60+	
Race	Number	%	Number	%
White	522,328	90.8%	105,554	95.3%
Black	5,753	1.0%	997	0.9%
Asian	5,177	0.9%	775	0.7%
Other	41,993	7.3%	3544	3.2%
<b>Total</b>	<b>575,251</b>	<b>100.0%</b>	<b>110,870</b>	<b>100.0%</b>
Hispanic	54,074	9.4%	4,657	4.2%

Source: American Community Survey, 2010-2014, Table S0102. Numbers are calculated from survey estimates.

With respect to race and Hispanic ethnicity, the state of Wyoming is much less diverse than the United States overall. In the U.S., 74% of the population is White, about 13% is Black, and 5% are Asian. Nearly 17% of the U.S. population is of Hispanic ethnicity. By comparison, about 91% of Wyoming's population is White, 1% is Black, and less than 1% is Asian. Just over 9% are Hispanic (see **Table 3**). Older adults (age 60 and older) in Wyoming are even less diverse. About 95% of the older adult population is White, and less than 1% is Black or Asian. A small proportion (about 4%) is of Hispanic ethnicity.

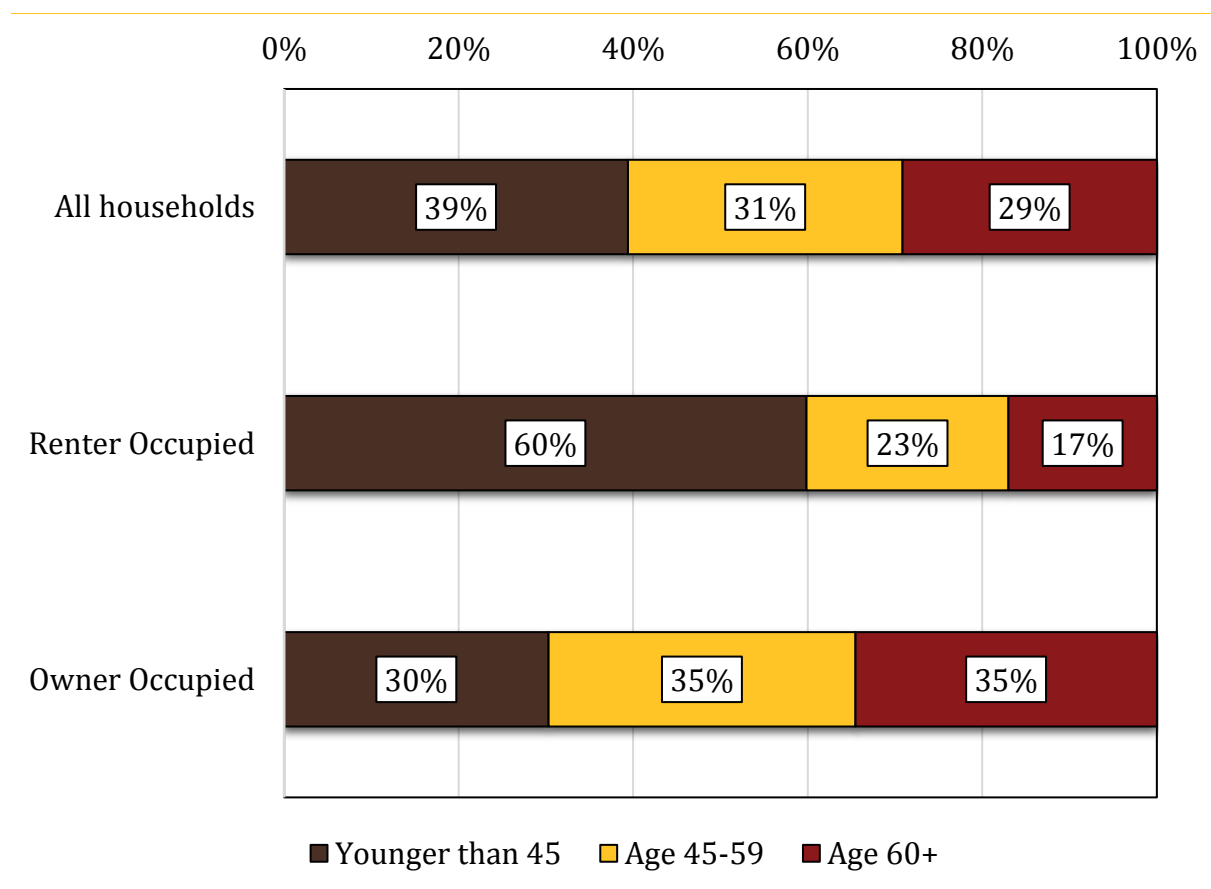
The gender distribution of Wyoming's older adults is similar to the U.S. as a whole. In the U.S., about 55% of the population, age 60 and older, is female, compared to 52% in Wyoming (ACS, 2010 – 2014, Table S0102). The greater proportion of women is due largely to longer life-expectancies of women compared to men.

Estimates included in the ACS (2010-2014, Table B15001) suggest that older Wyoming residents are generally well-educated. About 87% of residents age 65 and older hold at least a high school diploma, including 14% who have a bachelor's degree, and 9% who have a graduate or professional degree.

Many older Wyoming residents remain active in the workforce. About 21% of residents age 65 to 74, and 3% age 75 and older remain in the workforce (ACS, 2010-2014, Table B23004). The majority of men age 65 and older (54%) report veteran status, as do a less than 1% of older Wyoming Women (ACS, 2010-2014, Table B21001). On the basis of their own or their

spouse's military service, many older Wyoming residents may be eligible to receive benefits, and programs and services that target veterans.

**Figure 3.** Age structure of householders by home-ownership status

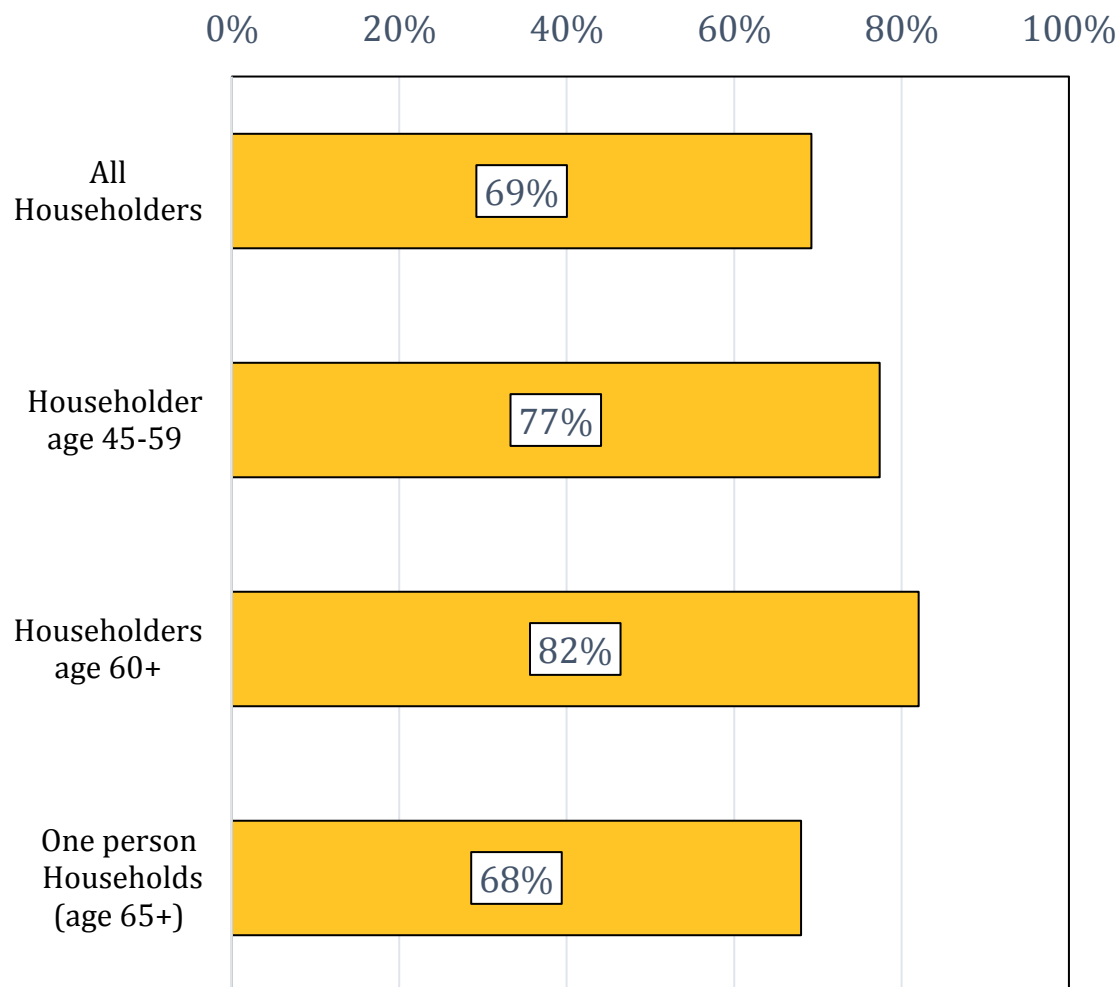


Source: U.S. Census Bureau. 2010 Census, Summary File 1, Table H17.

In total, Wyoming had 226,879 households in 2010. Of these, the majority (60%) was householders who were age 45 or older (see **Figure 3**). According to the U.S. Census Bureau, a “householder” is a person reported as head of the household, typically the person in whose name the home is owned or rented. Among households that were owner occupied, 70% had householders who are age 45 and older, including 35% with householders age 60 and older. Older adults are considerably less likely to be householders in homes that they rent. Just 17% of renter-occupied households have householders who are age 60 and older.

Being a householder who owns their home often requires many resources. Upkeep and maintenance can be an onerous responsibility, particularly for older people who may have become frailer due to age. Thus, the much higher proportion of homeowners who are older has implications for what amenities and services may be needed and valued by individuals throughout the Wyoming.

**Figure 4.** Percent of Wyoming householders who live in owner-occupied housing by age category

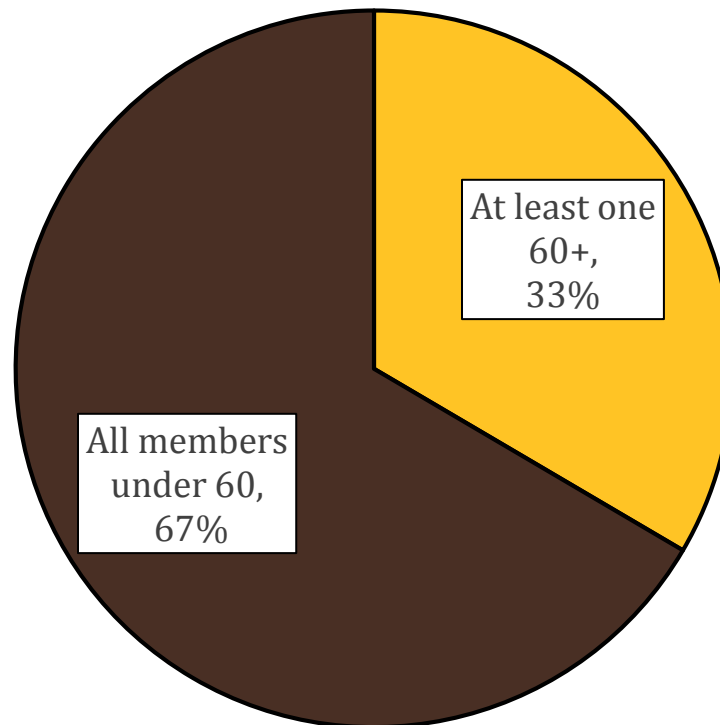


*Source: U.S. Census Bureau. 2010 Census, Summary File 1, Tables H17 and H18.*

Of Wyoming's residents, the majority lives in homes that are owned or being purchased (69%; see **Figure 4**). About 77% of householders age 45 to 59 own their homes, and 82% of householders age 60 and older own their homes. A significant share of residents age 65 and older who live alone also own their homes. Services that assist with home maintenance may be important for many older people, particularly those who live alone, in order to maintain comfort and safety in their home environments.



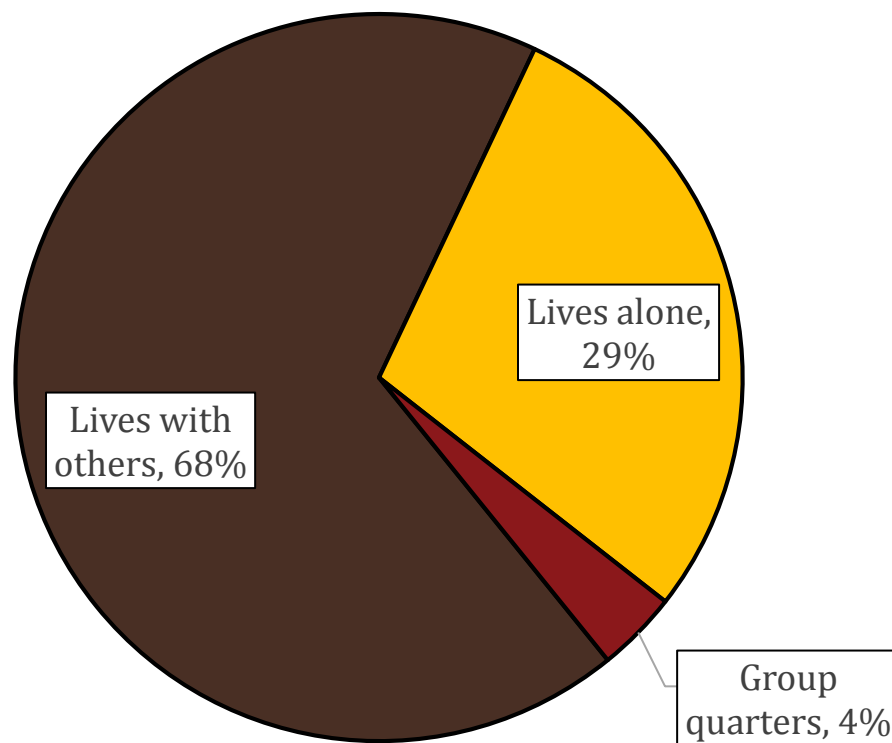
**Figure 5.** Households in Wyoming with one or more people age 60 years and older



*Source: American Community Survey, 2010-2014, Table B11006*

According to data from the ACS, about 1 out of 3 of Wyoming's 226,879 households had at least one person who was age 60 or older in 2010 (see **Figure 5**). This high proportion is indicative of a widespread need for programs and services to address age-related concerns, including health care, transportation, caregiving, and home safety. Additionally, as the population of older residents in the state continues to grow, demand for services will also likely increase.

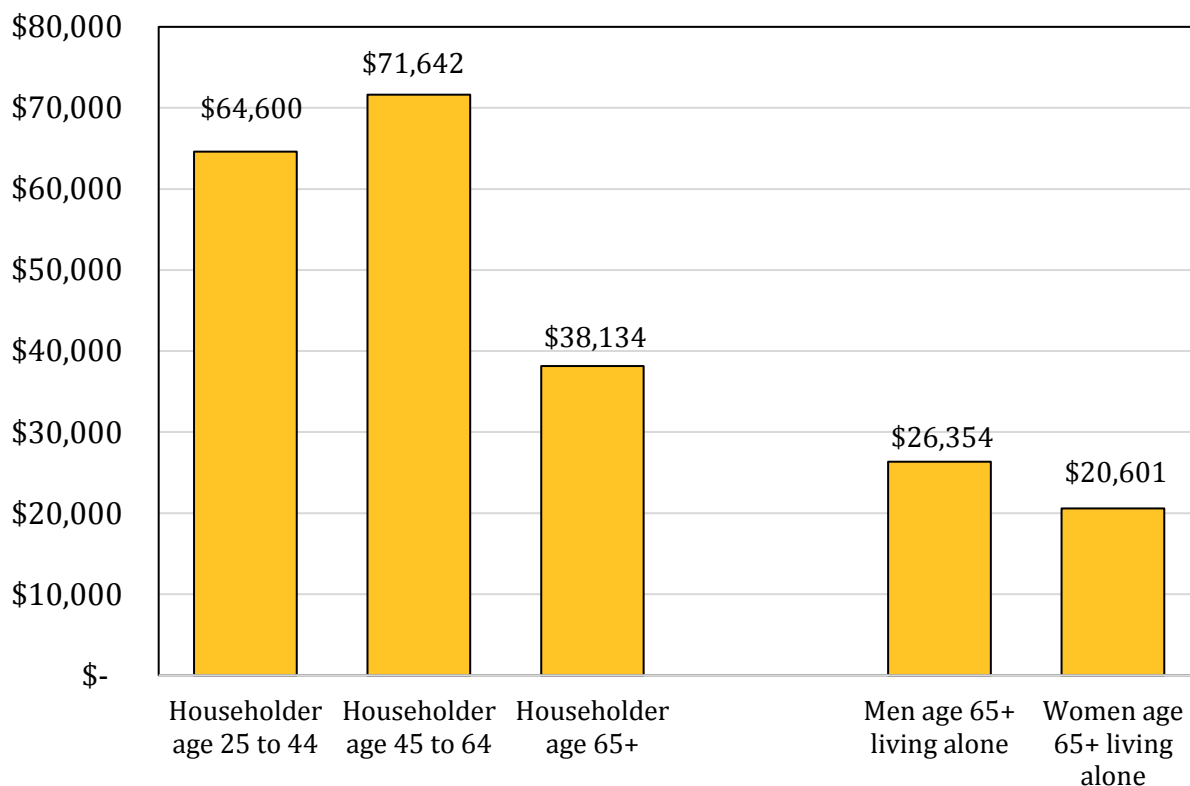
**Figure 6.** Living arrangements of Wyoming residents, age 65 and older



*Source: U.S. Census Bureau. 2010 Census, Summary File 1, Table P34.*

More than 1 out of 4 (29%) Wyoming residents age 65 and older lives alone in their household (see **Figure 6**); and about 68% live in households that include other people including spouses, parents, children or grandchildren. About 4% of Wyoming's older adult population lives in group quarters, including nursing homes. Of the high percentage of older individuals who live alone, many may have very limited social or material resources on which to draw when assistance is needed.

**Figure 7.** Median household income in Wyoming by age and living situation of householder (in 2014 inflation adjusted dollars)



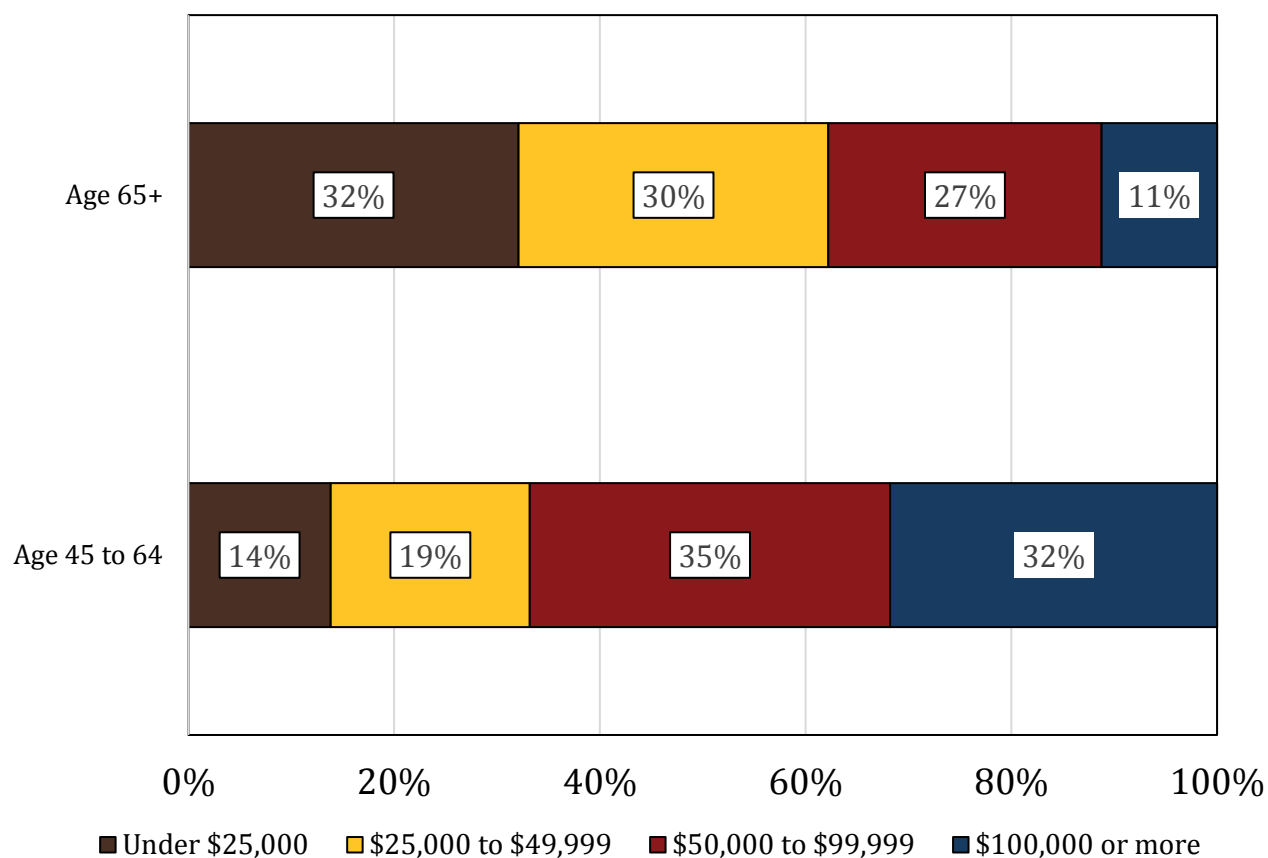
*Source: American Community Survey, 2010-2014 Tables B19049 and B19215.*

*Note: Includes only community households, not group quarters such as nursing homes.*

**Figure 7** illustrates the comparative disadvantage of some older Wyoming residents compared to younger people, with respect to household income. Among all age groups, households that are headed by householders age 45 to 64 have the highest median incomes at \$71,642. This amount is higher than the U.S. median income for this age group (\$65,027). The median income for Wyoming households where the householder is age 65 or older is \$38,134—this amount is comparable to the national median for this age group (\$37,945).

Older Wyoming residents who live alone have substantially lower incomes than residents who live with others. The median income for men age 65 and older who live alone is \$26,354; whereas older women who live alone have a median income of \$20,601. Greater than 1 out of 4 older Wyoming residents lives alone; therefore, these estimates suggest a large number of older residents live on extremely limited incomes, placing them at risk for financial insecurity.

**Figure 8.** Household income distribution in Wyoming by age of householder (in 2014 inflation-adjusted dollars)

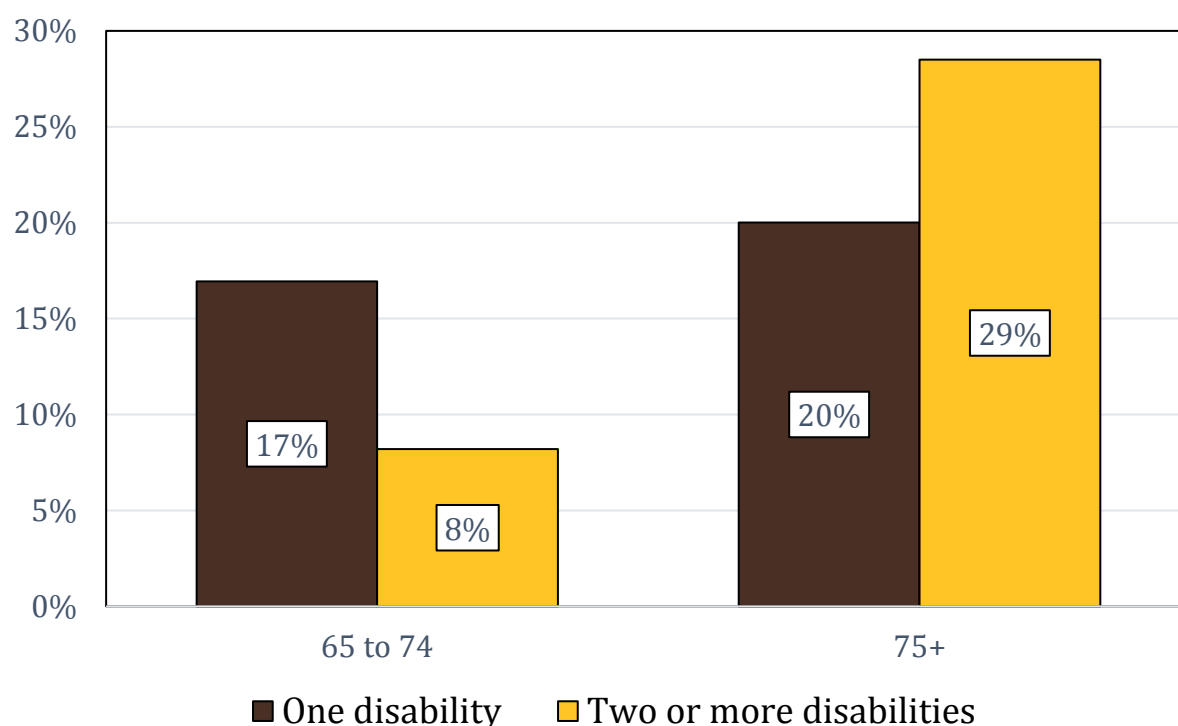


Source: American Community Survey, 2010 -2014, Table B19037.

Note: Includes only community households, not group quarters such as nursing homes.

**Figure 8** shows the economic profile of older Wyoming residents relative to younger people in the state. The majority (62%) of older adults (age 65 and older) have annual incomes below \$50,000, including 32% with incomes below \$25,000. Eleven percent of older adults in Wyoming have household incomes of \$100,000 or more. By comparison, the majority (67%) of middle-aged Wyoming residents (age 45 to 64) have annual incomes greater than \$50,000, including 32% of this age group with annual incomes of \$100,000 or more. Just 14% of middle aged adults have annual household incomes under \$25,000. Given the relatively high number of older adults with low incomes, a sizeable segment of Wyoming's older adult population may be at risk for financial insecurity.

**Figure 9.** Percentage of Wyoming residents reporting one and two types of disability by age group



Source: American Community Survey, 2011-2013, Table B18108.

The risk for acquiring disability increases with age. **Figure 9** shows estimated proportions of older Wyoming residents who experience one or more disabilities by age group<sup>1</sup>. Among residents age 65 to 74, about 1 in 4 (25%) reports at least one disability. Moreover, after age 75, the risk for experiencing disability nearly doubles, with about 49% percent reporting at least one disability. Disability rates for Wyoming are comparable to rates in the United States, where 25% of people age 65 to 74, and 50% of people age 75 and older report at least one disability.

According to data collected for ACS (2010-2014, Table B1810), the most common type of disability experienced by older Wyoming residents (age 65 and older) are ambulatory difficulties (20%; e.g. difficulty walking or climbing stairs), followed by sensory difficulties such as hearing (18%) and seeing (7%), independent living limitations (11%; e.g., doing errands alone such as visiting a doctor's office or shopping), cognitive difficulties (7%), and self-care difficulties (6%; e.g., bathing and dressing). Difficulties in any of these activities can make living independently very challenging, especially when care-givers are unavailable or services to address needs associated with these disabilities are not locally available.

<sup>1</sup> Data on disability were obtained from the three-year American Community Survey (2011-2013); disability data are not available from the five-year files used in previous figures.

## Asset-Mapping

**Map 1** shows the population density of older adults (60 years and older) in Wyoming's 23 counties, as estimated by the 2014 American Community Survey<sup>2</sup>. Darker (red) regions contain the largest concentrations of older residents. Open triangles represent Census Designated Areas (CDA), which are defined as unincorporated and incorporated places such as cities, towns and villages. Currently, there are 204 CDAs in Wyoming. The table displays the number of older residents in each county, and their proportion of each county's total population. The final column describes the percent of the total older adult population residing within the boundaries of a CDA. Thus, one can also infer the number of older adults living *outside* of CDAs, within each county. Individuals who live outside of CDAs are more likely to live in highly rural locales, and may be at risk for isolation or low access to services.

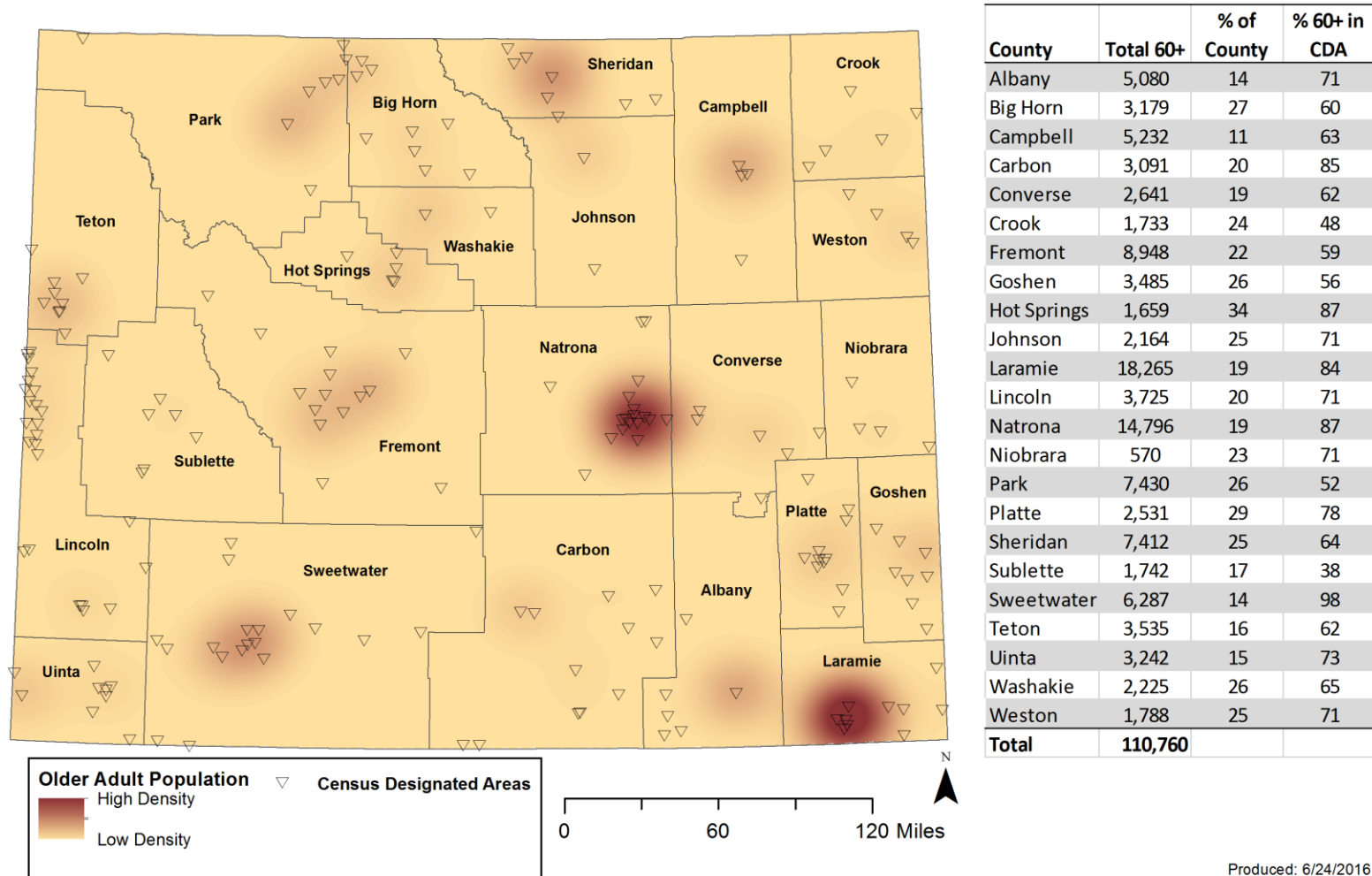
The counties with the greatest proportion of older adults were Hot Springs (34%), Platte (29%), and Goshen, Park, and Washakie counties (each with 26% of their population age 60 or older). Counties with the greatest absolute numbers of older residents were Laramie (18,265), followed by Natrona (14,796), and Fremont (8,948) counties.

Sublette County had the greatest proportion of older adults living outside of CDAs at 62%. Other counties with significant shares of older individuals living outside the boundaries of a CDA include Crook (52%), Park (48%), Goshen (44%), and Fremont (41%).

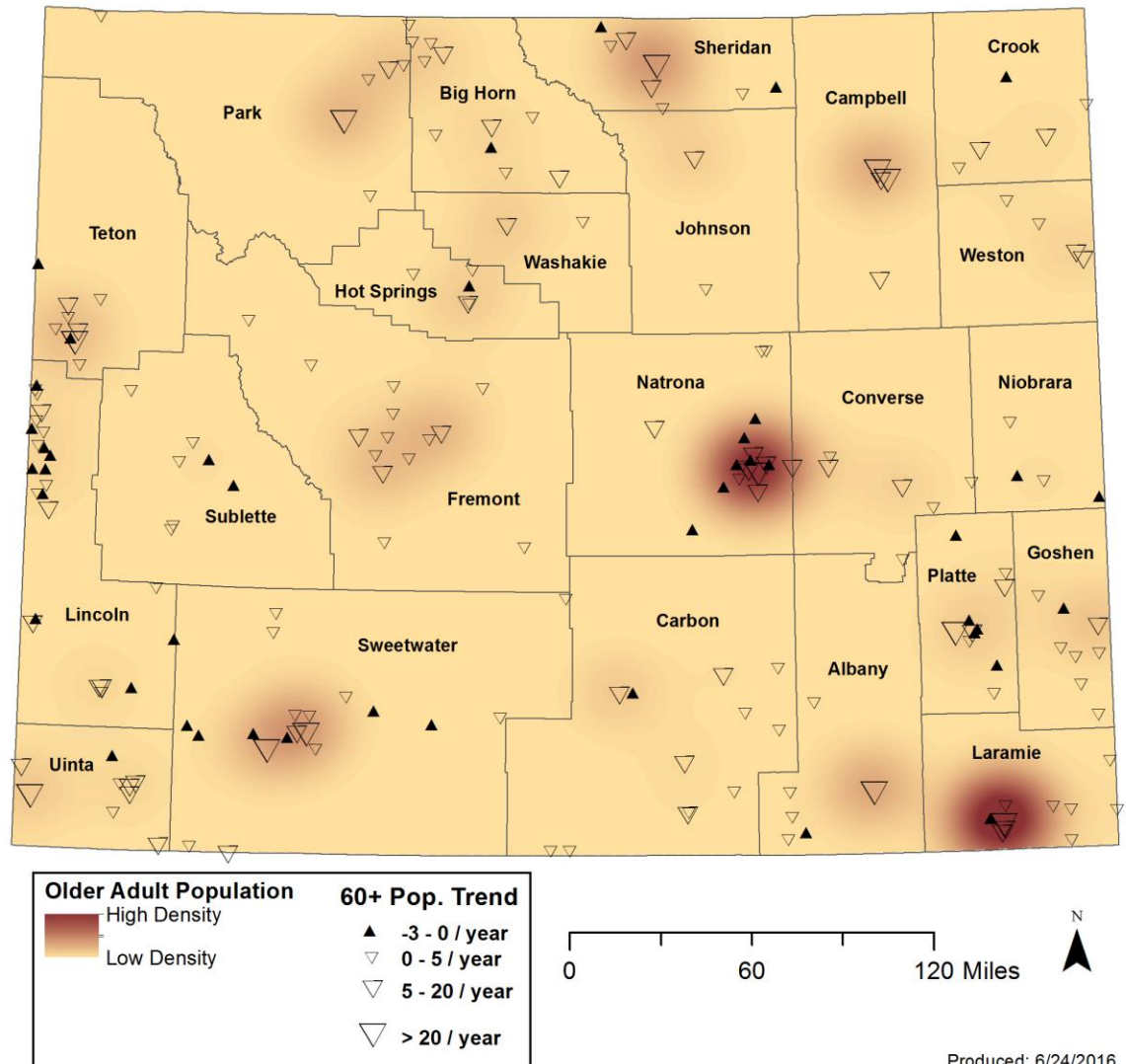
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<sup>2</sup> Data included in Map 1 are somewhat inconsistent with those included in Figure 2 because they come from different sources (i.e., Map 1 includes estimates from the 2014 ACS, whereas Figure 2 is 2010 Census data.).

**Map 1.** Population density (age 60+) relative to the state's 204 Census Designated Areas



**Map 2.** Trends in population growth (age 60+) by population density and Census Designated Area



**Map 2** shows projected trends in population decline and growth that were modeled using data from the 2000 and 2010 Censuses, and data from the 2014 ACS. Small solid black triangles indicate CDAs where a decline in the older population is predicted. Open triangles indicate CDAs where the older population is expected to grow, with larger triangles representing greater growth.



**Table 4.** Summary of services available by Wyoming county

	Transport -ation	Boarding Home	Independent Living	Assisted Living	Nursing Home	Adult Day Care	Wyoming Home Services	Home Health	Senior Center	Physician
Albany	X		X	X	X		X	X	X	X
Big Horn	X			X	X		X	X	X	X
Campbell	X		X	X	X		X	X	X	X
Carbon	X		X		X		X		X	X
Converse	X				X		X	X	X	X
Crook	X			X	X		X	X	X	X
Fremont	X		X	X	X		X	X	X	X
Goshen	X	X	X		X		X	X	X	X
Hot Springs	X			X	X		X	X	X	X
Johnson	X		X	X	X		X	X	X	X
Laramie	X		X	X	X		X	X	X	X
Lincoln	X			X	X	X	X	X	X	X
Natrona	X	X	X	X	X		X	X	X	X
Niobrara	X	X			X		X		X	X
Park	X	X	X	X	X			X	X	X
Platte	X	X	X	X	X	X	X	X	X	X
Sheridan	X	X	X	X	X	X	X	X	X	X
Sublette	X		X		X		X	X	X	X
Sweetwater	X				X	X	X	X	X	X
Teton	X		X	X	X		X	X	X	X
Uinta	X			X	X	X	X	X	X	X
Washakie	X	X			X		X		X	X
Weston	X			X	X		X	X	X	X

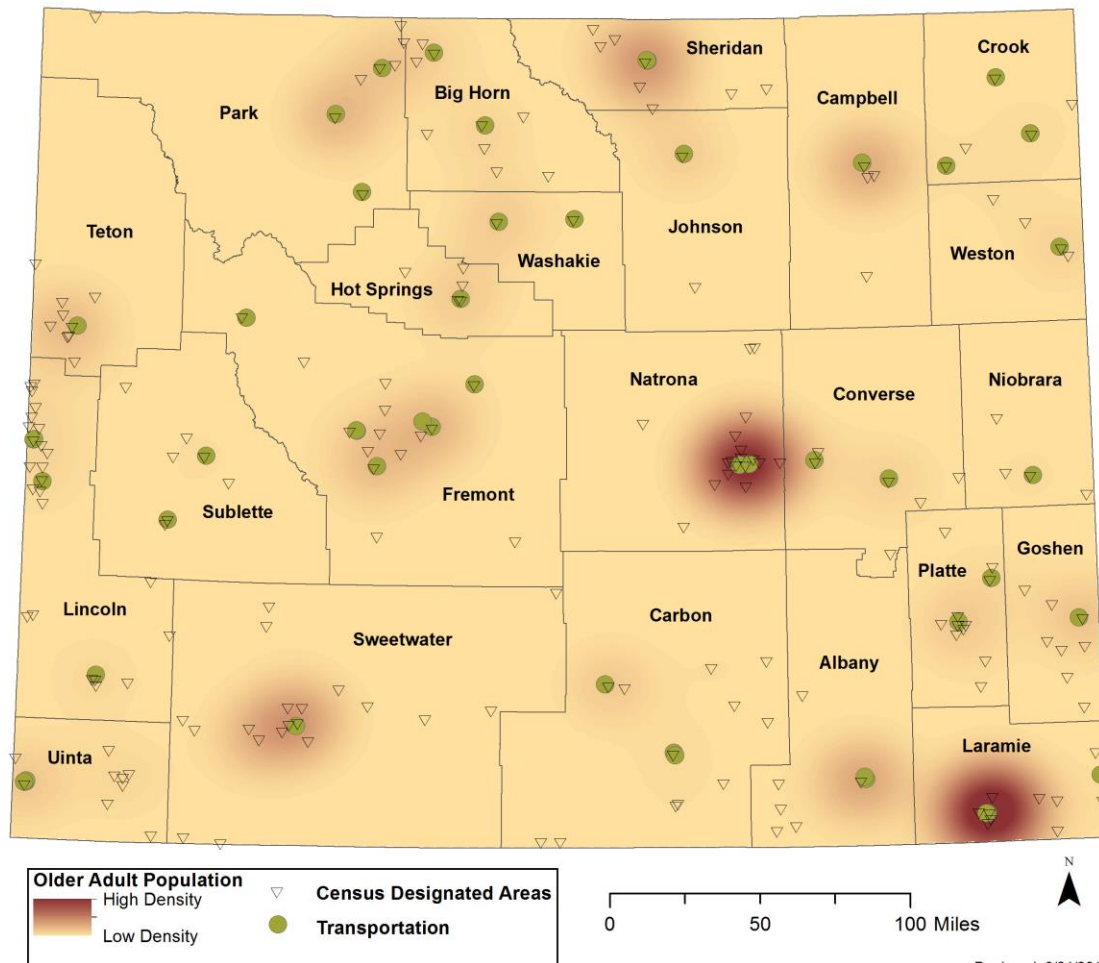
**Table 4** summarizes the distribution of the ten resources that we assessed across Wyoming's 23 counties. The most common types of resources, transportation, nursing homes, senior centers, and physicians are found in all 23 counties. Wyoming Home services are found in 22 out of 23 counties, and home health services are available in 20 out of 23 counties. The least common resource types are adult day care (found in only 5 counties) and boarding homes (found in 7 counties). It is worth noting that even when services are available within counties, all county residents may not have equal access to the services, depending on distance from their homes and/or eligibility criteria. For instance, although transportation services are available in all counties, limited catchment areas may preclude some county residents from utilizing the services.

### **Transportation**

Reliable transportation is necessary to support high quality of life and independence, and promotes aging-in-place by providing individuals with access to work or volunteer activities, needed goods and amenities, and healthful social engagement with others in the community. For most Americans, daily transportation needs are met by driving themselves in automobiles that they own. However, for many older adults, physical changes associated with aging (e.g., sensory or cognitive impairments) can make continued driving unsafe. When adequate transportation options are not available in the community to replace driving, or when they are extremely limited, challenges in obtaining transportation may increase risk for isolation and poorer outcomes that can reduce an individual's quality of life.

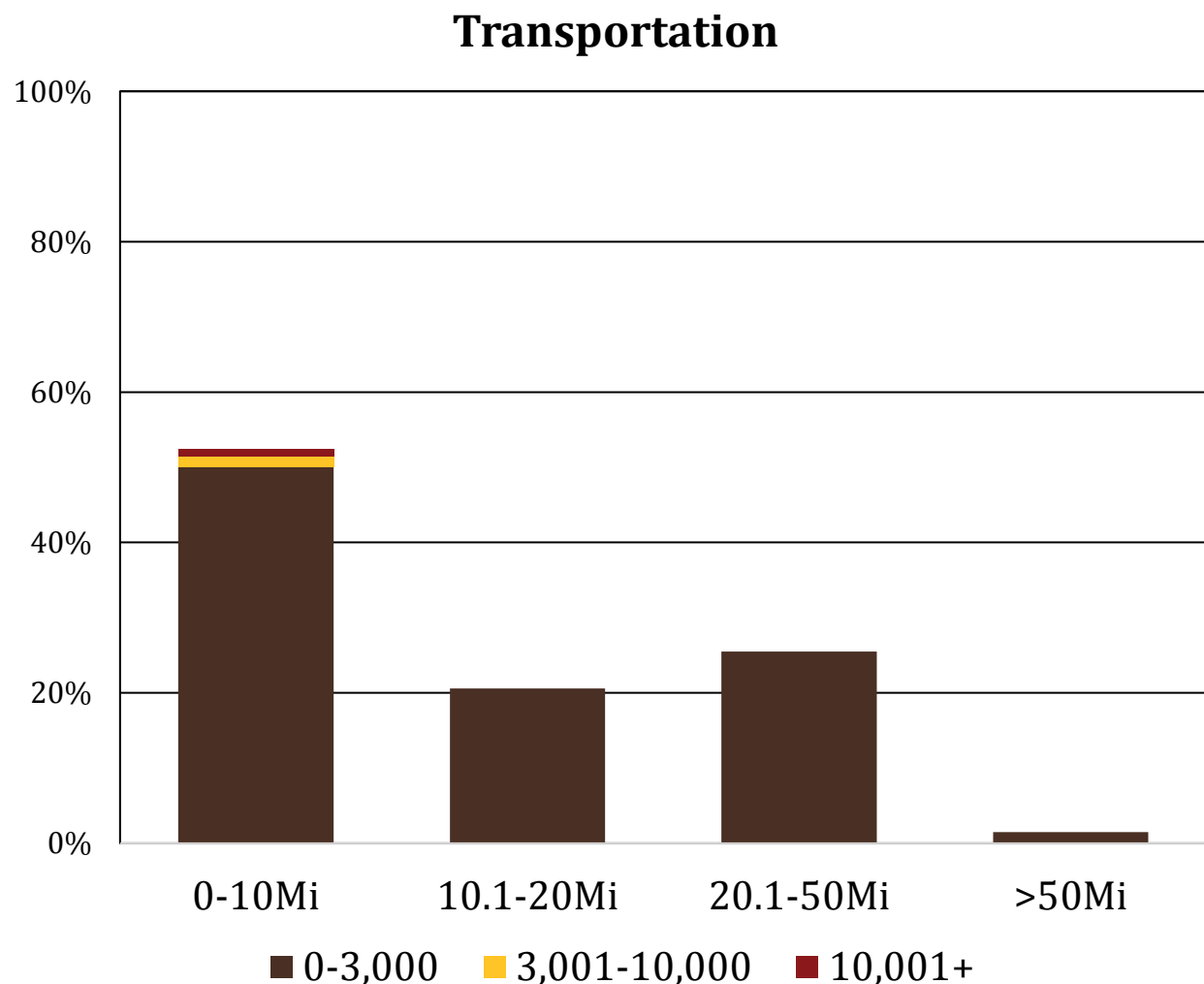
Challenges associated with meeting transportation needs of older adults are magnified in some rural areas throughout Wyoming, where local transportation options are relatively scarce. Many older adults who reside in very remote CDAs may be frustrated by difficulties meeting their everyday needs. In general, communities throughout the state can promote quality of life, social engagement, and aging-in-place among older residents by building networks that support transportation options for residents who are unable to drive themselves.

**Map 3.** Distribution of Transportation providers by population density (age 60+) and CDA location



**Map 3** shows the distribution of Wyoming’s 51 transportation service providers for older adults (verified open, in June 2016) in relation to the population density of older adults living in the state and the state’s CDAs. Transportation providers can include paratransit services, door-to-door “escort” services, and fixed route transportation resources provided by aging organizations, private agencies, and public transit agencies.

**Figure 10.** Distances of CDAs from nearest Transportation providers by CDA size



**Figure 10** shows percentages of Wyoming's 204 CDAs located at various distances from the nearest transportation provider. The figure also indicates the relative size of CDAs ranging from small CDAs with 3000 or fewer older adults (indicated in brown, and which are the vast majority) to relatively large CDAs with greater than 10,000 older adults (indicated in red, of which there are only two—Cheyenne and Casper). There are 51 transportation providers throughout Wyoming. The vast majority of CDAs (74%) are located within 20 miles from the nearest transportation services. Less than 1% Wyoming's CDAs are farther than 50 miles from the nearest provider.

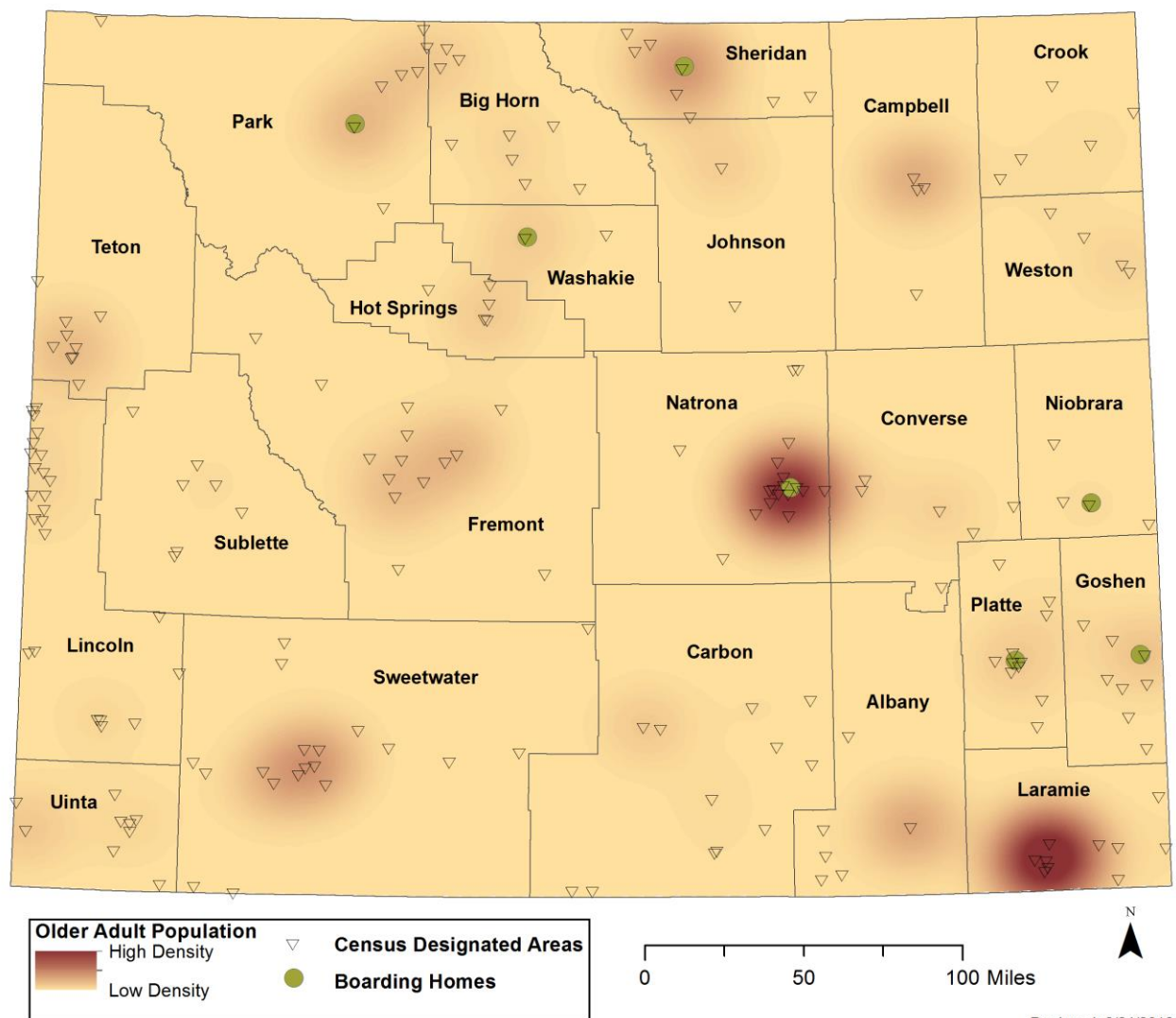
## **Housing**

For many older adults, the ability to age in the community relies on their having access to a continuum of housing options designed to address their changing physical, mental, social, and economic circumstances that may accompany aging. Often, as individuals age, the “fit” between an individual’s physical and material resources and their environments can decrease, resulting in living situations that are impractical, unsafe and undesirable for older adults.

Housing options that combine shelter and services, such as boarding homes, independent living, and assisted living facilities may improve the prospects of many older individuals who can no longer maintain their homes, to remain relatively independent and engaged in their communities. In addition, good quality nursing homes located in the local community, can assist older adults who may be too sick or frail to live independently, to remain close to their family and friends while receiving care.

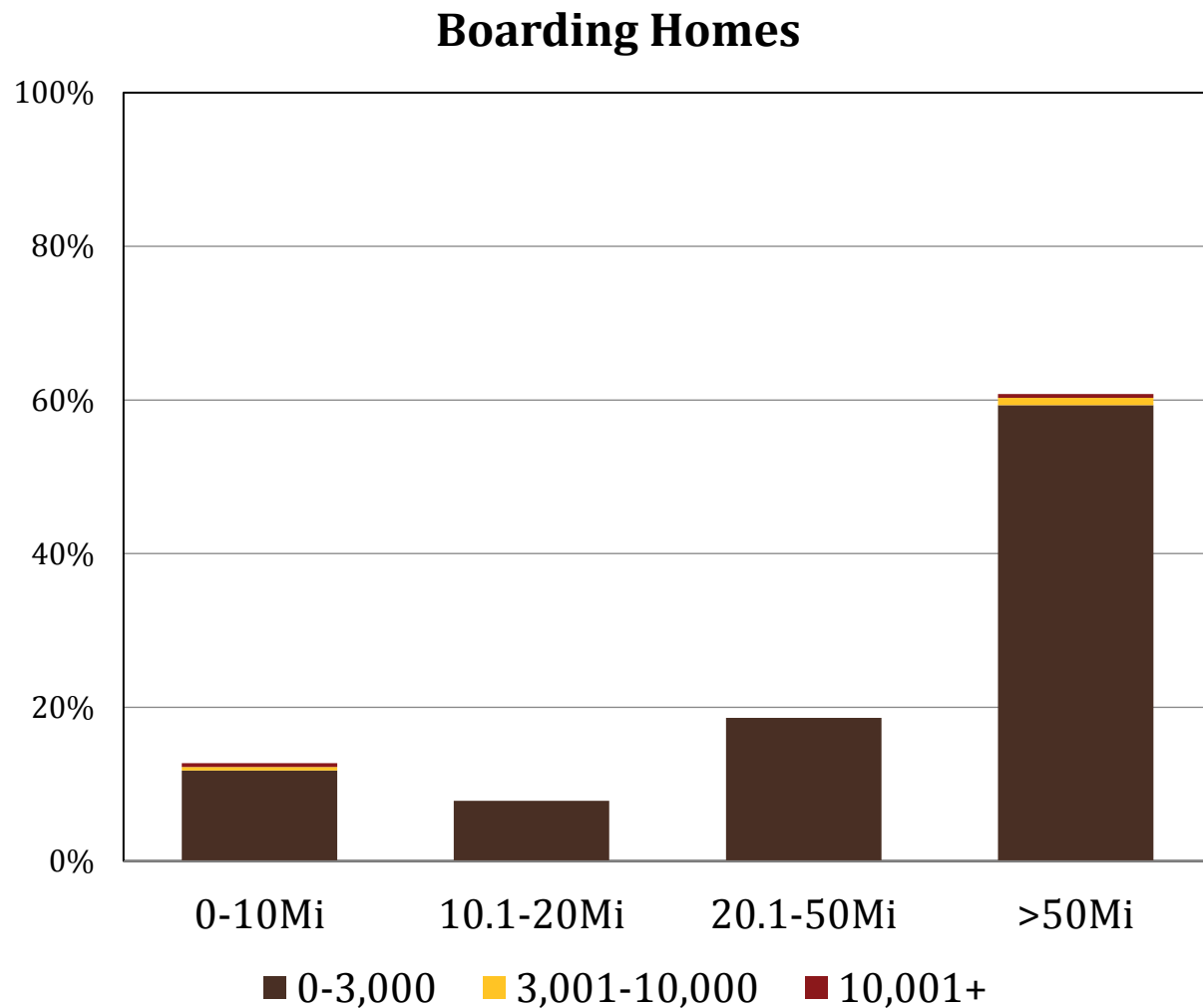
Unfortunately, many counties in Wyoming lack adequate housing options to meet the diverse needs of their aging populations. As a result many older Wyoming residents may need to relocate against their wishes to new communities where their needs can be met. The maps and figures that follow display the distribution of a continuum of service-based housing options available in Wyoming, including boarding homes, independent living, assisted living, and nursing homes.

**Map 4.** Distribution of Boarding Homes by population density (age 60+)



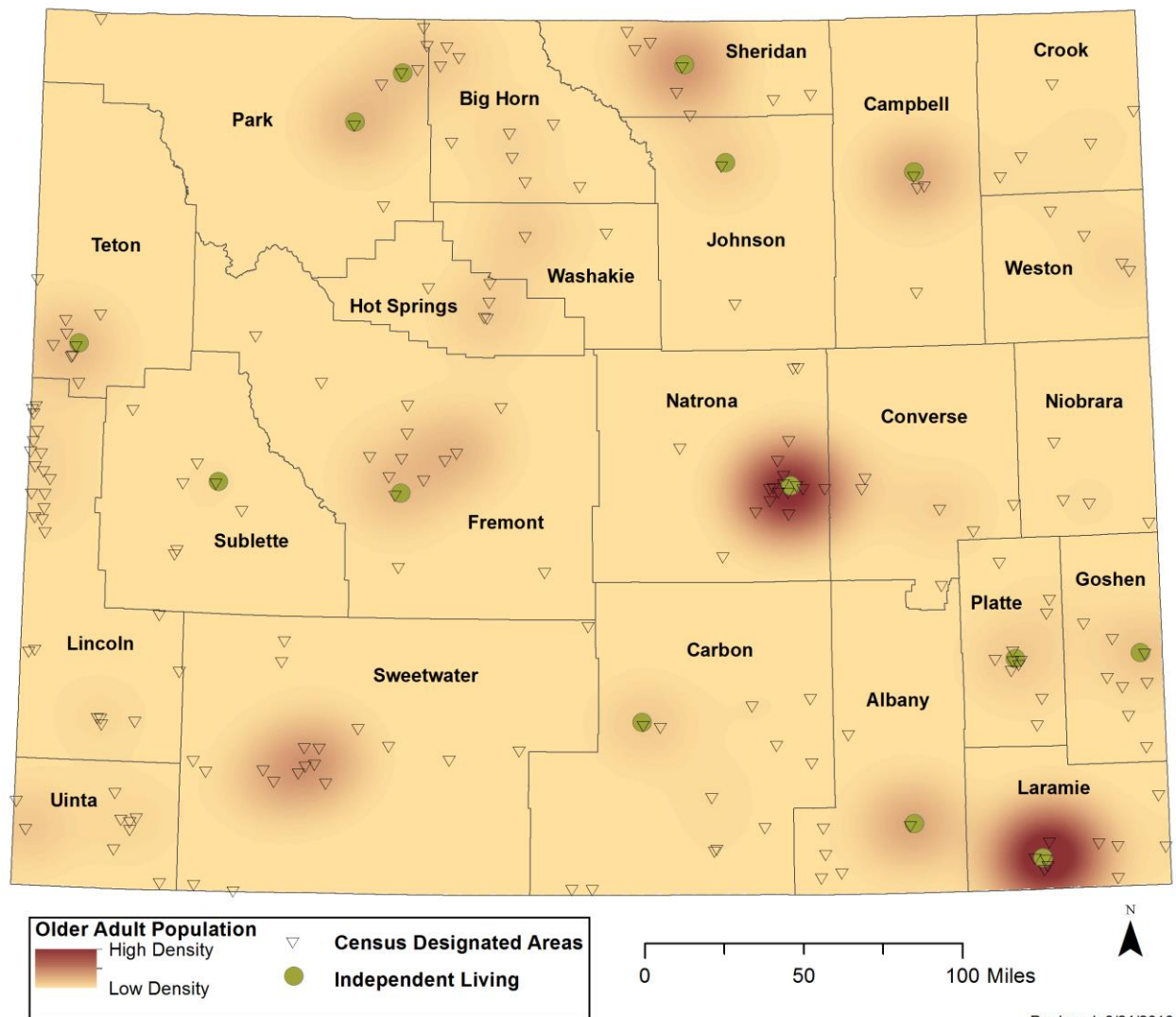
**Map 4** shows the distribution of Wyoming's 7 functioning boarding homes (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. Boarding homes are dwellings or rooming houses that operate a home for the purpose of letting rooms for rental, and providing meals and personal daily living care, but not habilitative or nursing care.

**Figure 11.** Distances of CDAs from nearest the Boarding Home by CDA size



Boarding homes for older adults are somewhat rare in Wyoming. There are only 7 boarding homes for older adults dispersed throughout the state. **Figure 11** shows percentages of CDAs located at various distances from the nearest boarding home. The majority of CDAs (124, or 61%) are located greater than 50 miles away from the nearest boarding home. Only 12% of Wyoming's CDAs have local access to a boarding home, within 10 miles of their CDA, including one located near Casper.

**Map 5.** Distribution of Independent Living facilities by population density (age 60+) and CDA location

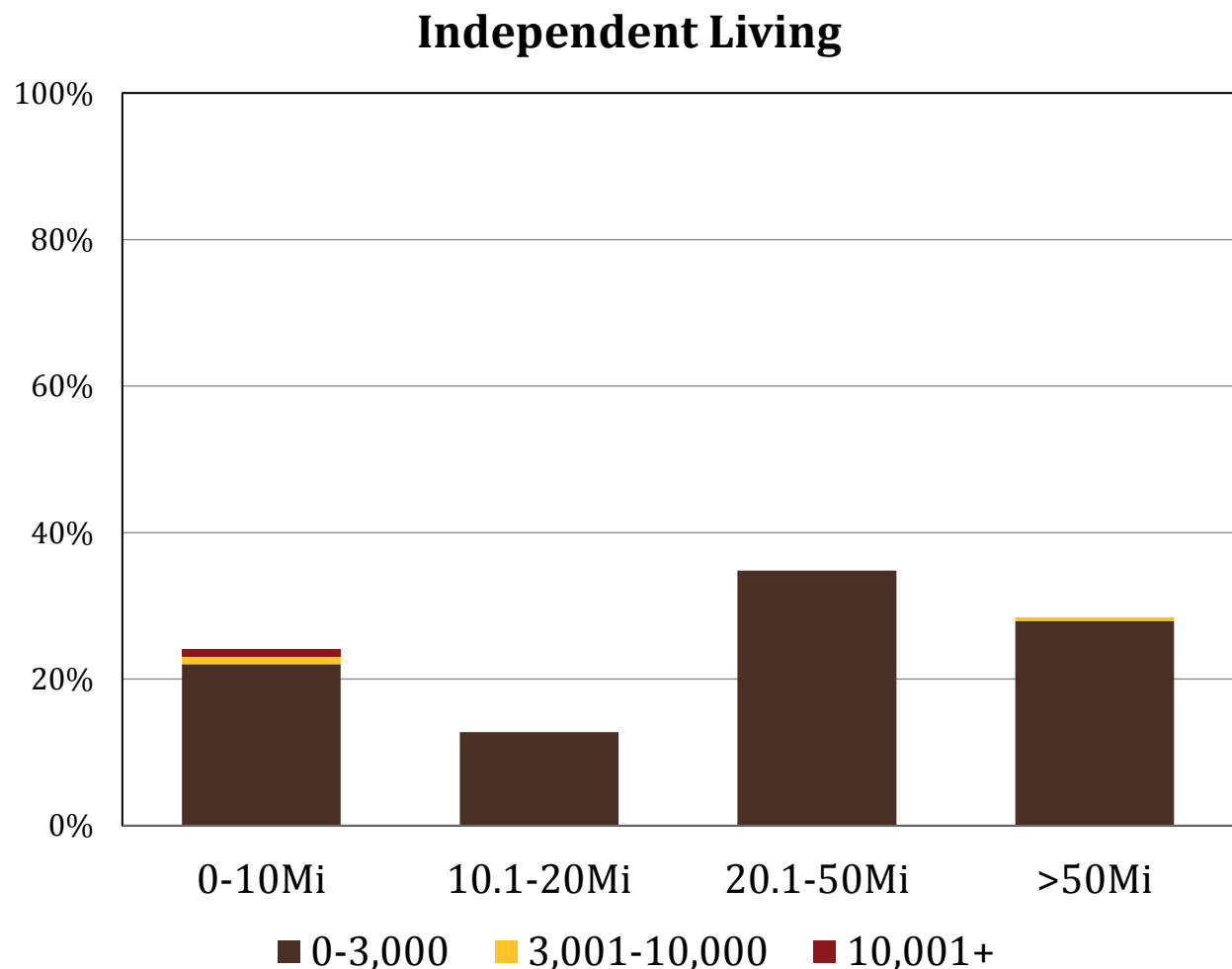


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**Map 5** shows the distribution of Wyoming's 27 Independent Living facilities (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. Independent living is a housing arrangement that varies from apartment-style living to freestanding homes. Most independent living communities offer amenities, activities, and services. Independent living facilities may also offer recreational facilities such as a swimming pool or fitness center. Independent living may also include other services, including daily meals, and basic housekeeping and laundry services.

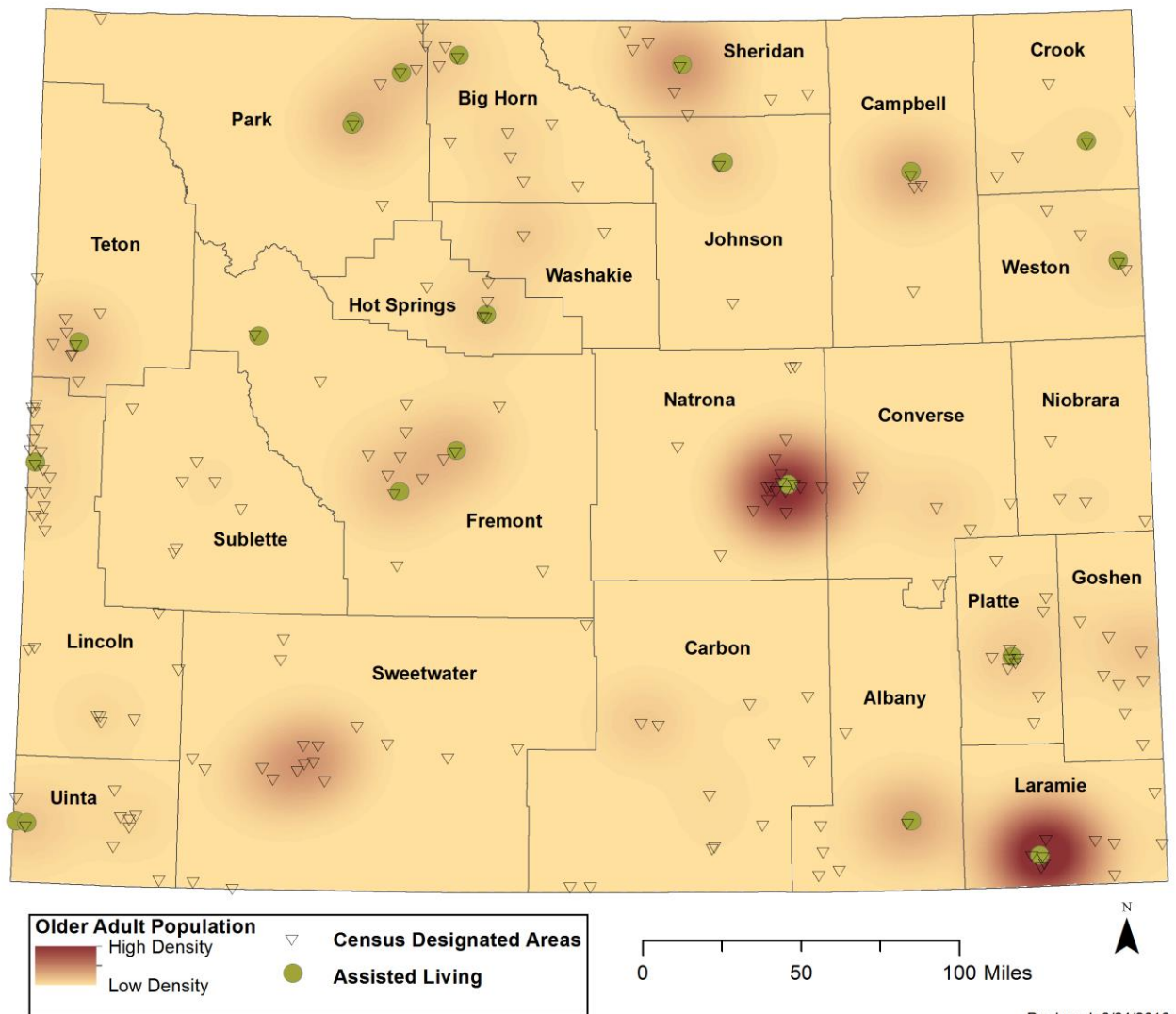


**Figure 12.** Distances of CDAs from nearest Independent Living facilities by CDA size



**Figure 12** shows percentages of CDAs located at various distances from their nearest independent living facility. There are 27 independent living facilities dispersed throughout Wyoming. About 24% of CDAs are located within 10 miles from the nearest independent living facility—including the largest CDAs. About 63% of Wyoming’s CDAs are 20 or more miles away from an independent living facility, including 28% of CDAs that are farther than 50 miles from the nearest provider.

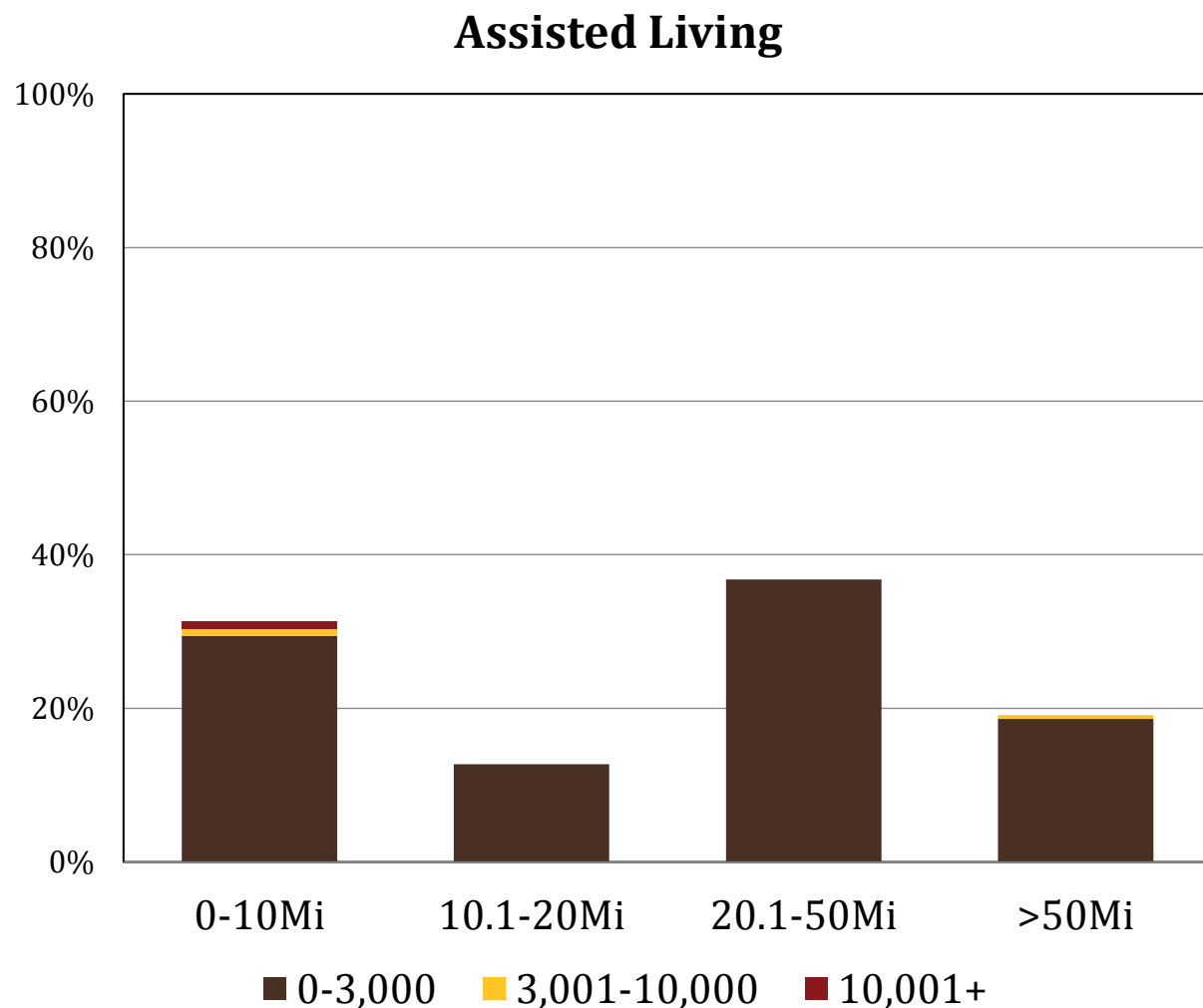
**Map 6** Distribution of Assisted Living facilities by population density (age 60+) and CDA location



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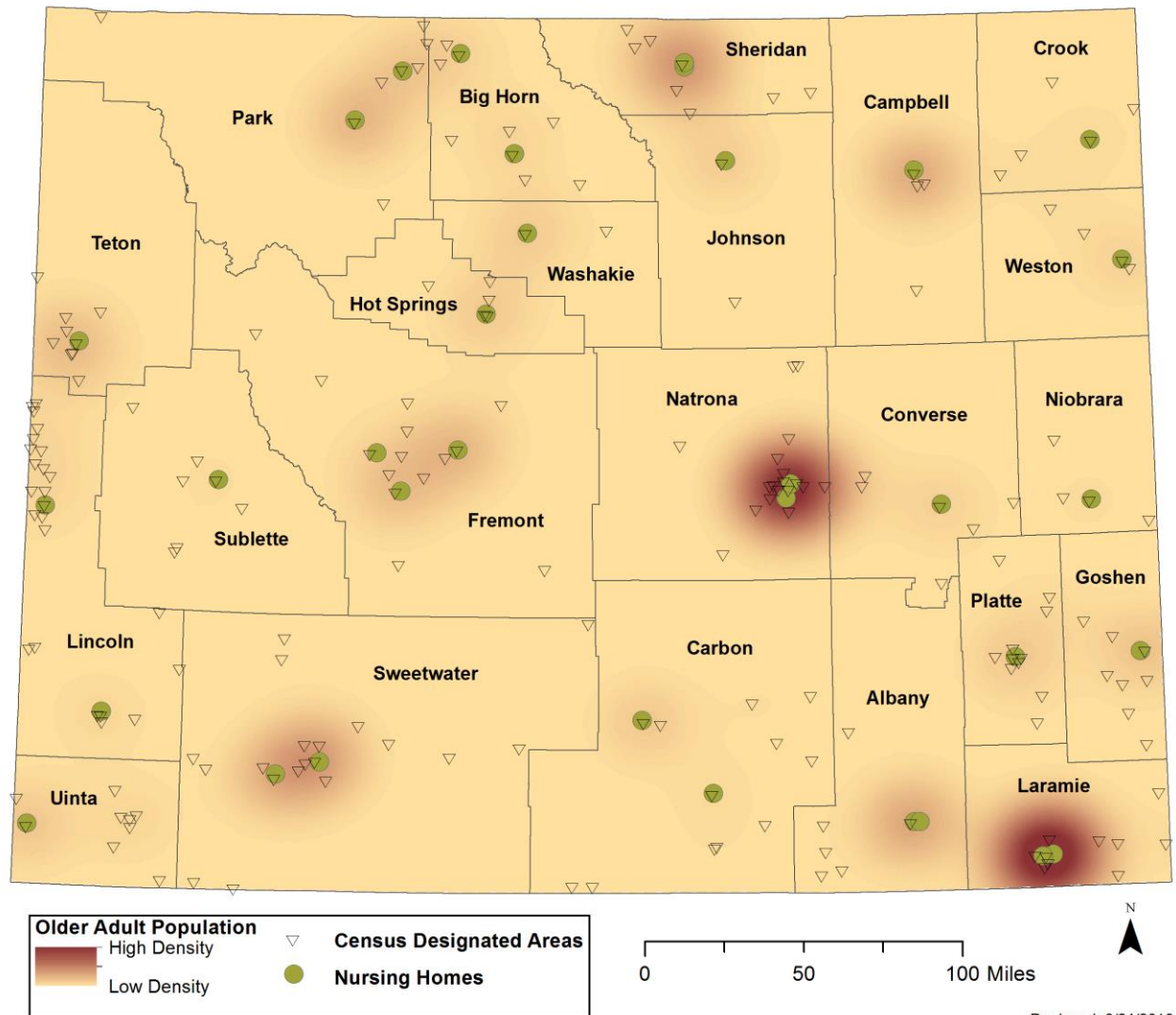
**Map 6** shows the distribution of Wyoming's 30 assisted living facilities (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. Assisted living facilities are dwellings that are engaged in providing limited nursing care, personal care, and boarding home care, including facilities with secured units and facilities dedicated to the special care and services for people with Alzheimer's disease or other dementia conditions.

**Figure 13.** Distance of CDAs from nearest Assisted Living facilities by CDA size



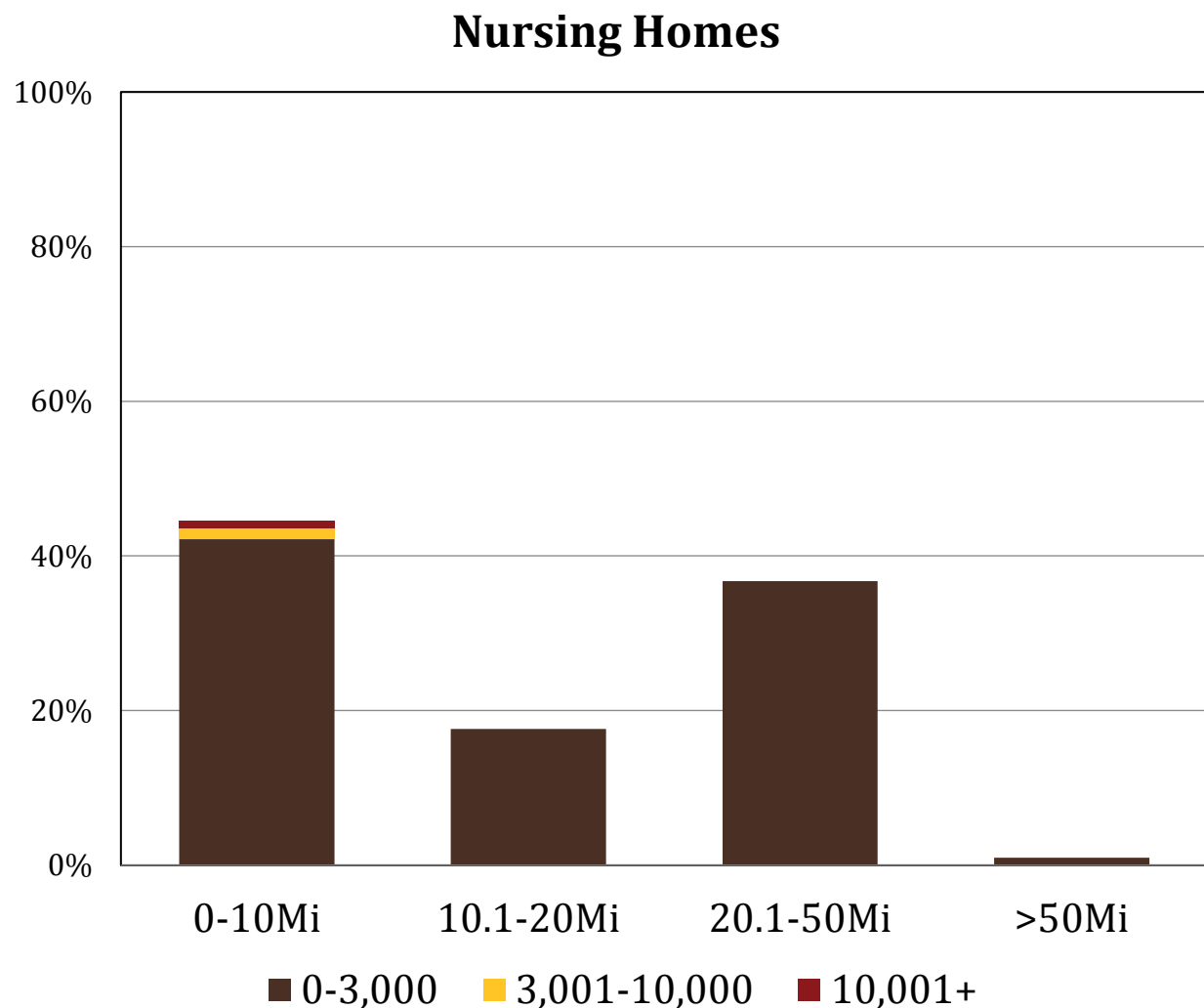
**Figure 13** shows percentages of CDAs located at various distances from their nearest assisted living facility. There are 30 assisted living facilities dispersed throughout Wyoming. Just 64 CDAs (or 31%) are located within 10 miles from the nearest assisted living facility—including the largest CDAs. About 19% of Wyoming’s CDAs, are farther than 50 miles from the nearest facility. The largest share of CDAs (37%) are between 20.1 and 50 miles from the nearest assisted living facility.

**Map 7.** Distribution of Nursing Homes by population density (age 60+) and CDA location



**Map 7** shows the distribution of Wyoming's 38 Nursing Homes (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. Nursing homes are institutions that provide residential accommodations and health care for people who do not need to be in a hospital but cannot be cared for at home. Nursing homes provide medical care, as well as rehabilitative care such physical, speech and occupational therapy. Some nursing homes have special care units for people with serious memory problems such as Alzheimer's disease, and others who require more intensive care.

**Figure 14.** Distances of CDAs from nearest Nursing Home facilities by CDA size



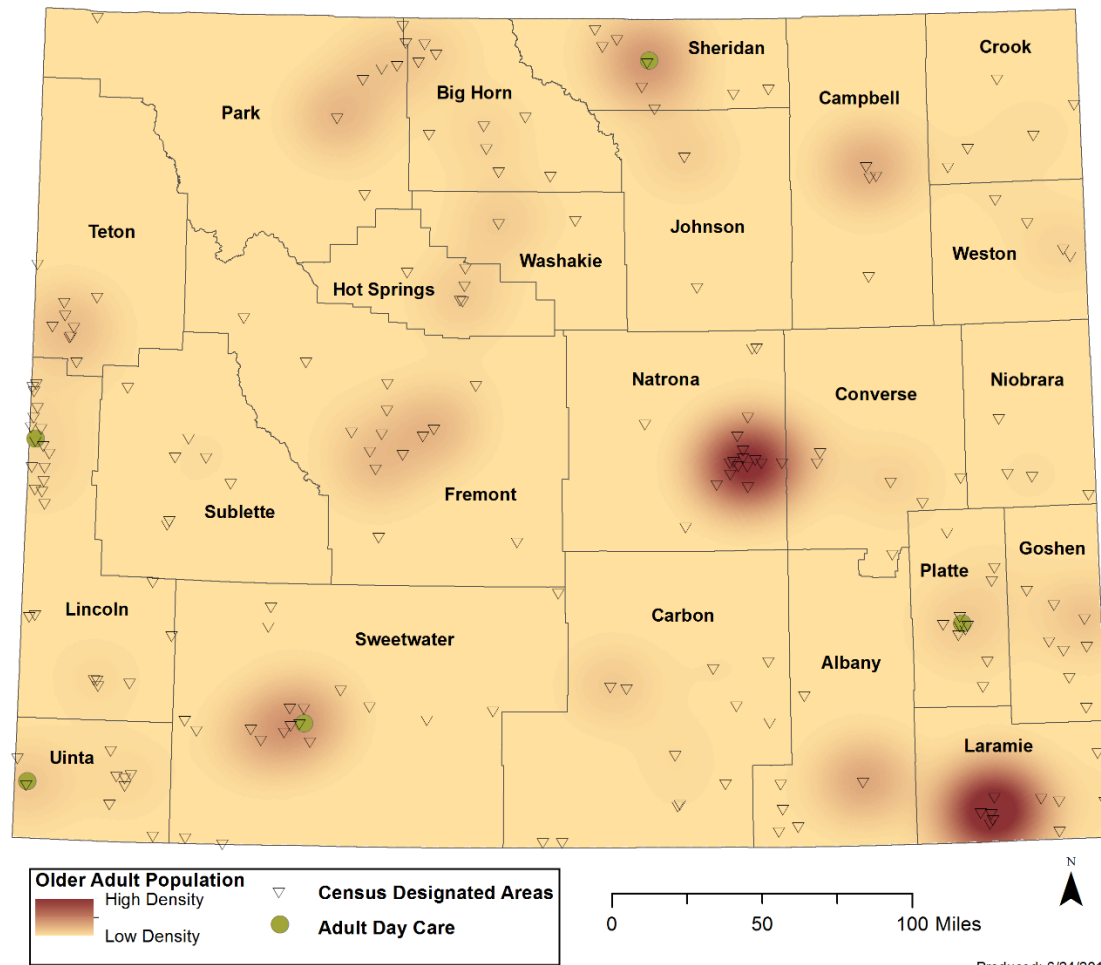
**Figure 14** shows percentages of CDAs located at various distances from the nearest nursing home. There are 38 nursing homes dispersed throughout Wyoming. The majority of Wyoming's CDAs (62%) are within 20 miles of a nursing home. Just 1% of CDAs are farther than 50 miles from the nearest nursing home.



## Services

In order for communities to support aging in place, they must ensure that older adults have access to a variety of home and community based services, as well as public and commercial amenities. Many older adults, particularly those who have mobility difficulties or who can no longer drive, can benefit from medical and social services that can be delivered directly to the homes of residents. Additionally, programs and agencies that connect older residents with affordable assistance in doing housework and other household activities, and which provide learning opportunities, exercise programs, and social activities, can be instrumental in helping community members remain active, engaged, and independent. The maps and figures that follow display the distribution of a continuum of medical and social services available in Wyoming, including adult day care, Wyoming Home Services, home health, senior centers, and physicians.

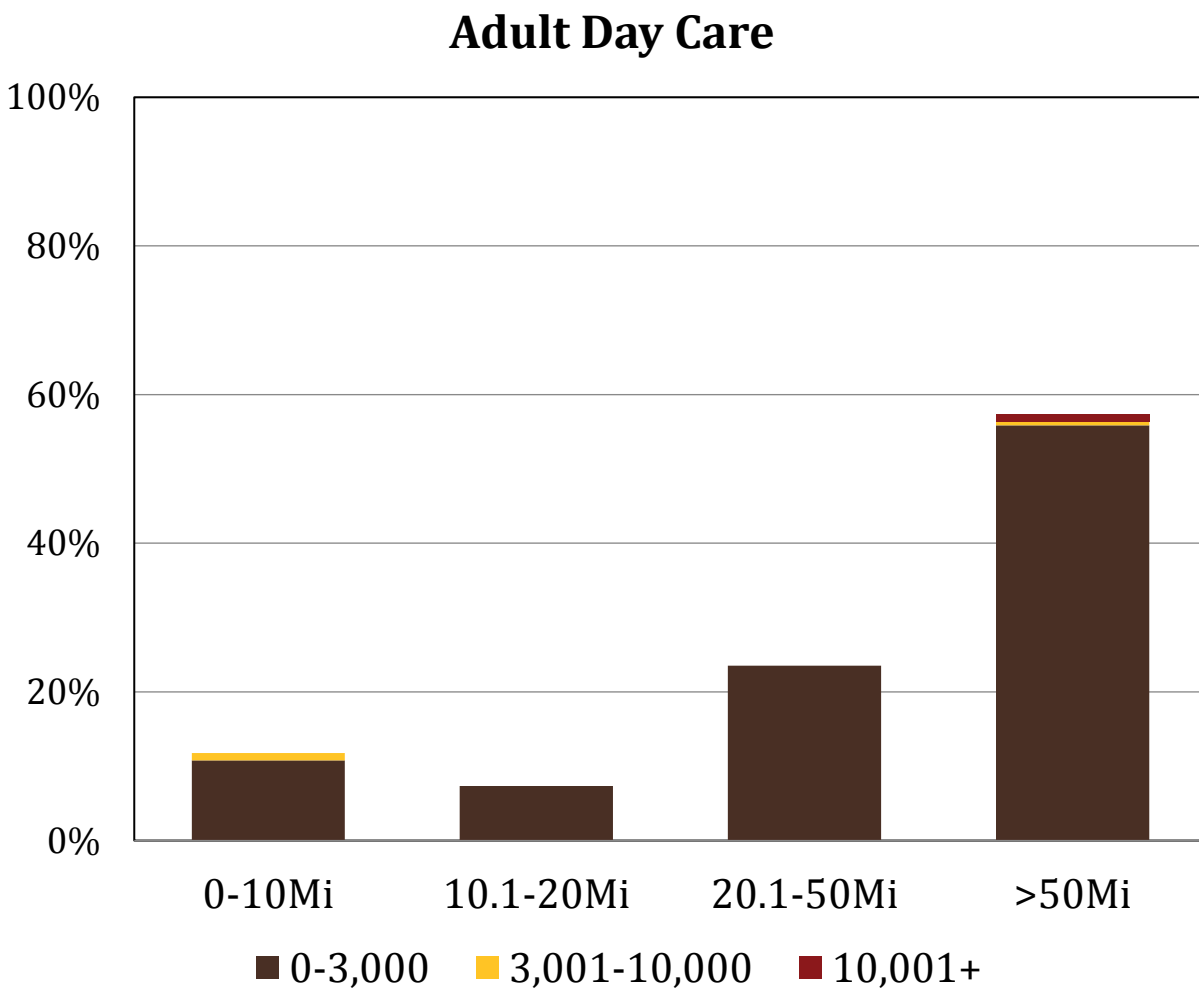
**Map 8.** Distribution of Adult Day Care by population density (age 60+) and CDA location



**Map 8** shows the distribution of Wyoming's 5 functioning adult day care centers (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. Adult day care is operationally defined as any facility not otherwise certified by the Wyoming Department of Healthy that is engaged in providing activities of daily living support and supervision services programming, to four or more persons eighteen years of age or older with physical and mental disabilities.

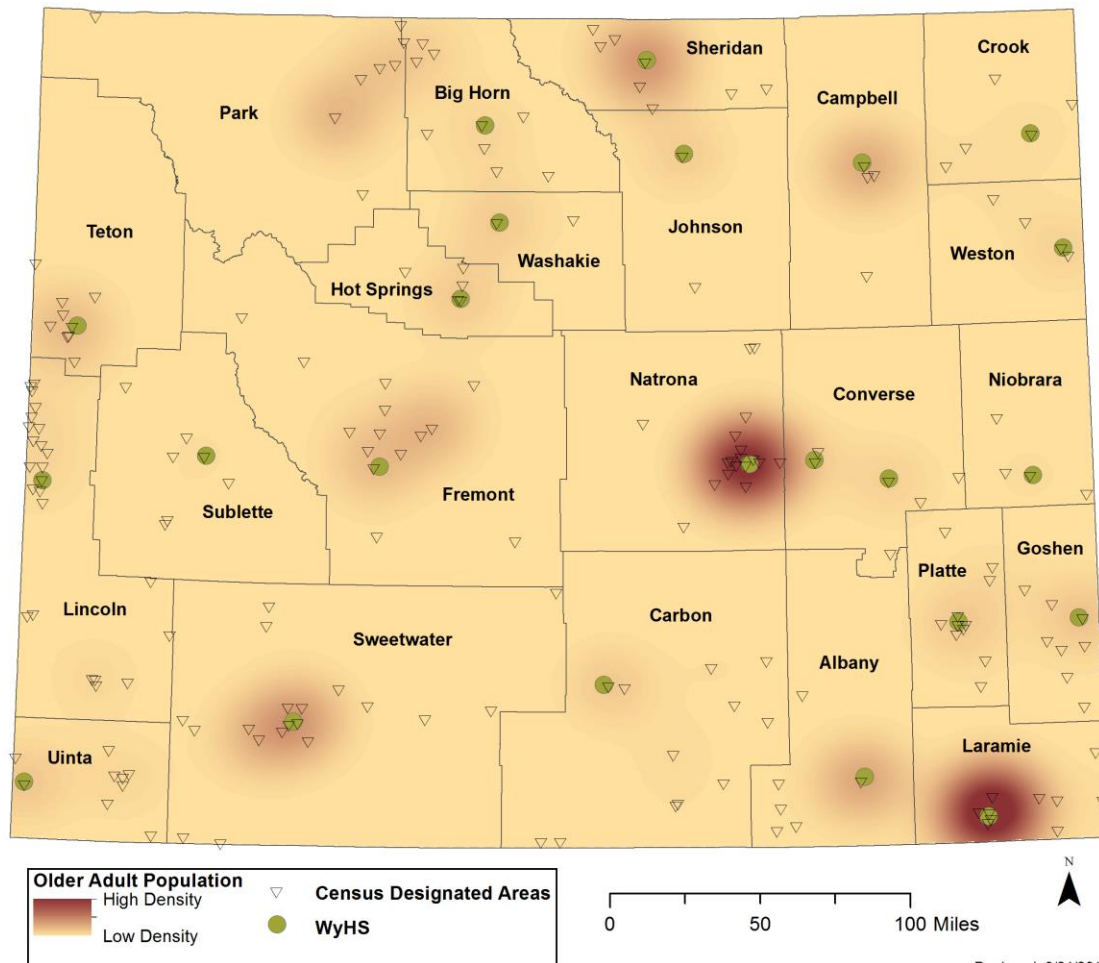


**Figure 15.** Distances of CDAs from nearest Adult Day Care service provider by CDA size



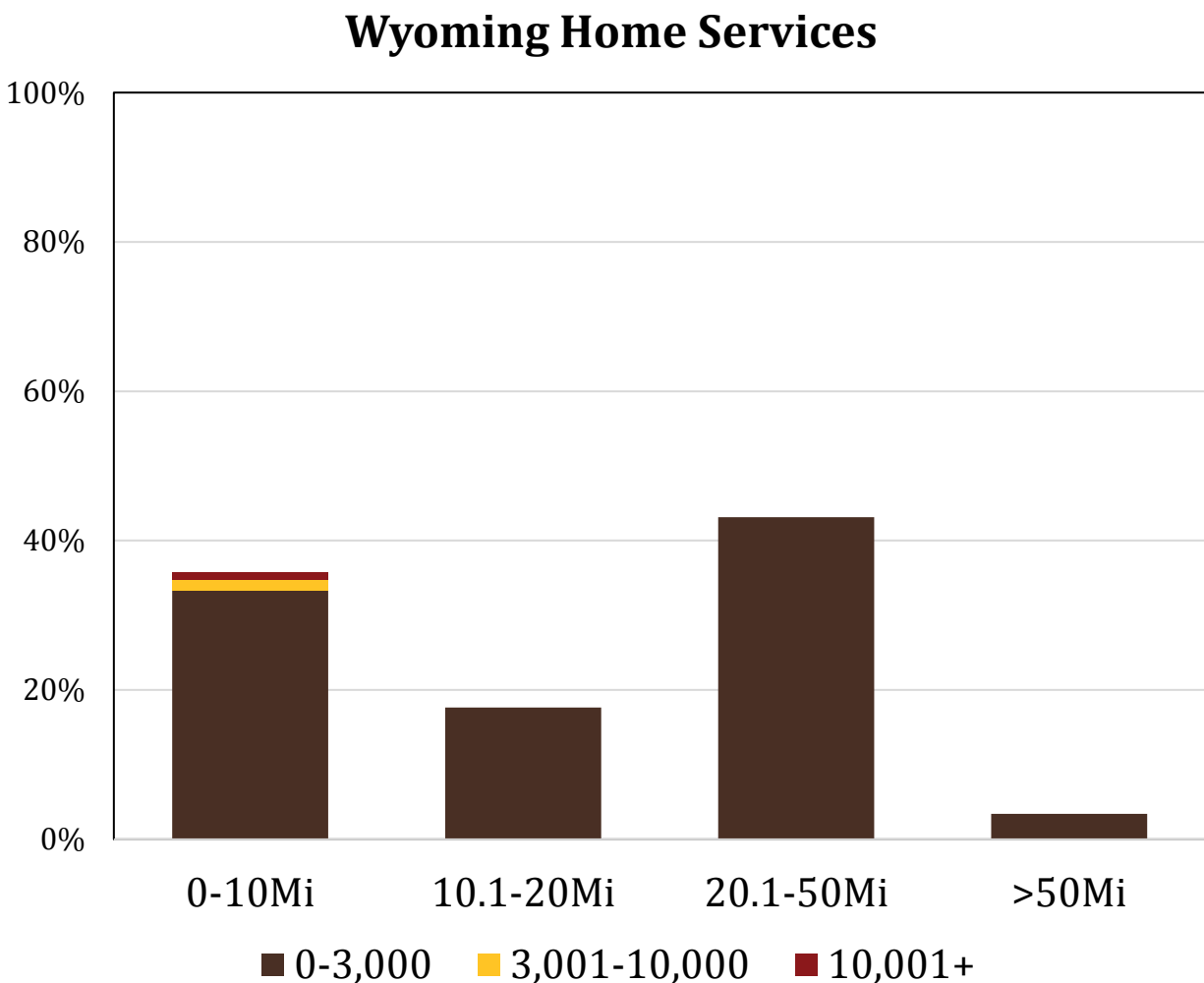
**Figure 15** shows percentages of Wyoming's 204 CDAs located at various distances from their nearest adult day care service provider. There are only 5 adult day care centers dispersed throughout the state. Therefore, the majority of CDAs (117, or 57%) are located greater than 50 miles away from the nearest adult day center. Only 12% of Wyoming's CDAs have local access to adult day care services, within 10 miles of their CDA.

**Map 9.** Distribution of Wyoming Home Services providers by population density (age 60+) and CDA location



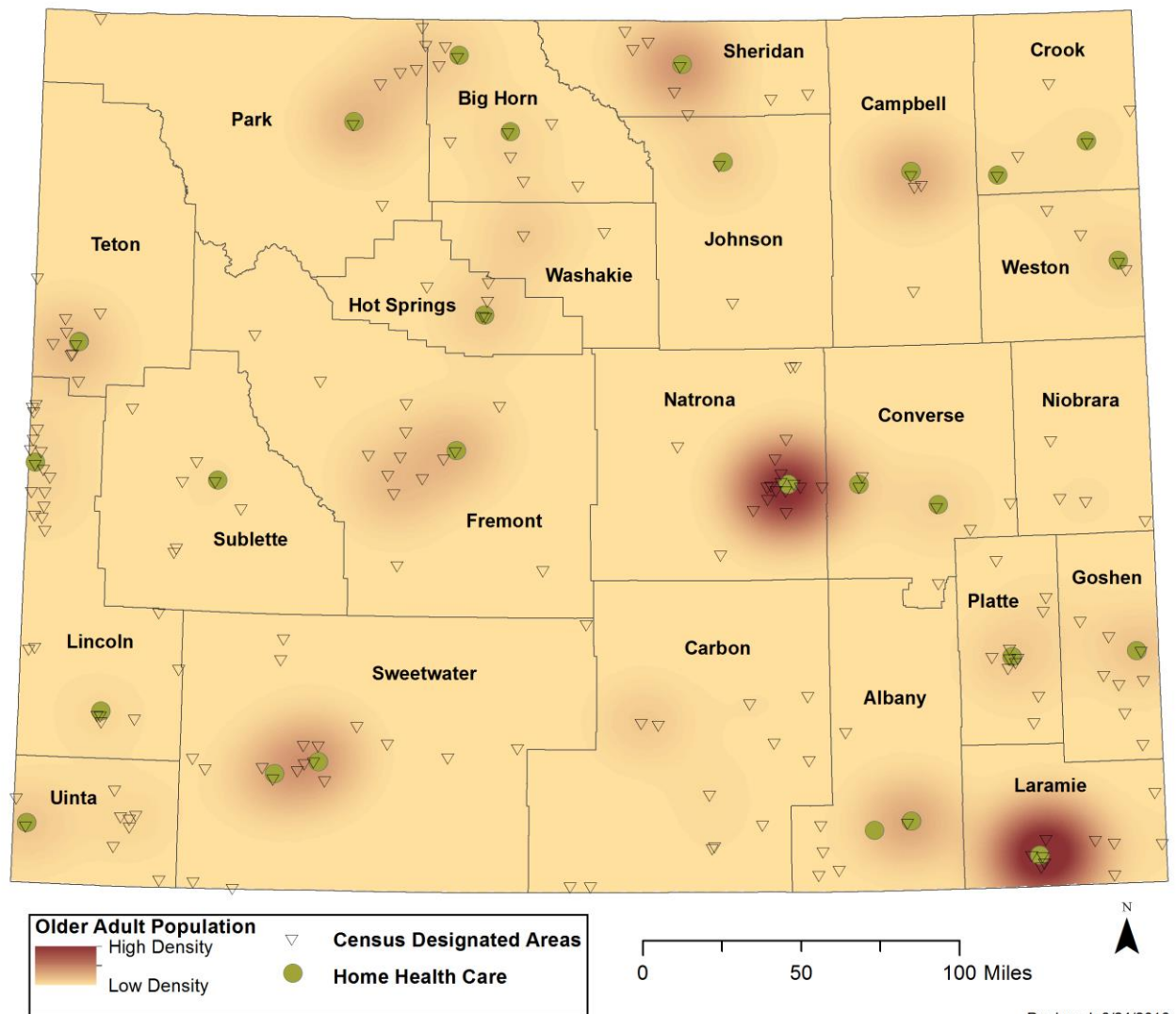
**Map 9** shows the distribution of 23 Wyoming Home Services providers (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. The Wyoming Home Services Program (WyHS; formerly, Community-Based In-Home Services) is designed to help Older Adults, and individuals with disabilities, who are at risk of nursing home placement to stay in their own homes. Services include: personal care, chore services, homemaker services, respite care, and adult day care. The availability of WyHS in a community can make the difference between an older adult living at home and having to live in a more restrictive setting such as a nursing home.

**Figure 16.** Distances of CDAs from nearest the Wyoming Home Services provider by CDA size



**Figure 16** shows percentages of CDAs located at various distances from their nearest Wyoming Home Services provider. There are 23 WyHS providers dispersed throughout Wyoming. Just 73 CDAs (or 35%) are located within 10 miles from the nearest WyHS provider—including the two largest CDAs. About 46% of Wyoming’s CDAs are 20 or more miles away from a WyHS provider, including 3% of CDAs that are farther than 50 miles from the nearest provider.

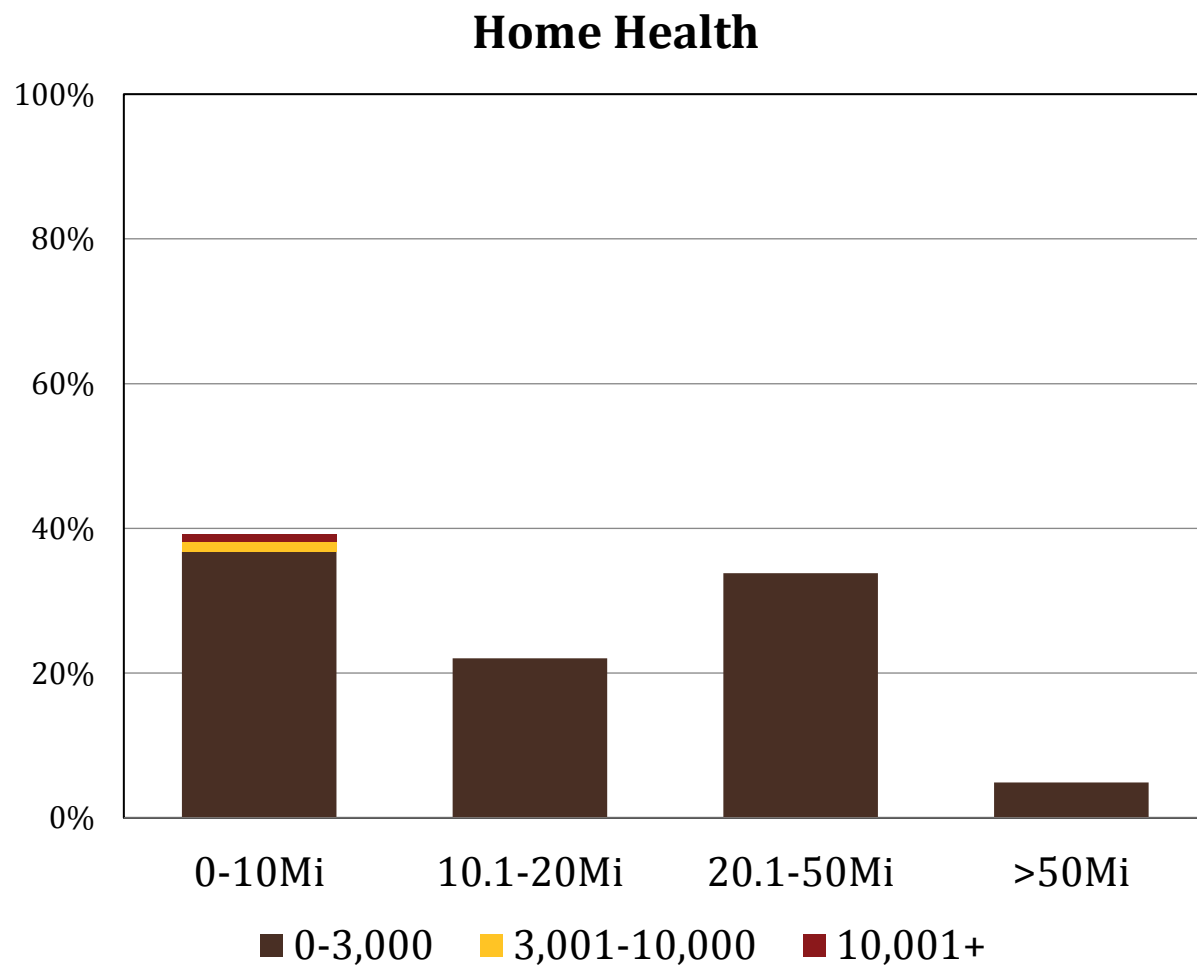
**Map 10.** Distribution of Home Health Care services by population density (age 60+) and CDA location



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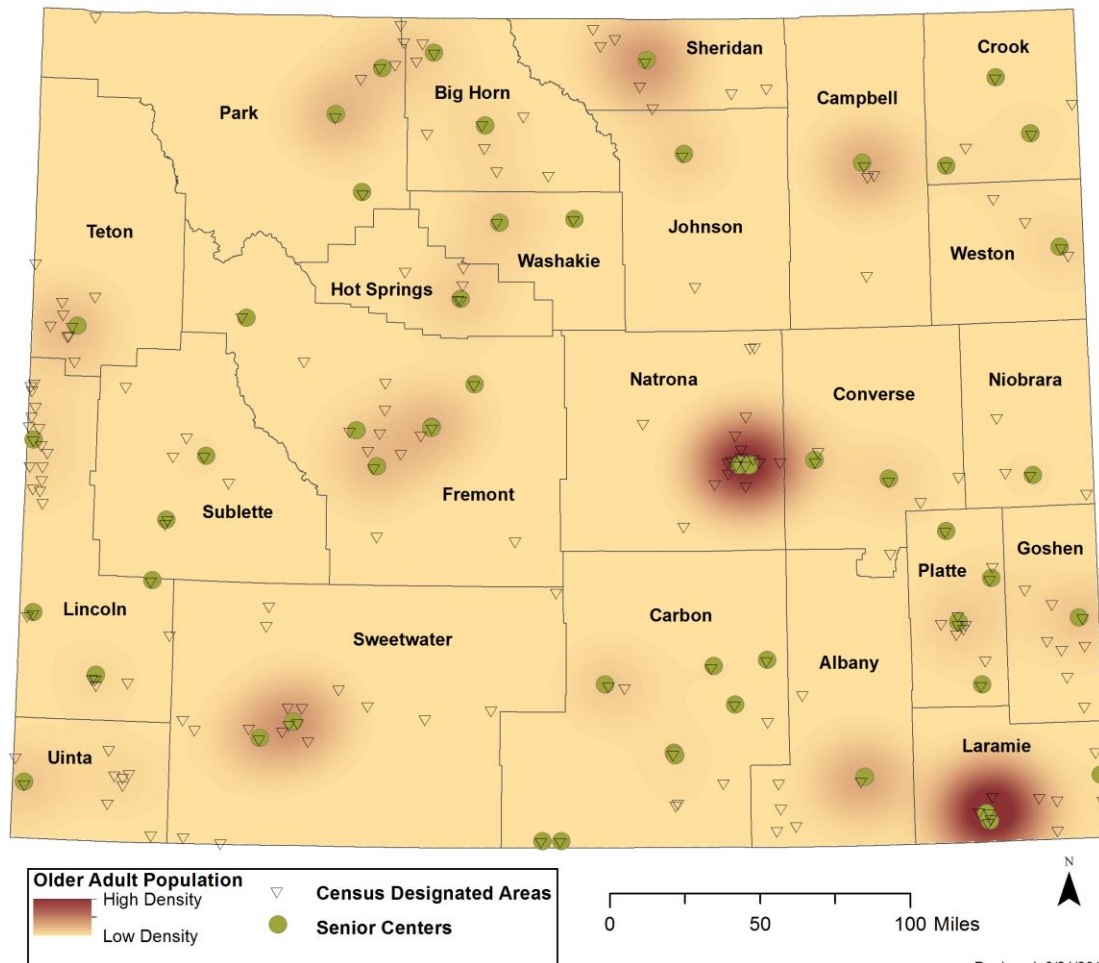
**Map 10** shows the distribution of Wyoming's 46 Home Health Care providers (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs. Home health care agencies are primarily engaged in arranging and directly providing nursing or other healthcare services to persons at their residence. The availability of home health care services in a community can make the difference between an older adult remaining at home and having to live in a more restrictive setting such as a nursing home.

**Figure 17.** Distances of CDAs from nearest Home Health Care provider by CDA size



**Figure 17** shows percentages of CDAs located at various distances from their nearest home health services provider. There are 46 home health providers dispersed throughout Wyoming. About 39% of CDAs are located within 10 miles from the nearest home health provider—including the largest CDAs. About 39% of Wyoming’s CDAs are 20 or more miles away from a home health provider, including 5% of CDAs that are farther than 50 miles from the nearest provider.

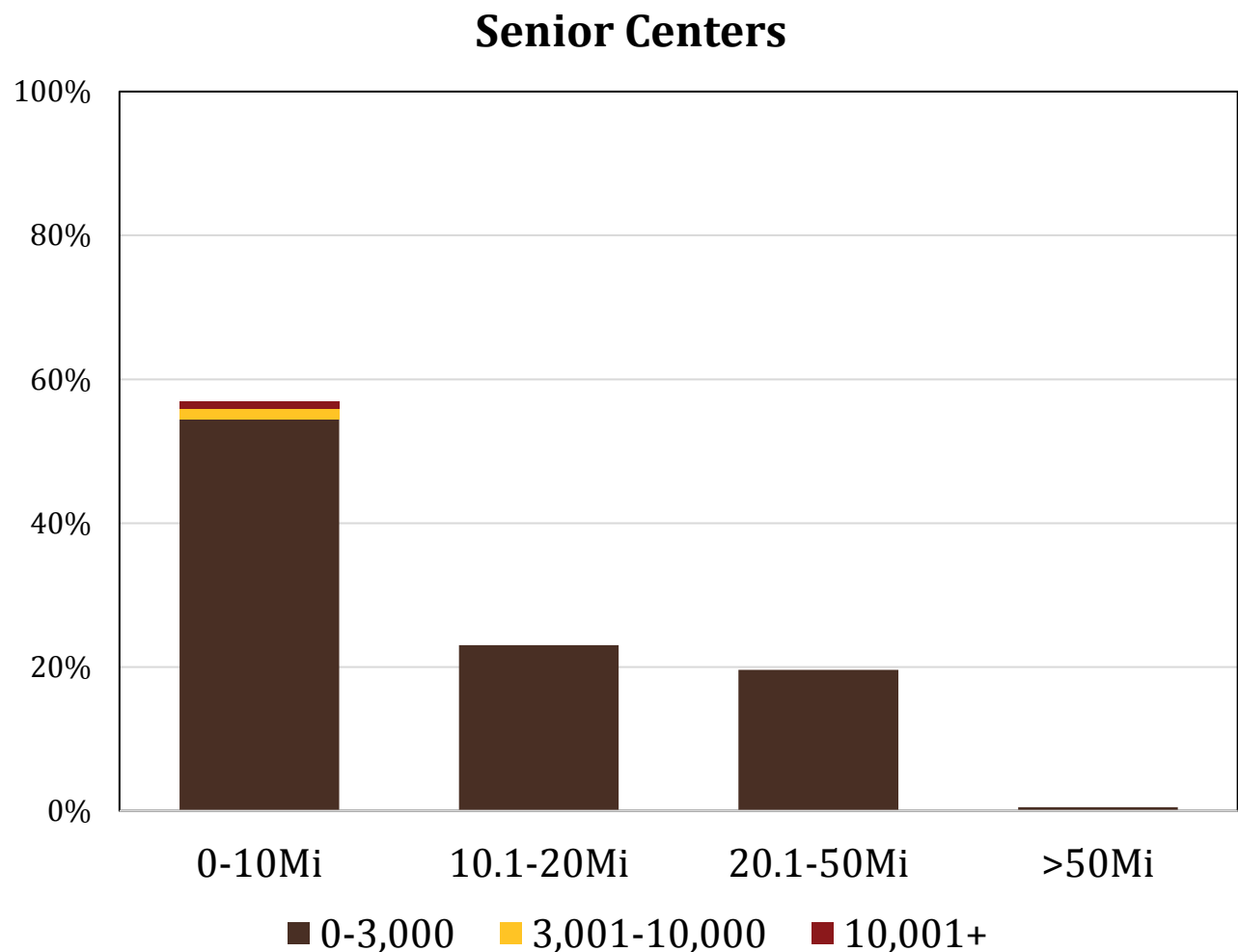
**Map 11.** Distribution of Senior Centers by population density (age 60+) and CDA location



**Map 11** shows the distribution of Wyoming’s 66 senior centers (verified open, in June 2016) in relation to the population density of older adults living in the state and the state’s CDAs. Senior centers provide a mixed array of health and social services to older adults within their communities and catchment areas. Services may include health education, health/exercise programs, health treatment and prevention, socialization services, support services that enable older individuals to advocate and care for themselves, and transportation services<sup>3</sup>.

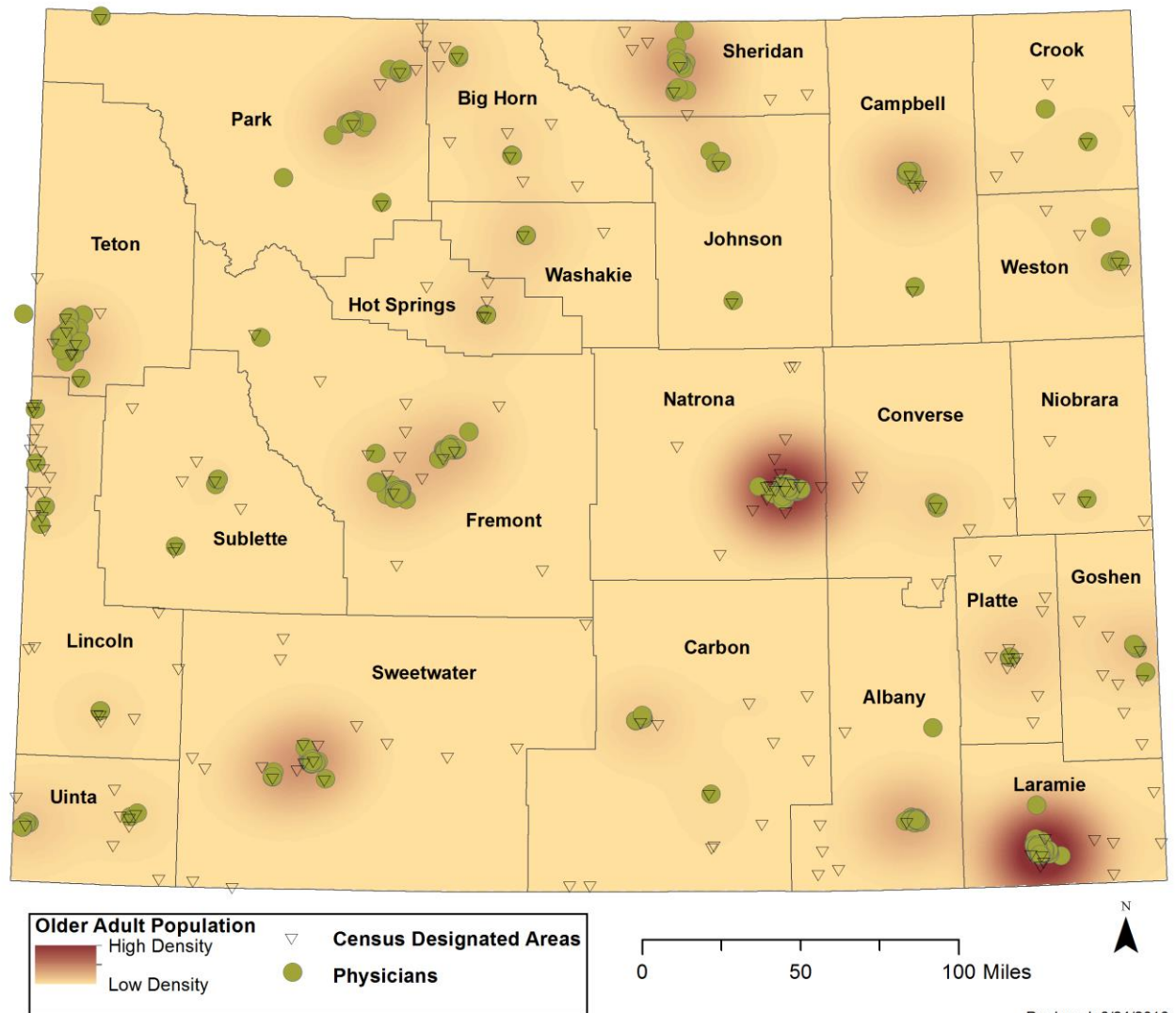
<sup>3</sup> Transportation services enumerated in Map 3 are also shown here, when transportation services are offered by the senior center.

**Figure 18.** Distances of CDAs from nearest Senior Center by CDA size



**Figure 18** shows percentages of CDAs located at various distances from their nearest senior center. There are 66 senior centers dispersed throughout Wyoming. The majority (56%) of CDAs are located within 10 miles from the nearest senior center—including the largest CDAs. About 20% of Wyoming’s CDAs are 20 or more miles away from a home health provider. Just 1 CDA is farther than 50 miles from the nearest senior center.

**Map 12.** Distribution of Physicians who serve the general public by population density (age 60+) and CDA location

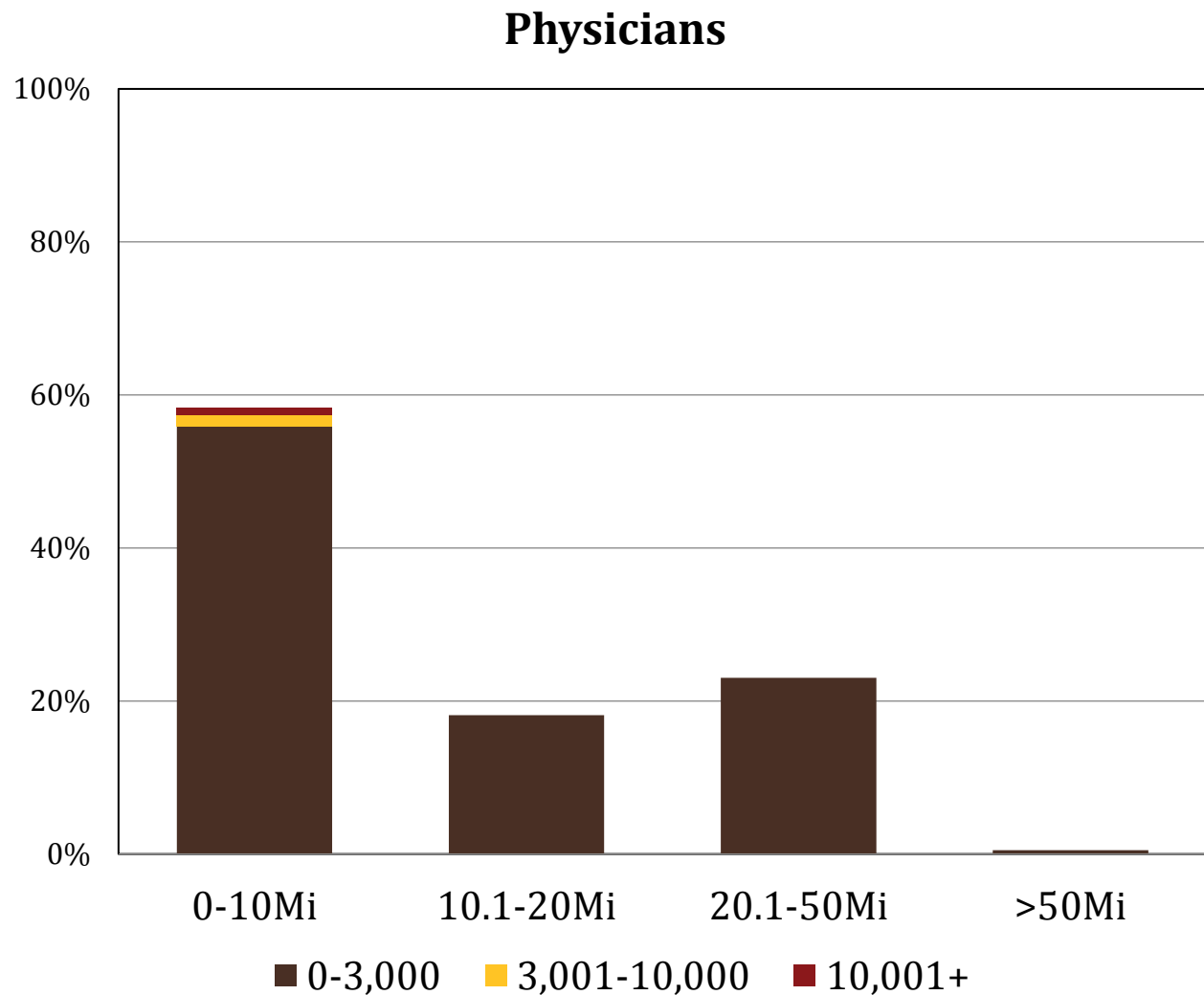


**Map 12** shows the distribution of Wyoming's 1,387 physicians (verified open, in June 2016) in relation to the population density of older adults living in the state and the state's CDAs.<sup>4</sup>

<sup>4</sup> Physicians were not identified as those who provide services to older adults specifically.



**Figure 19.** Distances of CDAs from nearest Physician by CDA size



**Figure 19** shows percentages of CDAs located at various distances from their nearest physician. There are 1,387 physicians dispersed throughout Wyoming. The vast majority of CDAs (75%) are located within 20 miles from the nearest physician. Less than 1% of Wyoming's CDAs are farther than 50 miles from the nearest provider.

## Conclusion

Resources that older adults have available to assist them with staying healthy and independent in their communities can make a crucial difference in their individual health trajectories, as well as influencing their current and future service needs. Under the most optimal circumstances, older adults will have a wide ranging continuum of resources to address their array of aging-related needs. However, as is more often the case, particularly in the most rural and remote regions of the state, older adults make due with much more limited options.

The challenges that service providers and policymakers must contend with in states like Wyoming, relate to knowing where older adults reside, and what services are currently available. Having accurate and up-to-date information about these facets of service provision in a mostly-rural state can increase the efficiency of resource allocation, and assist in identifying prospective gaps in the continuum of care.

Results reported here suggest that many older Wyoming residents have a significant number of resources available to them, especially in areas where populations are large and the older adult population is highly dense. For instance, in Natrona County, where the City of Casper is located, most residents have access to 9 out of 10 of the resources that we assessed (there were no adult day care service providers). In Laramie County, where Cheyenne is located, 8 of the 10 resources are available (lacking only adult day care and boarding home options).

By contrast, other counties with relatively high numbers of older people lack important services that could help older adults remain in their communities. For instance, despite being the state's fourth most populated county, Sweetwater County lacks many resources, such as independent living and assisted living services, that could enable many older residents who are too frail to remain in their homes, to remain in their local communities, near family and friends, if they were available.

Other areas in the state have comparatively smaller populations, but have high proportions of older people living in them. Examples of this scenario include Platte County, where 46% of its 8,667 residents are age 50 and older. In Platte County, all ten of the services that we assessed are available to residents. In Hot Springs County, where 48% of the county's 4,812 residents are age 50 and older, only 7 of the ten services are available. Thus, there is great variability in places where total demand is low, but individual needs may be high.

Finally, in several counties, significant proportions of the older adult population reside outside of Census Designated Areas (refer to **Map 1**). For instance, in Sublette County, 62% of the population age 60 and older lives outside of a CDA. Similarly, the majority (52%) of the older population in Crook County lives outside of a CDA. Older individuals who live in this circumstance are likely to be located in extremely rural or remote settings where risk for social isolation and other hazards to their health and well-being are more prevalent.

Thus, living situations, and access to resources in Wyoming has potential to vary greatly across situations, adding to the challenges associated with serving current older residents in the state, and planning for the needs of the future. Like most places in the United States, unprecedented growth in the absolute number and proportions of older adults who reside in Wyoming is expected in coming decades. These demographic changes will likely strain resources and mandate the search for “smarter” ways to address the state’s many needs. We hope the maps provided above can assist decision-makers to visualize the resources available to older adults within the unique context of the target population’s distribution across the state.

Moving forward, we think research is merited in the following areas: (1) micro-analysis and asset mapping for counties with high proportions of older adults residing outside of CDAs where services are typically located; (2) further assessment and mapping of resource catchment areas as they relate to population density; (3) assessment and mapping of the community perceived aging-related supports and needs of older adults in Wyoming; (4) provider and community assessment of satisfaction with existing programs and services; (5) population-level analysis of service use trends both within and across Wyoming’s borders that are accessed to support health and well-being among Wyoming’s older adults; and (6) assessment of naturally-occurring strengths and resources of rural and remote areas which support service access and independent living among Wyoming’s older residents (such as friends, families, volunteers, and organizations).

## References

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R Core Team (2015). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.