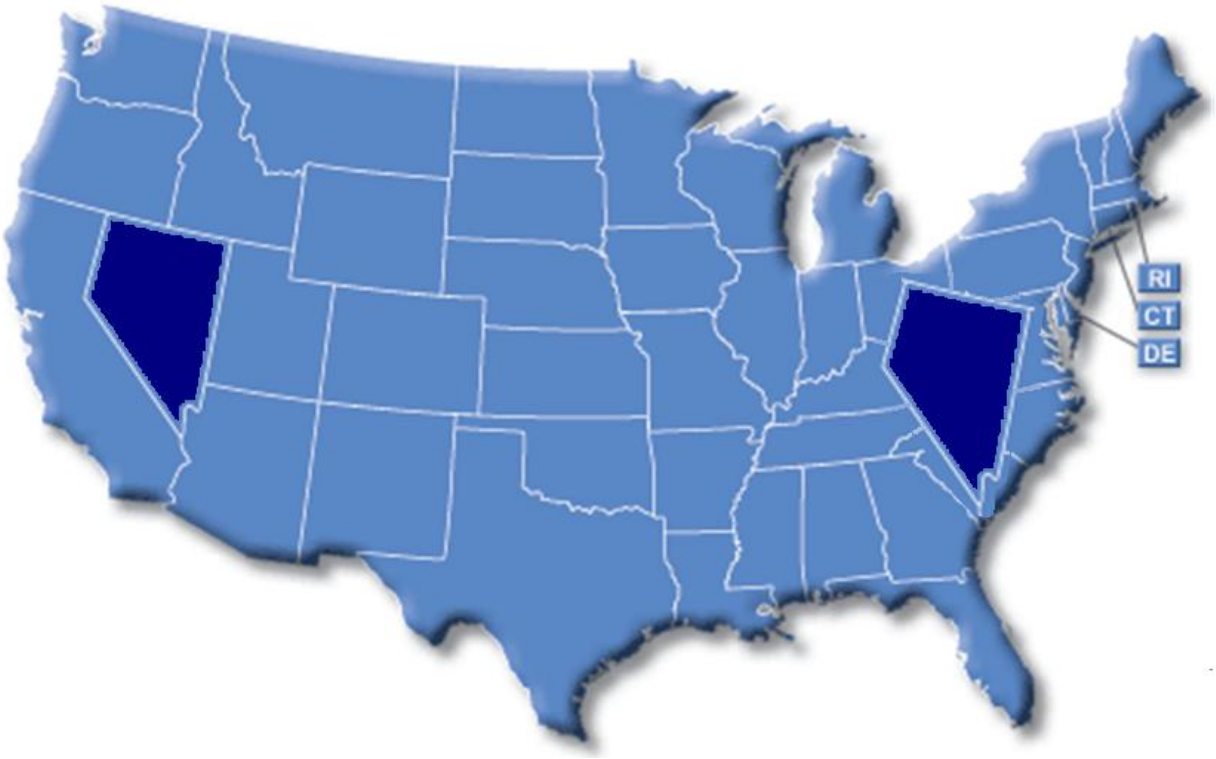
Appendix B: Nevada Geographic and Demographic Data

Understanding the challenges of delivering services in Nevada requires knowledge of the state's geography and population. Nevada is a large state with most of its population concentrated in three urban counties, and the rest dispersed throughout 14 rural and frontier counties. Among Nevada's unique service delivery challenges are: communities in remote areas, geographic obstacles, severe weather conditions, and poor communication systems in some areas. Decreasing social service budgets, as seen throughout the nation, compound these issues for Nevada's population, particularly its elders. Social service funding levels are thinly stretched and priority services are apportioned with the limited remaining funds. These factors make overcoming barriers to care especially difficult in Nevada.

Nevada Geography

Nevada is the seventh largest state in the nation and located in the Great Basin of the Western United States. It is bordered by five states: Oregon, Idaho, Utah, Arizona and California, and is geographically separated from California by the Sierra Nevada Mountain Range. Its 17 counties encompass 109,826 square miles in land area. However, based on the most recent Census data, Nevada is the 35th least populous state.



Several factors of Nevada's geography contribute to the challenges in providing services to seniors throughout Nevada.

Nevada is a geographically rugged state, with 314 mountain ranges (NV Geodetic Survey). The state's various regions have diverse land forms, precipitation, vegetation and climate. Weather in Nevada is unpredictable. The highest recorded temperature in Nevada is 125° Fahrenheit in Laughlin on June 29, 1994. The lowest recorded temperature in Nevada is -50° near Elko. The state is routinely ranked as the driest state in the nation, with an average annual rainfall of about seven inches and only 667 square miles or 0.6% of its land surface covered with water. (*Nevada Geography, NETSTATE-*[*http://www.netstate.com/states/geography/nv_geography.htm*](http://www.netstate.com/states/geography/nv_geography.htm))

Nevada is also known for zephyrs, which can exceed 100 mph. Strong winds in Southern Nevada can cause severe sandstorms and bring copious precipitation with sudden flash flooding. At higher elevations, heavy snowfall and freezing temperatures sometimes delay ground and air travel. All of these conditions further isolate remote areas of the state, where roads are not maintained during winter and may be the sole travel route between isolated destinations.

Transportation services for seniors are critically important in rural Nevada, because small, remotely located communities do not have an adequate infrastructure to provide the services seniors need to sustain their independent living. The distance between major rural towns average 100 miles, with distances of up to 180-200 miles in more isolated areas. Ten of 15 county seats average 155 miles from the state's primary aging services centers in Carson City, Elko, Las Vegas and Reno. This also affects many Native American tribes, isolated in rural Nevada.

Most population centers in Nevada are located near tributaries, lakes, reservoirs or major highways, generally separated by large valleys and mountain ranges.

Nevada has only two major Interstate highways, I-80 in the North and I-15 in the South.

The adjacent map demonstrates the limited travel options available in Nevada to many rural and frontier communities.

Courtesy: http://geology.com/cities-map/nevada.shtml

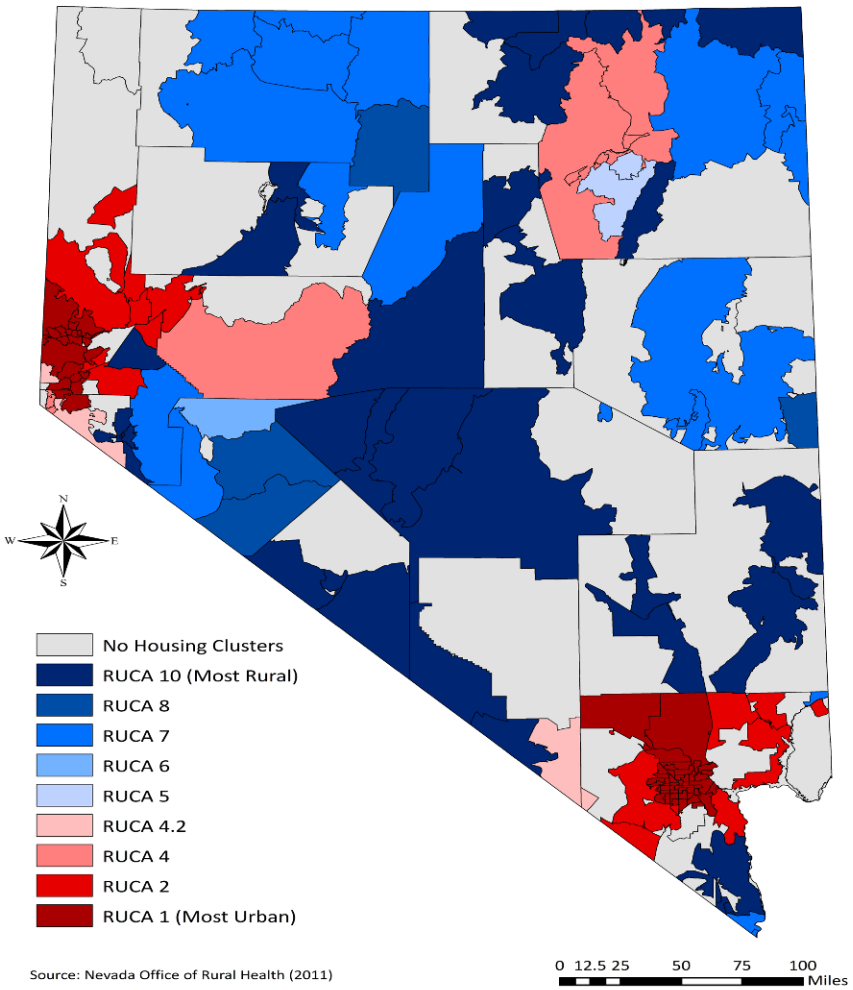
Map of Nevada Cities, Towns and Highways

Land Mass and Population Dispersal

Excluding the urban counties of Clark (Las Vegas), Washoe (Reno) and Carson City, the remaining 14 counties comprise approximately 87 percent of Nevada's land mass with an average population of 2.5 persons per square mile. This creates the anomaly that Nevada is one of the most geographically under-populated states, with a population that is so concentrated as to make it also one of the most urbanized.

The following map of Nevada provides a graphical display of the population extremes in Nevada with darkest RED representing the most urbanized areas and darkest BLUE representing the most rural areas.

Map 2: Nevada Population and Geography by Rural-Urban Commuting Areas (RUCA)



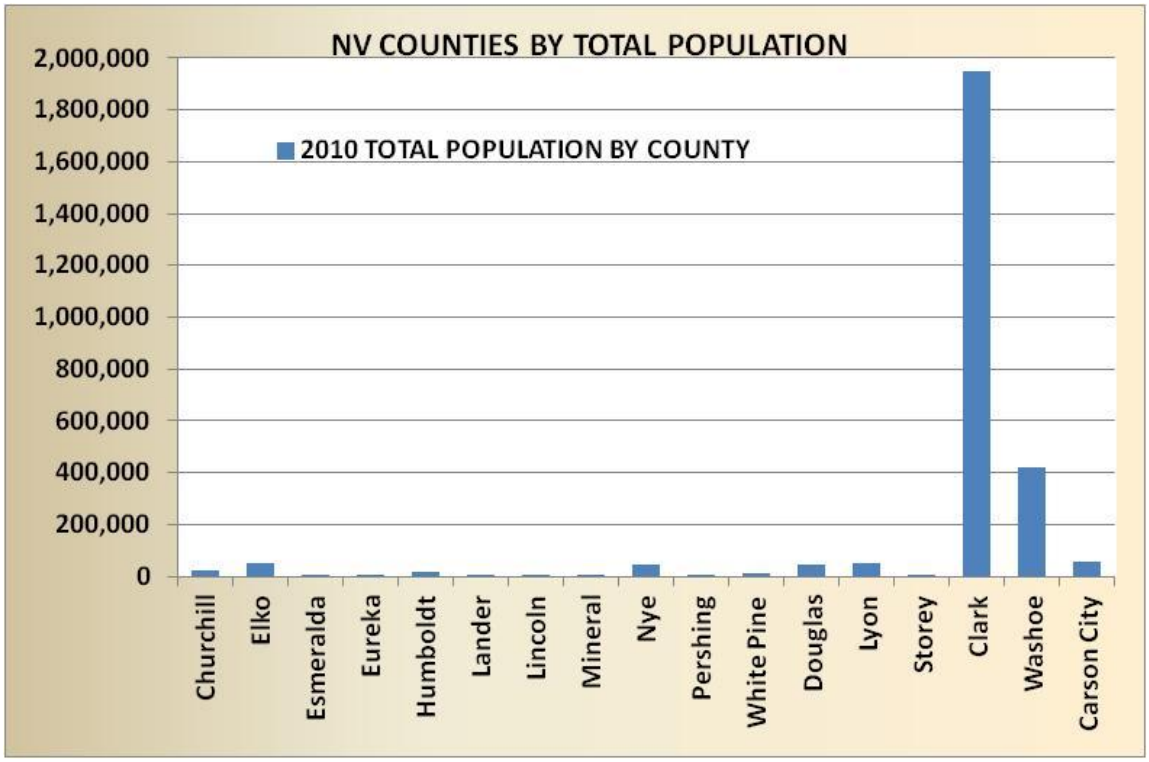
Source: Nevada Office of Rural Health (2011)

http://www.medicine.nevada.edu/CEHSO/databk11/NevadaRuralFrontierDataBook2011.pdf

Nevada's largest county by population is Clark County, located in Southern Nevada. According to 2010 Census data, 72.3 percent of the state's population resides in Clark County and 89.9 percent of Nevada's total population is contained in Clark, Washoe and Carson City counties (2010 U.S. Census).

Nye County is the largest county in land area, but contains only 1.6 percent of Nevada's total population. The sparsest Nevada counties contain only one person per five square miles (2010 U.S. Census).

The following chart and corresponding table compare Nevada's population and land area. The state's population distribution is strongly influenced by the state's extensive harsh geography, mining, tourism and land ownership.



Federal holdings in the State of Nevada constitute 86.7 percent of the area of the State. In counties, such as Esmeralda, Lincoln, Mineral, Nye, and White Pine, the federal government holds 97 to 99 percent of land ownership. Federal holdings include public lands, national forests, park lands, military installations and other federal research facilities, such as the U.S. Department of Energy's Nuclear Test Site. This leaves about 14 percent of state land for private ownership, or state and local control.

The following page further depicts population dispersal and land mass information.

NEVADA POPULATION AND LAND MASS						
COUNTY	POPULATION			LAND MASS		
	2010 TOTAL POPULATION	60 AND OVER POPULATION	% OF TOTAL POPULATION 60+	SQUARE MILES*	PERCENT OF STATE	POPULATION PER SQ. MILE
FRONTIER COUNTIES						
Churchill	24,877	5,402	21.7%	4,929	4.49%	5.05
Elko	48,818	6,559	13.4%	17,179	15.64%	2.84
Esmeralda	783	304	38.8%	3,589	3.27%	0.22
Eureka	1,987	390	19.6%	4,176	3.80%	0.48
Humboldt	16,528	2,629	15.9%	9,648	8.78%	1.71
Lander	5,775	1,017	17.6%	5,494	5.00%	1.05
Lincoln	5,345	1,332	24.9%	10,634	9.68%	0.50
Mineral	4,772	1,514	31.7%	3,756	3.42%	1.27
Nye	43,946	14,019	31.9%	18,147	16.52%	2.42
Pershing	6,753	1,227	18.2%	6,037	5.50%	1.12
White Pine	10,030	2,117	21.1%	8,876	8.08%	1.13
RURAL COUNTIES						
Douglas	46,997	13,420	28.6%	710	0.65%	66.21
Lyon	51,980	11,831	22.8%	1,994	1.82%	26.07
Storey	4,010	1,180	29.4%	263	0.24%	15.22
URBAN COUNTIES						
Clark	1,951,269	323,405	16.6%	7,910	7.20%	246.67
Washoe	421,407	76,104	18.1%	6,342	5.77%	66.44
Carson City	55,274	12,833	23.2%	143	0.13%	385.59
STATE TOTAL	**2,700,551**	**475,283**	17.6%	**109,826**	**100.00%**	24.59
Total Rural	102,987	26,431	25.7%	2,967	2.75	34.71
Total Frontier	169,614	36,510	21.5%	92,464	83.82	1.83
Total Urban	2,427,950	412,342	17.0%	14,395	13.43	168.67

Population and Growth Rate

The 2010 Census data continues to demonstrate the extremely high, population growth rate of Nevada. Nevada's total population has now reached 2,700,551, allowing it to gain a fourth seat in the House of Representatives.

To further illustrate this growth, Nevada:

- Has the highest population percentage increase nationwide since 2000, with an overall population increase of 35.1 percent, while the nation increased by 9.7 percent.

- Has the highest population growth rate in the nation every year for the last two decades, with the exception of 2006.
- Is the only state with a growth rate of 25 percent or greater for the last three decades.
- Has been the fastest growing state nationwide for the last five decades.

Supportive services funding for seniors has not kept pace with this growth in population, given that Nevada's elderly population has also outstripped the nation in the decade 2000 to 2010.

- Nevada's population of adults age 60 and older increased by 56.3 percent to 475,283, an increase of 171,212 seniors compared with only a 22 percent increase of this age group nationwide.
- Nevada seniors age 85 and older increased 77.7 percent to 30,187, an increase of 13,198 seniors compared with only a 29.75 percent increase of this age group nationwide.

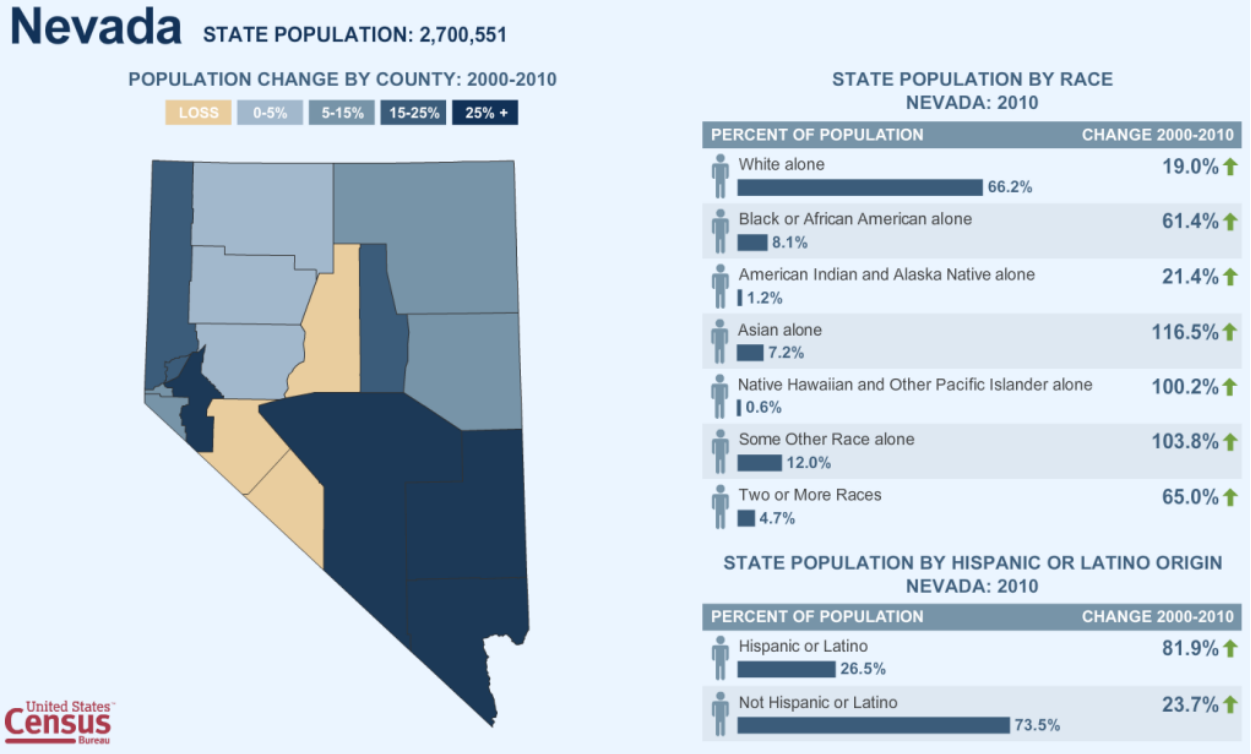
In spite of Nevada's skyrocketing population, senior services funding has remained flat and in some cases reduced. The state is challenged in merely sustaining existing and vital supportive services, not to mention increasing capacity to adequately serve the growing need.

Race/Ethnicity

In concert with its population growth, Nevada is rapidly becoming more diverse in terms of the racial/ethnic and cultural characteristics of its population. Persons in Nevada self-identifying as a minority increased by 84 percent in the decade 2000 to 2010, from 496,371 in the 2000 Census to 913,863 in the 2010 Census. The Census data below show the percentage increase in Nevada minority populations between 2000 and 2010.

Percentage of increase

- 61 Black or African American
- 21 American Indian and Alaskan Native
- 116 Asian
- 100 Native Hawaiian and Other Pacific Islander
- 103.8 Some Other Race
- 65.0 Two or More Races
- 81.9 Hispanic or Latino



2010 U.S. Census (http://2010.census.gov/2010census/data/)

Due to the increase in minority population, ADSD will continue to increase its efforts during the next four years to find effective mechanisms to serve seniors representing these racially and ethnically diverse communities.

Nevada also continues to focus service delivery on rural and minority populations based on the core services model and Older Americans Act priorities. Several programs funded by ADSD reach minority and tribal populations using the "promotora" or community lay leader model.

All grantees are required to sign the ADSD Assurances, which in part state:

> "*…funded programs must evidence outreach and ensure service priority to: low income older individuals; low income minority individuals and members of Native American tribes; older individuals with limited English proficiency; individuals at risk for institutional placement and older individuals with the greatest economic or social need and/or seniors with disabilities.*"

Supportive Services Resources and Healthcare Access Challenges

According to the National Center for Charitable Statistics, Nevada has fewer nonprofit organizations than other states of comparable size, and has the fewest nonprofit organizations for states with populations over 1,500,000, except for Idaho. However, when applied to the aging network, these facts are more concerning.

Nonprofit organizations comprise the majority of supportive services providers in Nevada's aging services network. Due to minimal state resources, including the number of non-profit

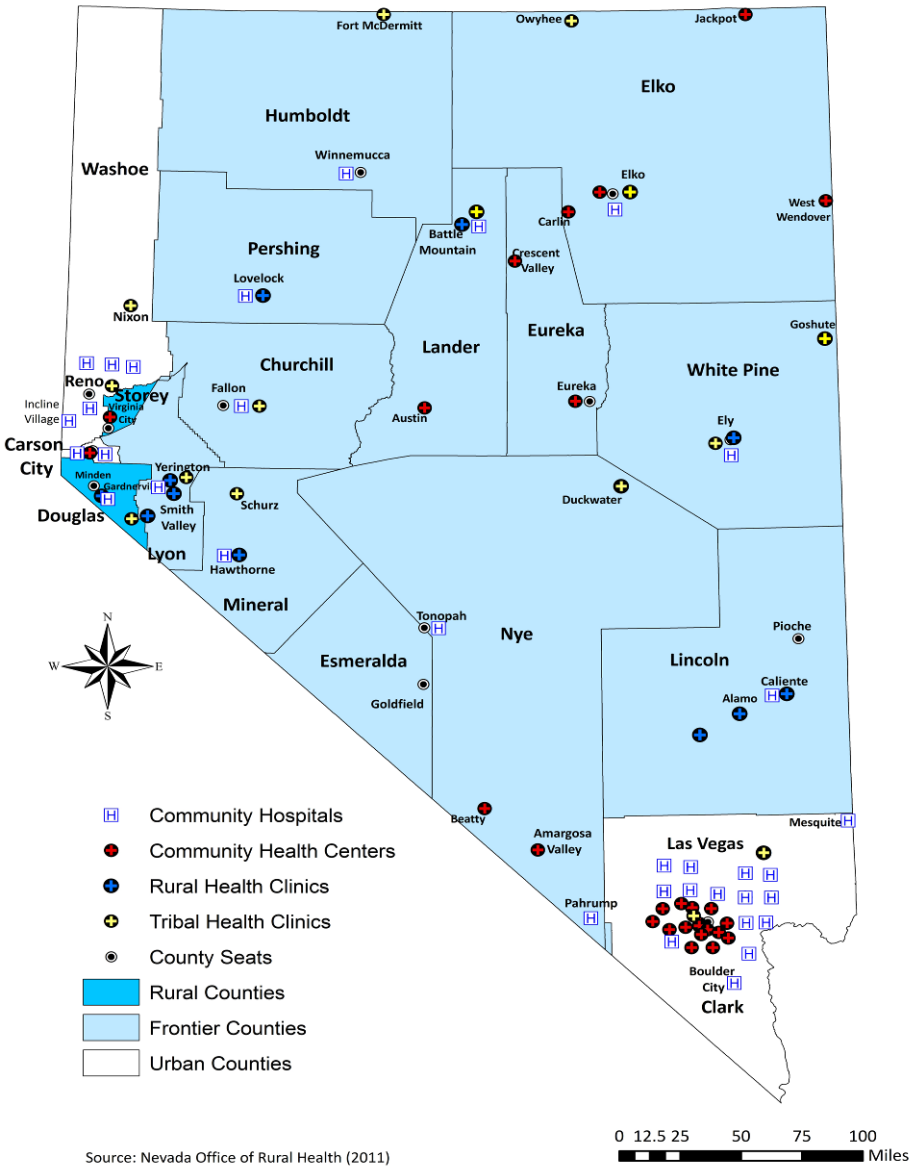
organizations and ever shrinking state and federal budgets, senior services are eliminated as the ability and the funding to deliver services are removed.

For example, ADSD has developed "core services" priorities to ameliorate inadequate funding. This prioritizing places services that directly prevent or delay imminent nursing home admission at the highest level for funding. As demand increases without increased funding, ADSD progressively implements its core services funding policy. As a result, the number of community agencies no longer receiving ADSD funding increases.

This has had a painful affect on community service agencies, which depend on funding from several different sources, including ADSD. Some agencies have disappeared. This has a ripple effect on other community partners' ability to provide assistance to seniors.

In addition to declining access to supportive services, healthcare access has long been a challenge for Nevadans, due to the scarcity of community hospitals and long distances that must be traveled to reach them. The map on the following page demonstrates this.

Map 1: Healthcare Resources in Nevada



Source: Nevada Office of Rural Health (2011)

http://www.medicine.nevada.edu/CEHSO/databk11/NevadaRuralFrontierDataBook2011.pdf

Disability and Aging

According to the 2010 American Community Survey (ACS), 10.6 percent of Nevada's population lives with a disability. Of the 323,213 *non-institutionalized* Nevadans, age 65 and older, 34.2 percent or 110,467 self identify as having a disability. Many disabilities can be traced to chronic disease.

Chronic Disease, High Risk Factors and Aging

Information relevant to chronic disease in Nevada underscores the importance of ADSD's involvement with the Chronic Disease Self Management Program for seniors, as well as the Division's priority outreach to minority and low income populations, and those living in rural Nevada, to help improve care access.

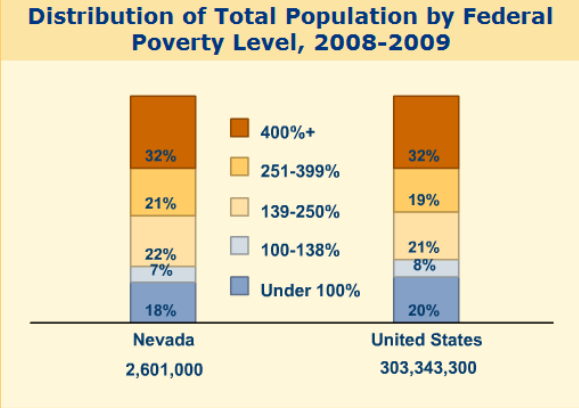
The following Canon Survey Center table depicts the percentage of Nevadans, age 50 and older, reporting chronic disease for each type of chronic disease. The center reports that 51 percent of 2010 survey respondents have been diagnosed with a chronic disease. The sample size was 1,200.

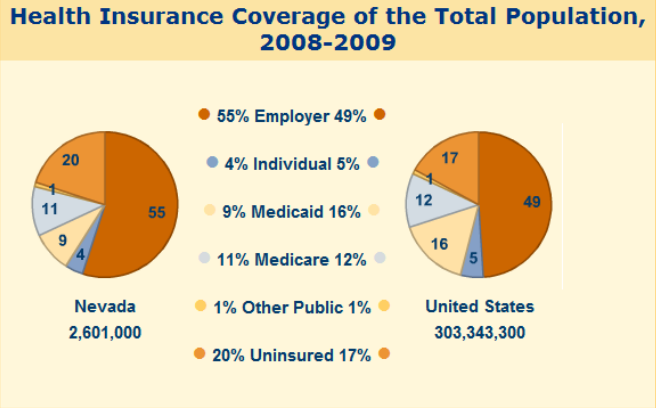
Rank	Chronic Illness	Percentage
1	High Blood Pressure/Hypertension	19%
2	Diabetes	16%
3	Other	13%
4	Arthritis/Joint Disease	11%
4	Heart Disease	11%
6	Cancer	9%
7	Lung Disease	4%
8	Vascular Disease	2%
8	Mental Illness	2%
10	Stroke	1%
10	Urinary Disease	1%

Canon Survey Center, 2010

The Nevada State Health Division (NSHD) reports that lower socio-economic status is associated with a higher risk for chronic disease. This is attributed to lack of health insurance, lack of a primary source of care, lack of financial resources to pay for healthcare, and lack of transportation. Additionally, unhealthy living conditions, such as crowding, pollution and toxic contamination can lead to higher rates of disease and stress related health problems. The lack of access to services, including grocery stores, safe housing, and recreational facilities, can also contribute to poor health. (NSHD, 2010)

Relevant to third party payer coverage for healthcare, the Behavioral Risk Factor Surveillance System Survey – Nevada 2010 Health Care Access/Coverage reports the following percentages for health care coverage in Nevada, with about 20 percent claiming no healthcare coverage.





http://www.statehealthfacts.org/profileglance.jsp?rgn=30

Persons from minority populations can have language and cultural barriers that may compromise timely disease diagnosis and medical treatment, resulting in chronic disease. Culture may contribute to unhealthy lifestyles or traditions that can adversely affect health or may inhibit people from seeking care in certain areas such as mental health.

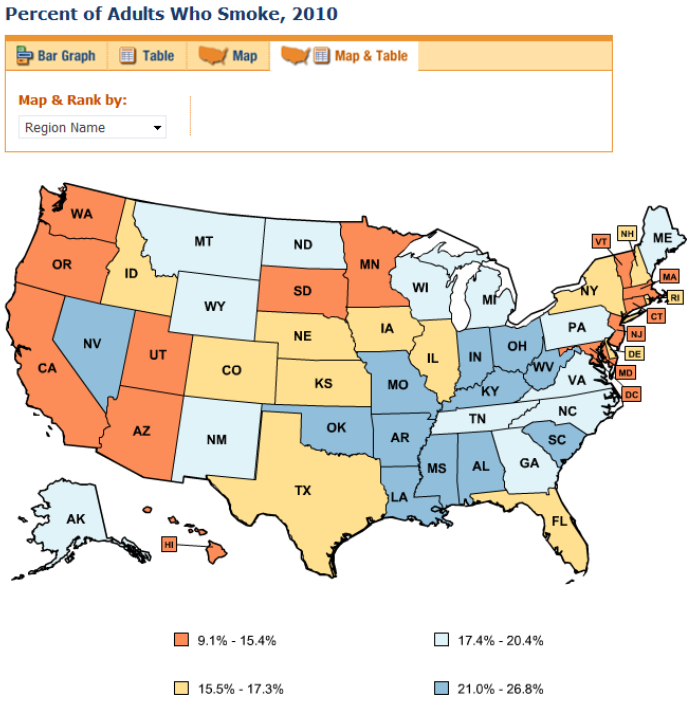
Discrimination and distrust may be a factor that can limit the quality and quantity of healthcare, including diagnosis, treatment and preventive care. Stress from discrimination and distrust may cause additional physical and mental health problems. Distrust of physicians may prevent minorities from seeking care or following physician advice or treatment. Genetics may also play an important part. For example, the increased prevalence of high blood pressure in African Americans is thought, but not proven, to be due in part to genetic factors. (NSHD, 2010)

Chronic Diseases can also be exacerbated by lack of transportation. rural Nevadans typically must travel long distances to reach healthcare and services, which can also result in untreated symptoms and chronic disease or a premature demise.

The Kaiser Family Foundation also provides information on important risk factors for chronic disease relevant to the total Nevada's population. The ranking progresses from "low" ranked one, to "high" ranked 51.

Activity or Condition	Nevada National Ranking	Percent of Adults
Smoking	43rd	21.3%
Diabetes	23rd	8.50%
Cerebral Vascular	13th	38.30%

In Nevada, smoking prevalence is higher than most other states and is a contributing risk factor to chronic health conditions and healthcare costs later in life. Many states have Indoor Clean Air Act statutes, preventing smoking indoors in many facilities. However, casinos in Nevada do not prohibit smoking and many residents, who are non-smokers, are continuously exposed to second hand smoking effects, either because they work in casinos or visit them.



http://www.statehealthfacts.org/comparemaptable.jsp?ind=80&cat=2&sub=24&yr=138&typ=2&sort=a&rgnhl=30

Suicide and Aging

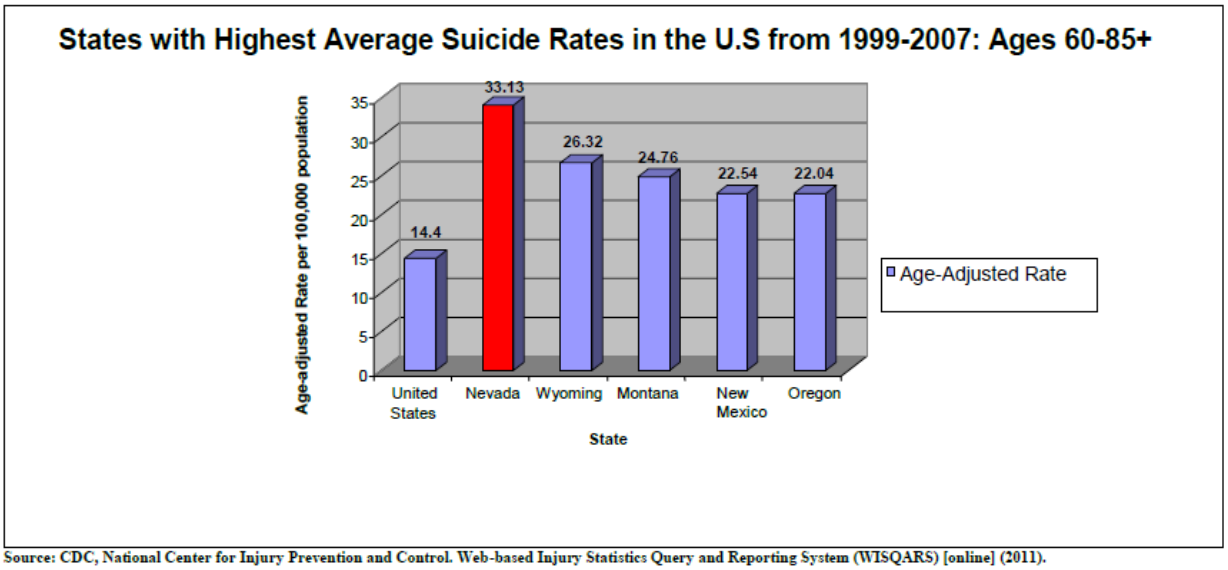
Nevada has the highest suicide rate in the nation for seniors age 60 and older, more than double the national average. Major depression is the most common psychiatric disorder among the elderly, but often this is not being identified by loved ones or care takers, including many primary care physicians. Stigma relating to seeking help reduces older adults' access to mental health professionals (Nevada Office of Suicide Prevention, 2011). In spite of this, Nevada's public service options for mental health care access have been significantly reduced in recent years.

Nevada's Additional Suicide Facts

- For total population, 5th highest rate in the nation at 18.4/100,000.
- The 6th leading cause of death for Nevadans.
- Males make up 80% of suicide deaths at an average rate of 33.3 per 100,000.
- More die by suicide than by homicide, HIV/AIDS or automobile accidents.
- Firearms are used in 59% of suicide deaths.
- Average medical cost per suicide deaths in Nevada: $3,577.*
- The estimated cost of Nevadans dying by suicide in 2007: $1,684,767.*

S ***Source**: Suicide Prevention Resource Center, State of Nevada Fact Sheet Online, 2011. Costs are based on 1999-2005 averages. Calculation based on CDC 2007 Suicide Deaths for Nevada (n=471) and the assumption that medical costs remained the same.

Nevada Seniors in Crisis

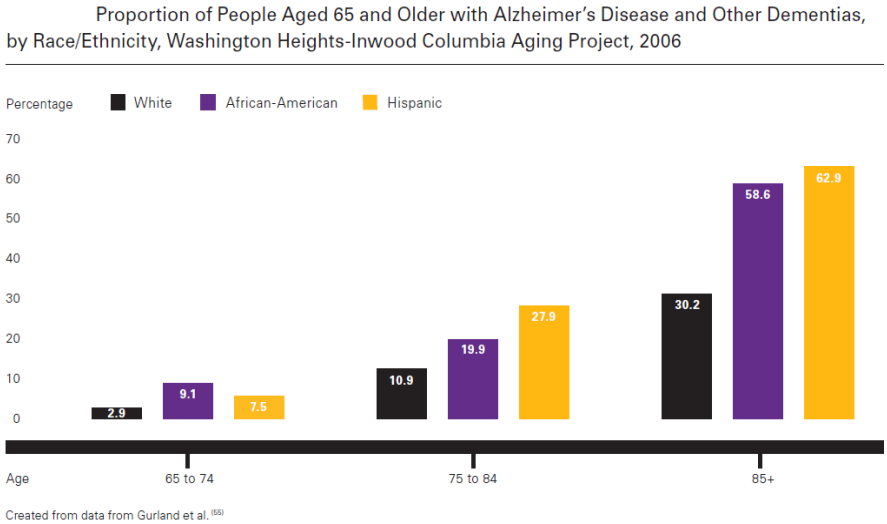


Source: CDC, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online] (2011).
http://dhhs.nv.gov/Suicide/DOCS/Factsheet2011Final.pdf

Dementia, Alzheimer's Disease and Aging

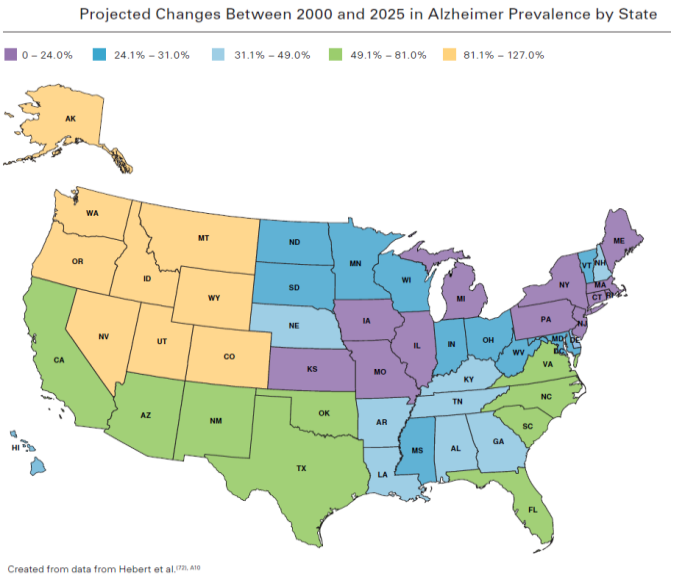
In Nevada, the significant growth of Alzheimer's disease prevalence is a dominant focus for service planners, and therefore addressed at length in this State Plan.

Alzheimer's disease is the most common type of dementia, typically accounting for an estimated 60 to 80 percent of all dementia cases, (Alzheimer's Association, 2011). Approximately one in every eight Americans (13 percent), age 65 and older, has Alzheimer's disease, and nearly half (43 percent) of people age 85 and older are afflicted (Alzheimer's Association 2011). Minority populations suffer a disproportionately high rate of this disease, as the following graphic depicts, and the risk for this disease increases dramatically with age.



Alzheimer's Association Facts and Figures 2011, page 14 http://www.alz.org/downloads/Facts_Figures_2011.pdf

The Alzheimer's Association, in its *2011 Alzheimer's Disease Facts and Figures*, estimates 21,000 Nevadans age of 65 and older were living with Alzheimer's disease in 2000. Nevada is now projected to have the fifth highest Alzheimer's disease growth rate among individuals age 65 and older in the nation, exceeding 80 percent among seniors age 65 and older, which more than doubles its current population[1].

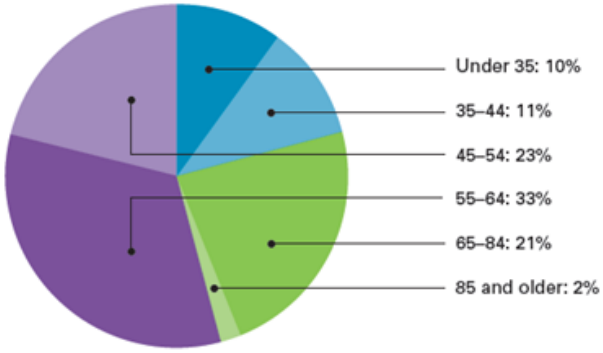


Approximately 70 percent or 20,300 of Nevadans with Alzheimer's disease live at home, where about 80 percent of their care is delivered by family members. While unpaid caregivers are primarily family members, they also include other relatives and friends. Nevada has an estimated 126,003 unpaid caregivers, together providing 143,492,193 hours of unpaid care for a loved one with dementia or Alzheimer's disease. The economic value based on the hours of unpaid care is estimated at $1,711,861,862, or more than 1.7 billion dollars.

As the following graphic depicts, 77 percent of caregivers of persons with dementia and Alzheimer's disease are in age clusters that are typically associated with persons in the employment workforce, of childbearing age and those raising families. This underscores the crucial need for OAA Title III-E funding to support Nevada caregivers and their families to prevent or delay admission to an institutional setting.

[1] Alzheimer's Association. 2011 Alzheimer's Disease Facts and Figures. Chicago: Alzheimer's Association, 2011:1.

Ages of Alzheimer and Other Dementia Caregivers, 2010



Alzheimer's Association Facts and Figures 2011, page 25
http://www.alz.org/downloads/Facts_Figures_2011.pdf

Caring for a person with Alzheimer's or another dementia is often very difficult, and many family and other unpaid caregivers experience high levels of emotional stress and depression as a result. Care giving can have a negative effect on the health, employment, income and financial security of caregivers.

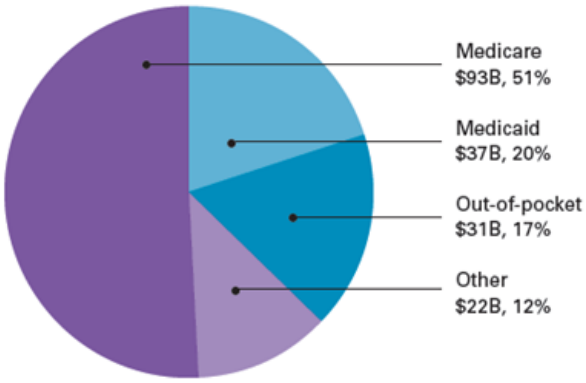
Income and asset data are not available for people with Alzheimer's or other dementia, but the median income for people aged 65 and older was $17,382 in 2007[2]. The median income for households headed by an older person was $29,730. The startling significance of this data is that Medicaid income eligibility for nursing home residents is 300 percent of SSI, or $25,128 for a single person. Even for older persons, whose incomes fall comfortably above the median, the costs of home care, adult daycare center services, assisted living care or nursing home care can quickly exceed their incomes, causing a rapid decline to Medicaid income eligibility.

The following graphics from the Alzheimer's Association 2011 *Facts and Figures* illustrate aggregate costs of care by payer disease and the average per person payments associated with Alzheimer's.

[2] Alzheimer's Association. 2011 Alzheimer's Disease Facts and Figures. Chicago: Alzheimer's Association, 2011:1.

Aggregate Costs of Care by Payer For Americans Aged 65 and Older with Alzhiemer's Disease and Other Dementias, 2011

Total cost: $183 Billion



*Data are in 2011 dollars.

Source: Model developed by The Lewin Group for the Alzheimer's Association;[A22] B = billions. "Other" payment sources include private insurance, health maintenance organizations, other managed care organizations and uncompensated care.

Alzheimer's Association Facts and Figures 2011, page 36 http://www.alz.org/downloads/Facts_Figures_2011.pdf

Average per Person Payments for Healthcare and Long-Term Care Services, Medicare Beneficiaries Aged 65 and Older, with and without Alzheimer's Disease or Other Dementia and by Place of Residence, 2004 Medicare Current Beneficiary Survey, 2010 Dollars

	Beneficiaries with Alzheimer's or Other Dementia by Place of Residence			Beneficiaries without Alzheimer's Disease or Other Dementia
	All	Community-Dwelling Beneficiaries	Facility-Dwelling Beneficiaries	
Medicare	$19,304	$16,189	$24,005	$6,720
Medicaid	8,419	895	19,772	915
Uncompensated	333	426	191	256
HMO	523	679	286	897
Private insurance	2,354	2,562	2,041	1,869
Other payer	662	237	1,301	269
Out-of-pocket	3,141	2,929	21,272	2,442
Total*	42,072	24,250	68,964	13,515

*Payments from sources do not equal total payments exactly due to the effect of population weighting. Payments for all beneficiaries with Alzheimer's disease or other dementia include payments for community-dwelling and facility-dwelling beneficiaries.

Created from data from Alzheimer's Association, *Characteristics, Costs and Health Service Use for Medicare Beneficiaries with a Dementia Diagnosis: Report 1: Medicare Current Beneficiary Survey, 2009.*[125]

Alzheimer's Association Facts and Figures 2011, page 35 http://www.alz.org/downloads/Facts_Figures_2011.pdf

These figures only tell part of the story, as family members are often affected, because they assume the burden of care giving at the expense of their health and finances. Not only are close to half of caregivers clinically depressed, they also suffer from more illness, take more medicine and are more likely to be hospitalized than others their age.

In addition, cultural and sensitivity issues may prevent many from seeking assistance. ADSD staff gives a high priority to outreach into minority communities, to encourage and address issues with Alzheimer's disease, especially for those in the early stages.

Nevada's goal for addressing Alzheimer's disease is to implement promising practices, based on proven service delivery models, for a comprehensive approach to serving individuals with Alzheimer's disease. In 2009, Nevada applied for and secured a federal Evidence-based grant to provide the CarePRO (Care Partners Reaching Out) Intervention to unpaid caregivers of individuals with Alzheimer's or dementia.

Successful interventions utilized in Nevada for Alzheimer's disease include: encouraging early diagnosis, connecting persons with Alzheimer's disease and their care partners to community based resources and engaging them in meaningful leadership roles and opportunities to give back to their communities. In addition, resources must be developed to assist caregivers.

In 2011, due in part to many vocal advocates in the community, the Nevada Legislature passed Assembly Concurrent Resolution No. 10 (ACR10), which directs the Legislative Committee on Health Care to create a task force for developing a state plan to address Alzheimer's disease. The development of the Alzheimer's State Plan will continue to influence policy, funding, and the service delivery paradigm related to Alzheimer's disease and related dementia. ADSD staff will be integrally involved with supporting this activity.

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