2022 Stroke Registry Data Summary

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Background and Purpose

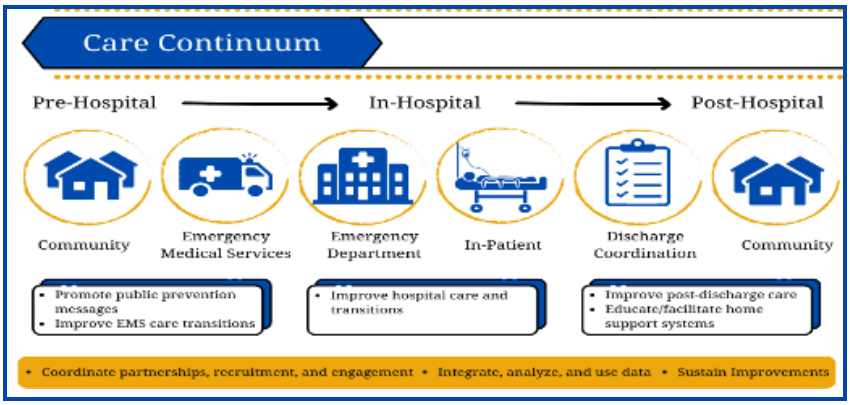
A stroke occurs when the blood supply to the brain becomes blocked by a blood clot (ischemic stroke) or when a blood vessel ruptures (hemorrhagic stroke), causing brain cells to die and leading to functional impairment. Stroke is a leading cause of disability and death nationally and in Nevada.[1]

In 2015, the 78th Nevada Legislature enacted-Nevada Revised Statutes (NRS) 439.5291 through NRS 439.5297, requiring the Nevada Division of Public and Behavioral Health (DPBH) to develop an annual report concerning the operation and use of the Stroke Registry and the data collected. The resulting report is the "Nevada Stroke Registry Data Summary Report." NRS 439.5295 mandates the establishment and maintenance of the Stroke Registry to compile information and statistics to align with the consensus measures prescribed by the Paul Coverdell National Acute Stroke Act Registry of the Centers for Disease Control and Prevention (CDC), the Department of Health and Human Services, the Joint Commission, the American Heart Association (AHA), and the American Stroke Association (ASA). In compliance, the DPBH adopted the *Get With The Guidelines-Stroke* (GWTG-S) data management platform established by the AHA/ASA as Nevada's Stroke Registry database. The Heart Disease and Stroke Prevention (HDSP) Program maintains super-user access to the GWTG-S database to facilitate annual stroke data compilation, analysis, and reporting.

NRS 439.5295 through 439.5297 further describes the duty of the DPBH to establish and maintain a Stroke Registry, encourage, and facilitate information and sharing, conduct data analysis. Pursuant to NRS the DPBH will analyze Registry data concerning the response to and treatment of strokes NRS 439.5297(1)(a), identify potential solutions for improving the treatment of patients who have suffered strokes 439.5297(1)(b), and make recommendations (if any) for legislation designed to improve the quality of care provided to patients who suffer from strokes in Nevada 439.5297(2)(b).

The Division uses the Stroke Registry data to drive collaborative promotion and implementation of evidence-based best practices, standards, and continuous quality improvements along the entire stroke care continuum (figure 1),[2] including community awareness, emergency medical services, emergency department, In-patient care, discharge coordination, and home and community supports to benefit all Nevadans.

Figure 1 Continuum of Care Get With The Guidelines-Stroke Limitations



GWTG-S Limitations.

In 2022, the GWTG-S database collected the reporting data exclusively from Nevada's 16 Joint Commission-accredited Certified Stroke Centers (CSCs) in Carson City, Clark, and Washoe counties, accounting for approximately 90 percent of Nevada's population. GWTG-S does not collect data from the remaining 12 acute care hospitals or any of Nevada's 13 critical access hospitals serving Nevada's rural and frontier populations.[3] Hospitals may decline participation due to adult stroke care being outside of their clinical focus, economic, workforce, or competitive reasons. Additionally, high-volume stroke centers reporting into the GWTG-S database may report a sampled stroke sub-population rather than all cases individually. For example, a CSC treating 225 or more stroke patients per quarter may report a sample size of only 45 patients per quarter.[5] The identified limitations of the GWTG-S data results in the inability to draw comparisons between CSCs or to generalize data to represent the State of Nevada.

The Heart Disease and Stroke Prevention (HDSP) program analyzed all available data about stroke care in Nevada in response to the significant limitations and challenges. The analysis identified existing, valid, and reliable data, including the Behavioral Risk Factor Surveillance System (BRFSS), Nevada hospitals' billing data, and the Nevada death registry system. The HDSP elected to examine Nevada's accredited stroke centers' voluntarily reported Coverdell Act performance measures data to deliver a meaningful report. Including these data allowed further insights incorporated into "The Response to and Treatment of Stroke in Nevada."

Note: The Nevada Office of Analytics collects and disseminates data necessary for this report. Ordinarily, the full year of 2022 data would be available in April 2023, which coincides with the writing of this report. Because of changes to state practices, a full year of data for 2022 is not available to be included in this report. In this report, the BRFSS data (Figures 2, 3, 4) are current to 2021, the most recent year available. Furthermore, the GWTG-S data (Figures 7, 8) reflects 2022 data.

Nevada Hospitals Participating in the GWTG-S Database as of April 2021[4]

Carson Tahoe Health	Southern Hills Hospital Medical Center
Henderson Hospital	St. Rose Dominican Hospital – Siena Campus
Mountain View Hospital	Summerlin Hospital Medical Center
Northern Nevada Medical Center	Sunrise Hospital Medical Center
Renown Regional Medical Center	University Medical Center of Southern Nevada
St. Mary's Regional Medical Center	Valley Hospital Medical Center
Centennial Hills Hospital Medical Center	Spring Valley Hospital Medical Center
Desert Springs Hospital Medical Center	St. Rose Dominican Hospital – San Martin Campus

Stroke Impact

A stroke or "brain attack" is a medical emergency requiring immediate responsiveness. Like a heart attack, every minute between the onset of symptoms and therapeutic intervention impacts outcomes. Delays in care can be devastating.[1]

In 2021, stroke was the sixth leading cause of death in Nevada and the fifth leading cause of death in the United States (U.S.). Stroke is the leading cause of severe long-term disability in the U.S. and Nevada.[1] Strokes significantly impact survivors, caregivers, families, communities, and healthcare systems. In the U.S., based on historical medical expenditures surveyed, adjusted annual direct costs for a stroke participant were $4,317 greater than for a non-stroke participant, resulting in a net yearly expenditure of $38 billion nationally. $65.5 billion of indirect costs expended for un/under-employment and premature mortality will clarify the aggregate expenditure of $103.5 billion annually in 2016 U.S.-Dollar values.[6]

After decades of decline, progress has slowed in preventing stroke deaths. Almost 800,000 people have a stroke each year; of those, 200,000 people will have had a previous stroke, and more than 140,000 people will die. In Nevada, there will be an estimated 1,500 deaths. These numbers are alarming, as approximately 80 percent of strokes are preventable.[7,8]

A compelling case and important consideration are evident in the research literature that the current emphasis on prevention and early treatment of stroke overshadows the importance of stroke aftercare, reoccurrence prevention, and caregiver/family support.[9] Improved stroke survival results in a more significant burden to caregivers, family, and community, often in uncompensated care, as survivors navigate a challenging and complex rehabilitation journey and pathway to 'finding a new normal.'

Risk Factors for Stroke

Stroke is one of the most preventable of all life-threatening health problems. Risk factors for stroke are either non-modifiable or modifiable through awareness, lifestyle change, or medical treatment.[9]

Non-modifiable Risk Factors

Some risk factors, such as age, gender, race/ethnicity, and family, personal, and past medical history, are out of an individual's control. The prevalence of stroke in the U.S. increases with age in every identifiable population. There are several unique stroke risk factors in women. As women increasingly outlive and outnumber men, there is an expected disproportionate increase in the burden of stroke in women.[10] Black and Hispanic populations have a higher stroke risk factor than White populations. Genetics is also a significant risk factor; there is an elevated individual risk if a grandparent, father, mother, or sibling had a stroke before age 65. A history of a previous stroke will also increase the risk of a stroke recurrence.[11]

Modifiable risk factors

There are several factors people can control to modify their stroke risk effectively. Uncontrolled high blood pressure is the leading cause of stroke, heart attack, heart failure, dementia, and kidney disease and the most important controllable risk modifier.[12,14] Other factors include:

- High cholesterol, directly and indirectly, increases the risk of a stroke through atherosclerosis (hardening of the arteries) – also a risk factor in coronary artery disease.[8,11]
- Atrial fibrillation/flutter (AF) increases stroke risk factors by fivefold. Anticoagulants reduce the AF risk factors by up to 70 percent.[9]
- The nicotine and carbon monoxide that enters the bloodstream when smoking and vaping damages blood vessels and speed atherosclerosis increasing blood pressure and the heart's workload.[14]
- Diabetes mellitus (DM) plays a significant role in ischemic strokes – Currently, DM is associated with 67 percent of all strokes.
- Diet is a leading predictor and modifier of long-term cardiovascular, brain, and metabolic health. Too much saturated and trans-fats raise blood cholesterol levels. Excess salt can increase blood pressure, and high caloric intake can lead to obesity.[14,15]
- Excess weight, poor diet, and a sedentary lifestyle (frequently co-occurring) put undue strain on the entire circulatory system, thus increasing stroke risks.[7,14,15]
- Finally, recognizing and treating transient ischemic attacks (a stroke that lasts only a few minutes) can reduce the risk of a major stroke.[8,16]

Social Determinants of Stroke

Stroke risk is also predicted and modified by social determinants of health, defined as the conditions and environments where people are born, live, learn, work, play, worship, and age that affects a wide range of health, functioning, and quality of life outcomes and risks.[13] In a meta-analysis of 51 studies, lower socioeconomic status measured by income, occupation, or education was linked to increased stroke risk. Lower-educated individuals have two-fold higher odds of hypertension (95 percent CI, 1.55–2.63) than higher-educated individuals, particularly pronounced for education. Females and higher-income countries show stronger associations of stroke risk.[13] Adverse working conditions, including job loss and underemployment, are related to increased stroke risk, as are long work hours (>40hr/wk.). A smaller social network (i.e., contact with fewer family members, friends, and neighbors) was linked to a 44 percent higher risk of stroke over an 18.6-year follow-up, even after controlling for demographics and other relevant risk factors.[1]

Risk Reduction

There are several evidence-based lifestyle-change programs aimed at cardiovascular and stroke risk reduction from which to choose. Among them, the American Heart Association's Life's Simple 7 is a prescription for health using the seven most important predictors of heart health and a pathway to achieve ideal cardiovascular health[18,] and the American Heart Association's Life's Essential 8™ *Your Checklist for Lifelong Good Health*.[19] These programs, and all competent, healthy lifestyle content, address two major areas: purposeful, healthy behaviors and managed biometric factors. All Americans are called upon to quit smoking, be physically active, develop healthy eating patterns, get restorative sleep, and manage (medically,

if necessary) body weight, blood glucose, cholesterol, and blood pressure.[8,9,11,15,16]

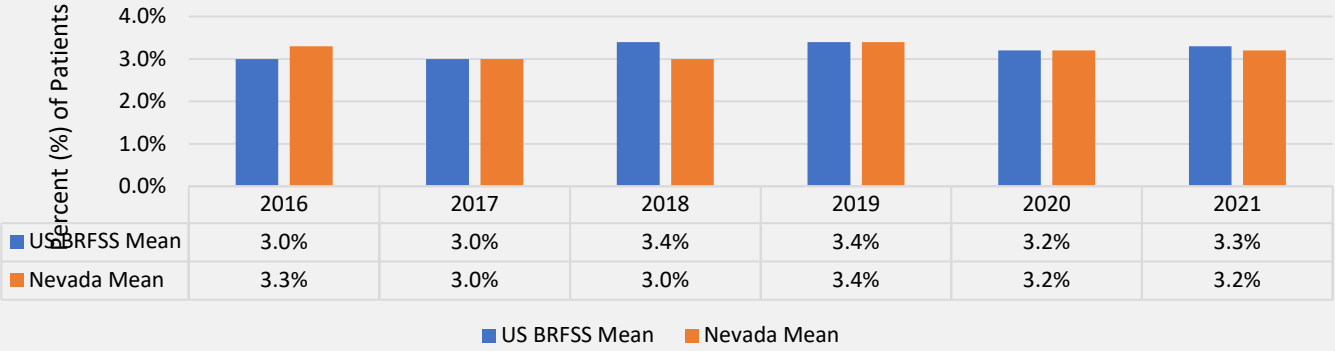
American Heart Association's Life's Essential 8™
EAT BETTER
Aim for a healthy eating pattern that includes whole foods, lots of fruits and vegetables, lean protein, nuts, and seeds, and cooking in non-tropical oils such as olive and canola.
MANAGE WEIGHT
Achieving and maintaining a healthy weight has many benefits. Body mass index (BMI), a numerical value of your weight about your height, is a helpful gauge. The optimal BMI for most adults ranges from 18.5 to less than 25. You can calculate it online or consult a healthcare professional.
BE MORE ACTIVE
Adults should participate in 150 minutes of moderate or 75 minutes of vigorous physical activity per week. Walking is excellent for moderate levels of activity. Kids should have 60 minutes every day, including play and structured activities.
CONTROL CHOLESTEROL
High levels of non-HDL, or "bad" cholesterol, can lead to heart disease. Your healthcare professional can consider non-HDL cholesterol as the preferred number to monitor, rather than total cholesterol, because it can be measured without fasting beforehand and is reliably calculated among all people.
QUIT TOBACCO
The use of inhaled nicotine delivery products, which includes traditional cigarettes, e-cigarettes, and vaping, is the leading cause of preventable death in the U.S., including about a third of all deaths from heart disease. Moreover, about a third of U.S. children ages 3-11 are exposed to secondhand smoke or vaping.
MANAGE BLOOD SUGAR
Most of the food we eat is turned into glucose (or blood sugar) that our bodies use as energy. Over time, high levels of blood sugar can damage your heart, kidneys, eyes, and nerves. As part of testing, monitoring hemoglobin A1c can better reflect long-term control in people with diabetes or prediabetes.
MANAGE BLOOD PRESSURE
Keeping your blood pressure within acceptable ranges can keep you healthier for longer. Levels less than 120/80 mm Hg are optimal. High blood pressure is defined as 130-139 mm Hg systolic pressure (the top number in a reading) or 80-89 mm Hg diastolic pressure (bottom number).
GET HEALTHY SLEEP
Getting a good night's sleep every night is vital to cardiovascular health. Adults should aim for a nightly average of 7-9 hours, and babies and kids need more depending on their age. Too little or too much sleep is associated with heart disease, studies show.

Stroke Prevalence

The Behavioral Risk Factor Surveillance System (BRFSS) is a large-scale continuous health survey conducted by the CDC to collect data from U.S. residents about health-related risk behaviors, chronic health conditions, and the use of preventative services.[20] By collecting health risk data at the state and local level, BRFSS is a valuable tool to identify priority populations and implement disease prevention and health promotion activities. Because age, race/ethnicity, and co-morbidities (multiple simultaneous medical conditions) are known stroke risk factors, it is instructive to view the prevalence of strokes and chronic diseases concerning each other.

Figure 2 compares the prevalence of stroke in adults in Nevada versus the U.S. from 2016 to 2021. The prevalence of stroke in Nevada adults is comparable to the U.S. over the period. The small increases in prevalence for Nevadans may be due to a growing and aging population.

Figure 2. Nevada vs.. U.S., 2016-2021, Prevalence of Stroke in Adults, BRFSS

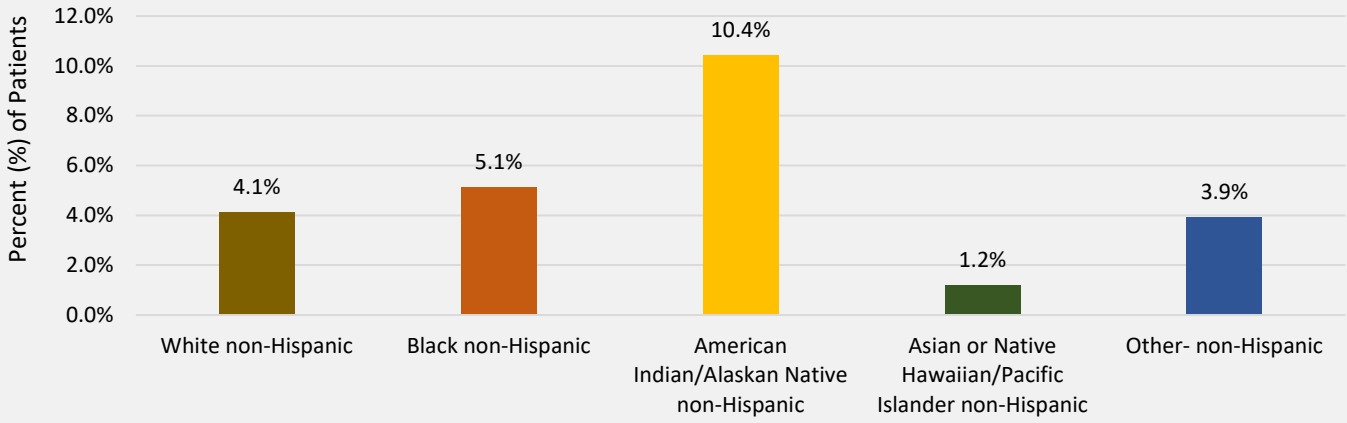


	2016	2017	2018	2019	2020	2021
US BRFSS Mean	3.0%	3.0%	3.4%	3.4%	3.2%	3.3%
Nevada Mean	3.3%	3.0%	3.0%	3.4%	3.2%	3.2%

Source: Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2016-2021.

Figure 3 represents the prevalence of stroke in Nevada adults by race/ethnicity. In 2021 non-Hispanic AI/AN persons had the highest stroke prevalence in Nevada, indicating an area for concern and focus.

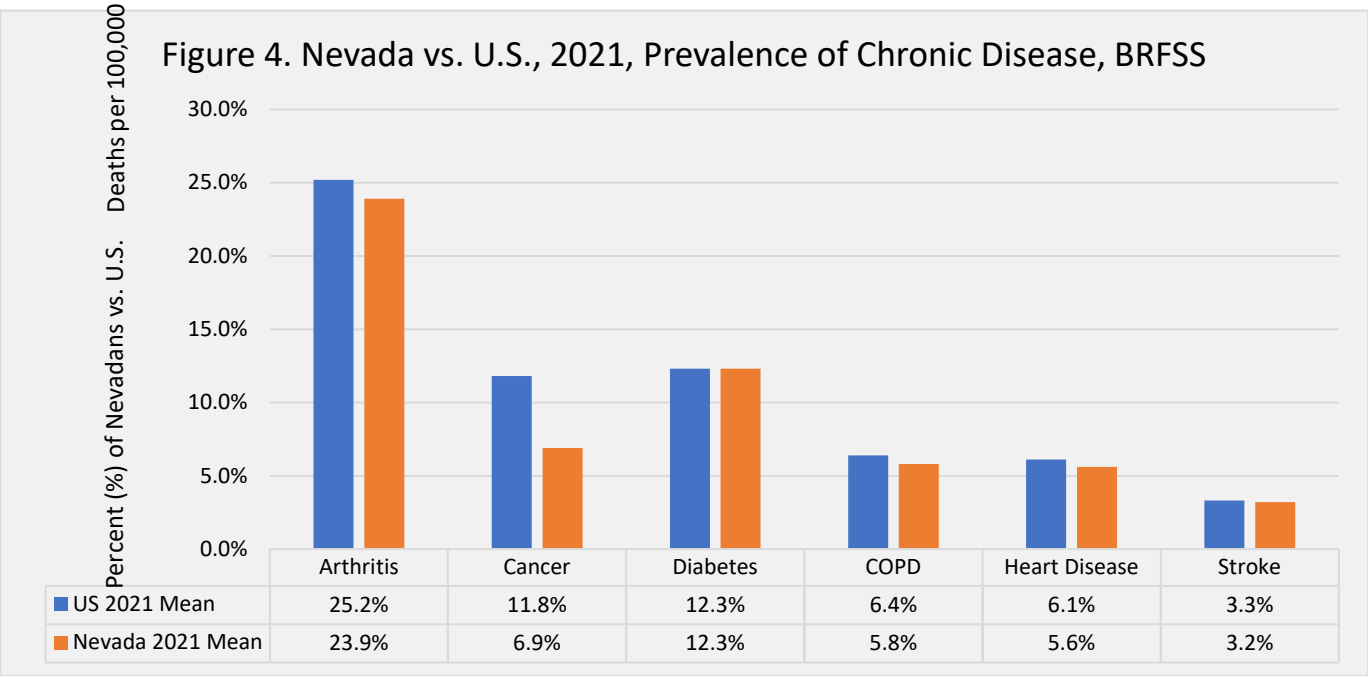
Figure 3. Nevada, 2021, Prevalence of Stroke in Adults by Race/Enthicity, BRFSS



Source: Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2021.

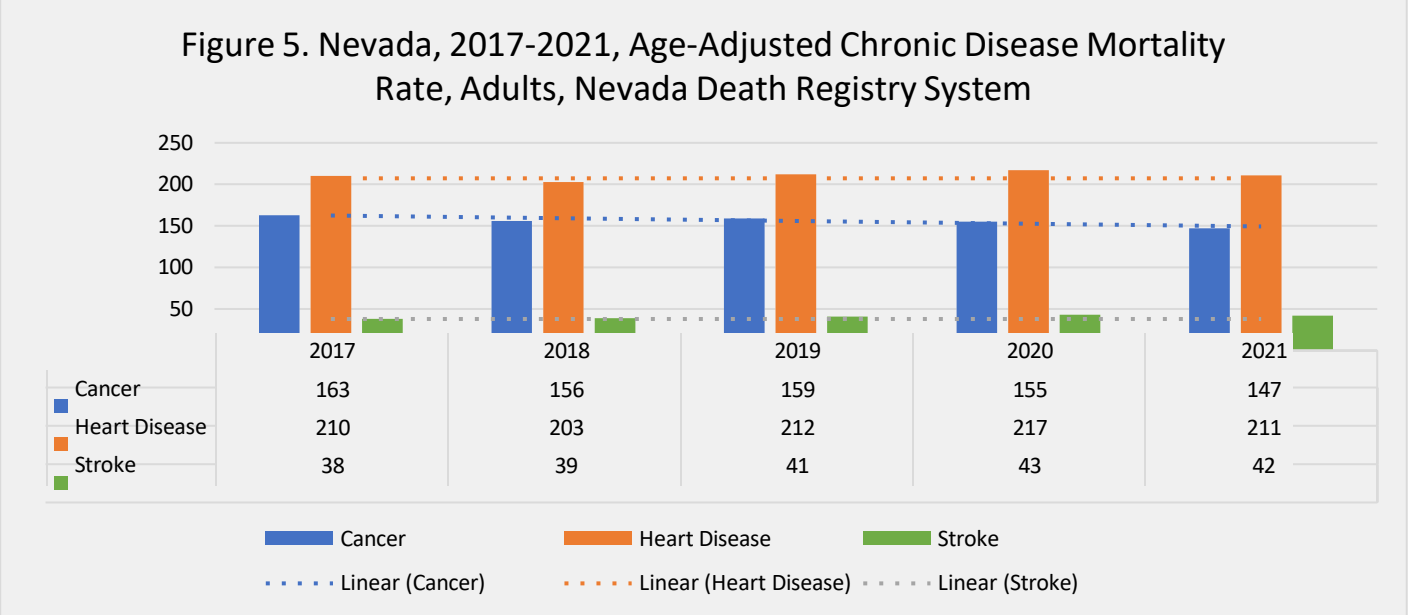
Prevalence of Chronic Disease

Figure 4 compares the prevalence of selected chronic diseases in Nevada versus the U.S. The prevalence of chronic disease is comparable to the U.S. in 2021.



Source: Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2021.

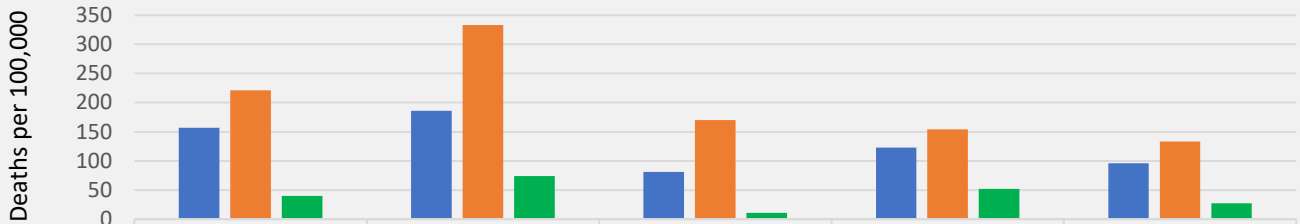
Figure 5 represents Nevada's age-adjusted mortality rate for cancer, heart disease, and stroke from 2017 to 2021. The trendline has remained stable for heart disease and stroke mortality over the period, while cancer's trendline reveals a modest decline in mortality over the period.



Source: Nevada Department of Health and Human Services, Office of Analytics, Nevada Death Registry System, 2017-2021

Figure 6 represents age-adjusted mortality rates by race/ethnicity in Nevada for 2021. The Black population had the highest heart disease, cancer, and stroke mortality rates. It is, again, indicating an area for concern and focus.

Figure 6. Nevada, 2021, Age-Adjusted Chronic Disease Mortality Rate by Race/Ethnicity, Nevada Death Registry System



	White	Black	AI/AN	API	Hispanic
Cancer	157	186	81	123	96
Heart Disease	221	333	170	154	133
Stroke	40	74	11	52	27

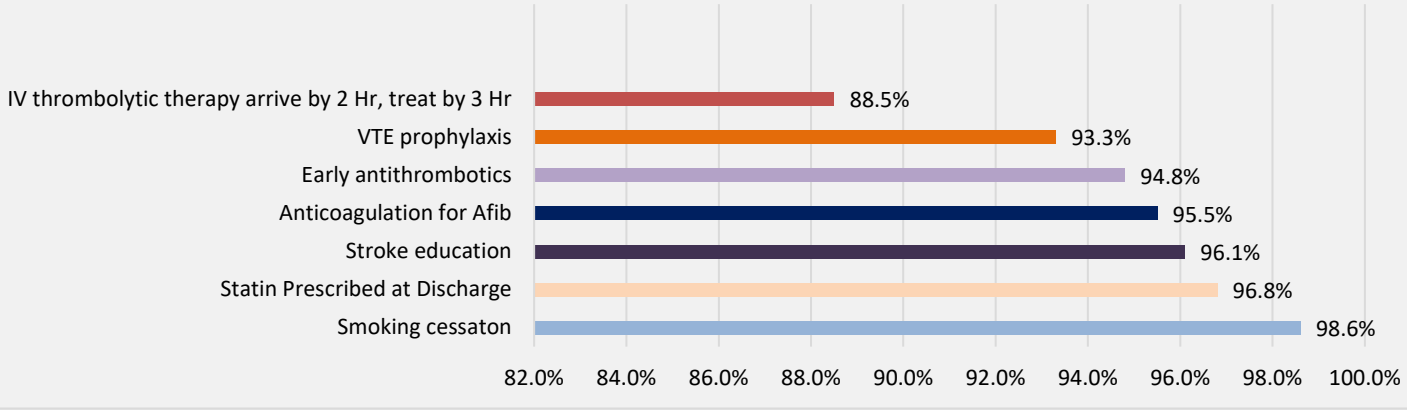
Source: Nevada Department of Health and Human Services, Office of Analytics, Nevada Death Registry System, 2021

Paul Coverdell National Acute Stroke Care Program

The Coverdell program, in partnership with the Joint Commission, the American Heart Association, and American Stroke Association, developed performance measures to track and analyze the quality of stroke care from the onset of symptoms through acute care and rehabilitation to preventing repeat strokes and known complications.[2]

Figure 7 represents the aggregate performance measures achievement of Nevada's 16 Get With The Guidelines-Stroke (GWTG-S) participating hospitals in 2022.

Figure 7. Nevada, 2022, Coverdell Stroke Act Performance Measure, GWTG-S



Source: American Stroke Association. *Get With The Guidelines-Stroke Data Registry System*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2022.

Coverdell Stroke Act Performance Measures

Venous Thromboembolism (VTE) Prophylaxis – Treatment for VTE prophylaxis, also known as deep vein thrombosis or pulmonary embolism, is highly effective in preventing complications and reducing early post-stroke mortality.[22]

Stroke Education - Stroke education provided to stroke survivors, caregivers, and families modifies outcomes. Instruction provided by stroke centers can improve post-stroke quality of life, assist with navigating the healthcare system, improve access to medication and therapy options, and decrease readmission and recurrence rates.[22]

Smoking Cessation – The importance of smoking cessation after a stroke is widely recognized. Continued smoking after a stroke is associated with elevated recurrent stroke risk. Recurrent strokes are generally more disabling than initial strokes. Therefore, smoking/vaping cessation is an essential target for secondary prevention.[14]

High-Intensity Statin Therapy - Reducing cholesterol levels is a well-established primary prevention strategy to reduce long-term cardiovascular and stroke risk. High-intensity statin therapy after ischemic stroke is an established secondary prevention strategy to reduce recurrent stroke risk, especially in large vessel atherosclerosis.[23]

Intravenous Tissue Plasminogen Activator (tPA) Therapy, Arrive by Hour Two (2), Treat by Hour Three (3) – The clot-dissolving medicine tPA, when administered within four hours from the onset of symptoms helps to restore blood flow to the brain regions affected by stroke, thereby limiting the risk of damage and functional impairment.[24]

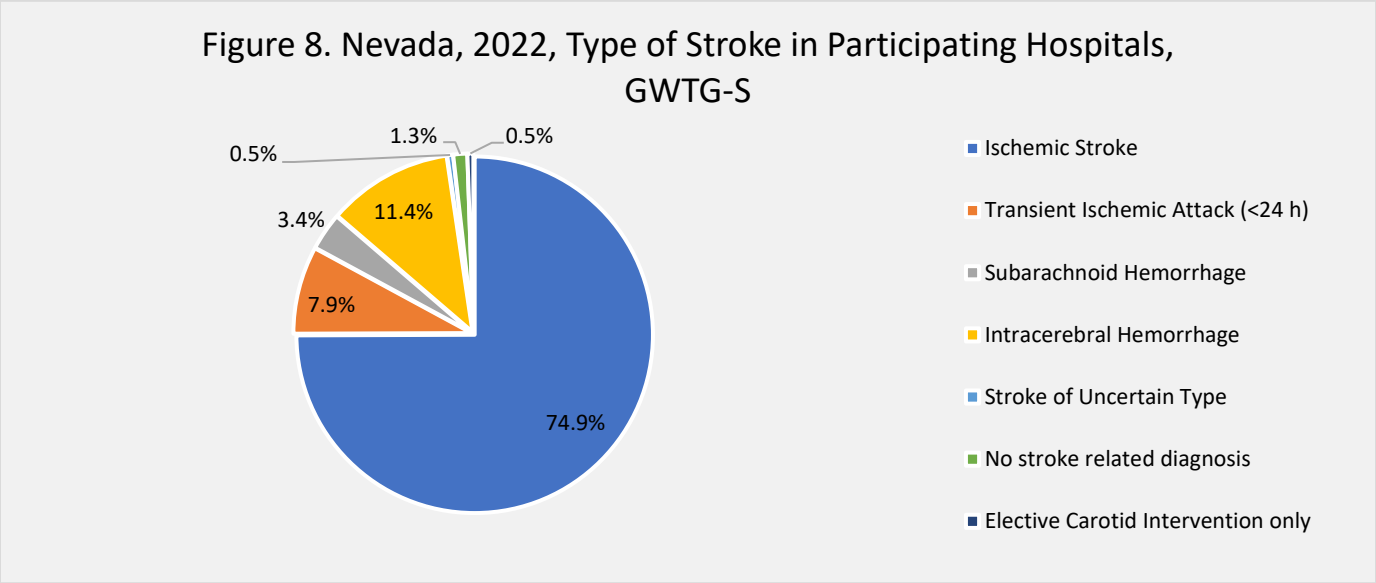
Early Antithrombotic Therapy – Stroke survivors carry a high risk of recurrence. "Early" is defined as the end of day two of the hospital stay. Large, randomized control trials provide evidence-based support for using anticoagulants and antiplatelet agents for secondary prevention and overall stroke burden reduction.[25]

Dysphagia Screening – Dysphagia, or difficulty swallowing, is common after a stroke. Early screening can identify patients vulnerable to weight loss, dehydration, malnutrition, and food or liquid aspiration. Consuming food and liquid by mouth is a predictor of hospital stay length and outcomes.[26]

Anticoagulation for Atrial Fibrillation – The risk of recurrent ischemic stroke is high among patients with a recent stroke and atrial fibrillation. Research suggests that initiating anticoagulation early in therapy can protect these patients from additional damage caused by a recurrent stroke..[27]

Rehabilitation Consideration – For many stroke survivors, rehabilitation involves physical therapy to relearn motor activities, occupational therapy to relearn the activities of daily living, or speech therapy to relearn language and speaking skills. Rehabilitation can start as soon as the patient is medically stable and occurs in various settings, including subacute in-patient facilities, at home, and as an outpatient. The rehabilitation care team might include a case manager/care coordinator, dieticians, neurologists, nurses, psychiatrists, peer groups, and recreation therapists.[9,28]

Figure 8 represents the types of strokes treated by Nevada's Get With The Guidelines-Stroke (GWTG-S) participating hospitals in 2022.



Source: American Stroke Association. *Get With The Guidelines-Stroke Data Registry System*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2022.

Nevada Hospital Billing Data

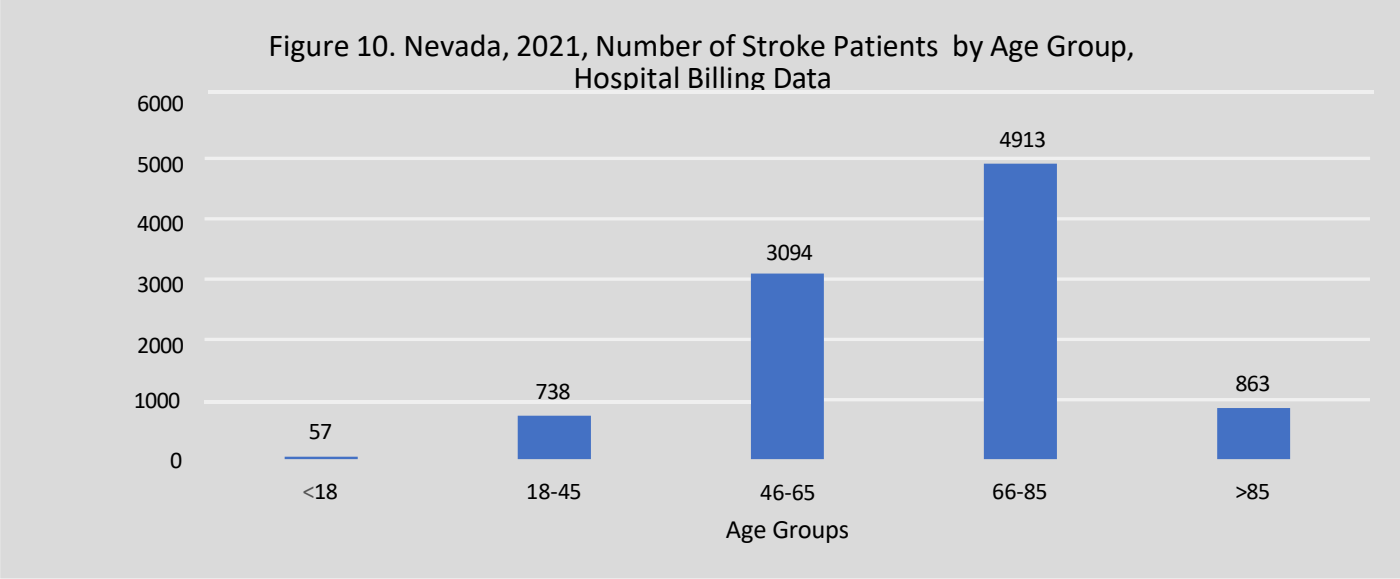
The Heart Disease and Stroke Prevention (HDSP) program collected and analyzed Nevada hospital billing data (HBD) from the Center for Health Information Analysis for Nevada's thirty (30) Acute Care Hospitals[3] to discern the scope of stroke in Nevada and which Nevadans are most affected. Data inclusion criteria used the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) stroke diagnosis codes I60 – I69. The data reflect the number of patients with at least one hospital billing record where a stroke ICD-10-CM code was present as diagnosis code one, two, or three. In cases where patients had both emergency and in-patient records on the same date, only the in-patient records were counted.

Figure 9 represents the frequency of patients with a stroke diagnosis by resident county for Nevada in 2021.

Resident County	Emergency	In-patient	Total
	N	N	N
Carson City	41	171	212
Churchill	30	64	94
Clark	1,058	6,013	7,071
Douglas	35	155	190
Elko	17	21	38
Esmeralda	0	6	6
Eureka	3	1	4
Humboldt	10	28	38
Lander	4	10	14
Lincoln	3	15	18
Lyon	45	190	235
Mineral	15	16	31
Nye	83	206	289
Pershing	2	12	14
Storey	0	4	4
Washoe	306	1,073	1,379
White Pine	15	10	25
Unknown	0	3	3
Total	1,667	7,998	9,665

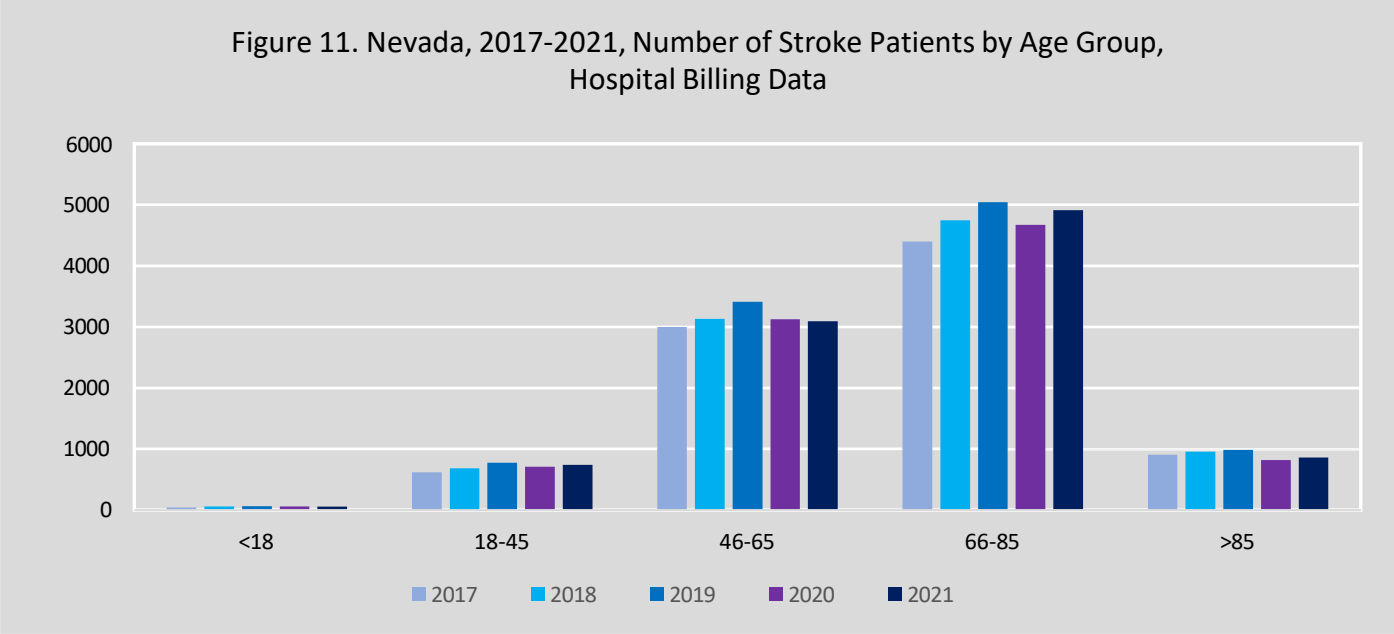
Source: Nevada Department of Health and Human Services, Office of Analytics, 2021.

Figure 10 represents the number of stroke patients in Nevada by age group. The distribution indicates that stroke risk increases with age. The >85 age group is the smallest in the data set due to increased all-cause mortality in older adults.



Source: Nevada Department of Health and Human Services, Office of Analytics, 2021.

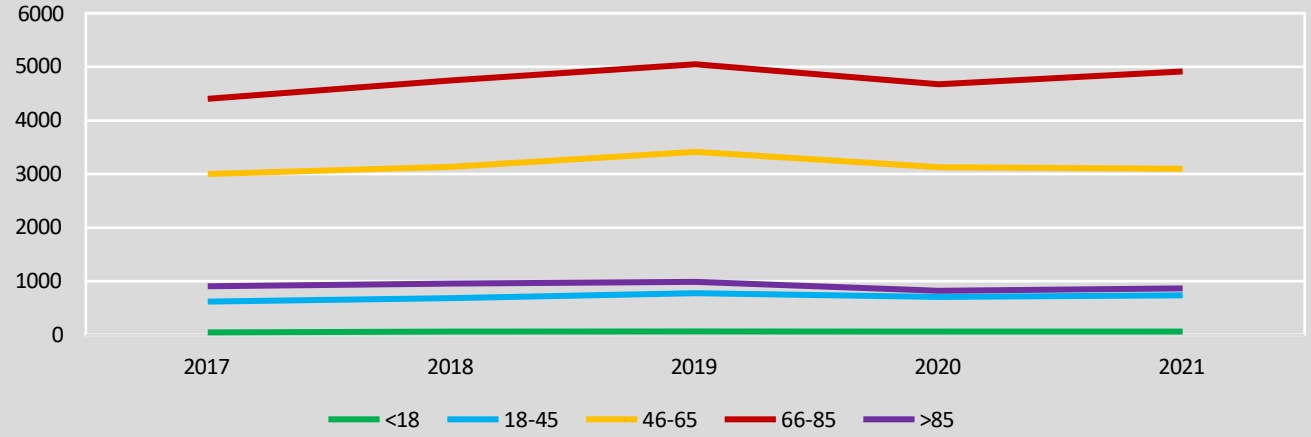
Figure 11 represents the number of stroke patients in Nevada by age group from 2017 to 2021.



Source: Nevada Department of Health and Human Services, Office of Analytics, 2021.

Figure 12 represents the five-year trend for the number of stroke patients by age group in Nevada from 2017 to 2021. The trend lines for the 18-45 and 66-85 age groups may indicate areas for concern and focus.

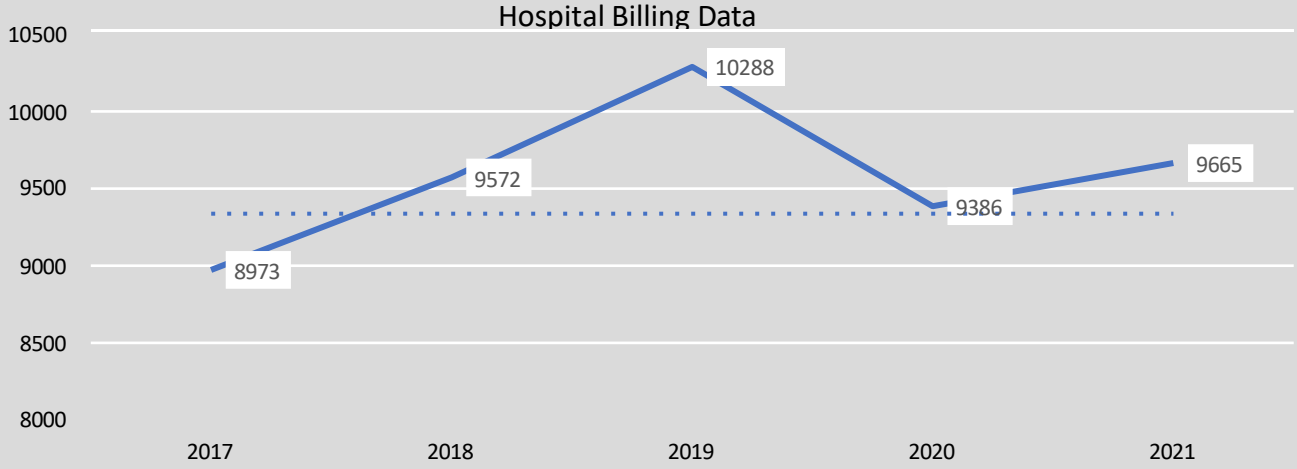
Figure 12. Nevada, 2017-2021, Number of Strokes by Age-Group, 5 Year Trend, Hospital Billing Data



Source: Nevada Department of Health and Human Services, Office of Analytics, 2017-2022.

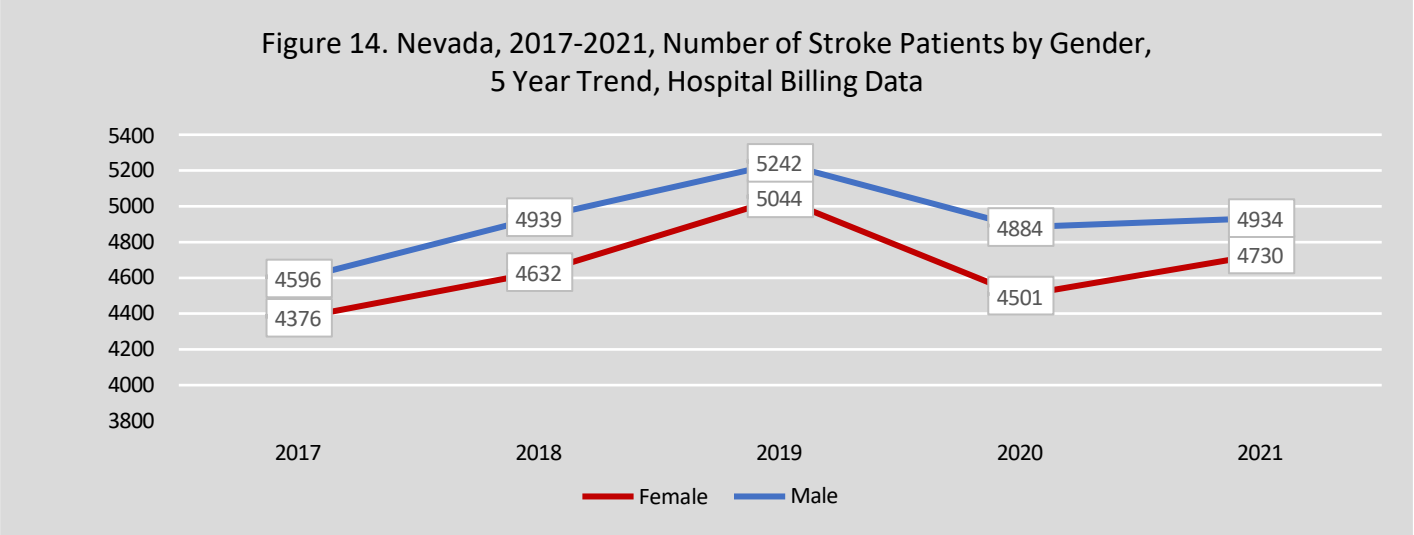
Figure 13 represents the number of stroke patients in Nevada from 2017 to 2021. The upward trajectory aligns with Nevada's growing and aging population. The somewhat anomalous dip in 2020 may be related to the surge in COVID-19 mortality that year.

Figure 13. Nevada, 2017-2021, Number of Strokes, 5 Year Trend, Hospital Billing Data



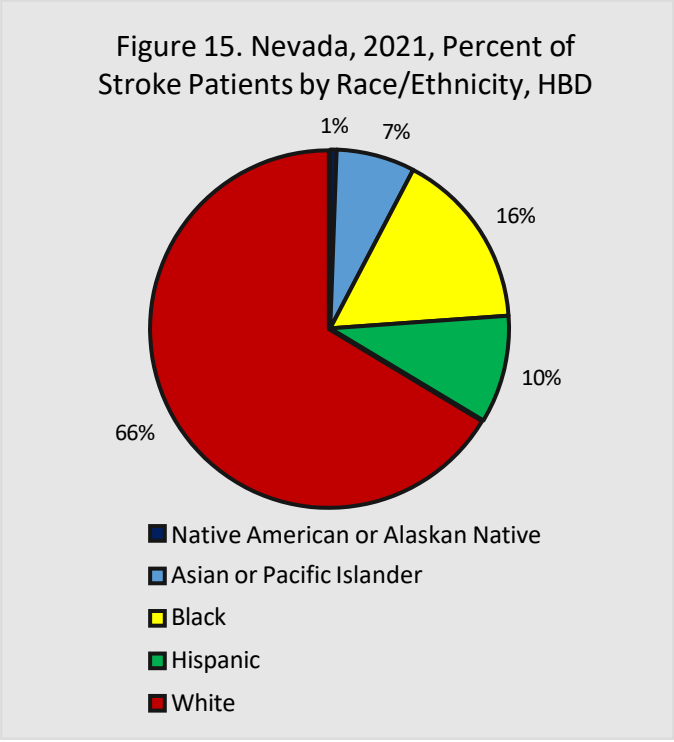
Source: Nevada Department of Health and Human Services, Office of Analytics, 2017-2021.

Figure 14 represents the five-year trend for the number of stroke patients by gender (male/female) in Nevada from 2017 to 2021.

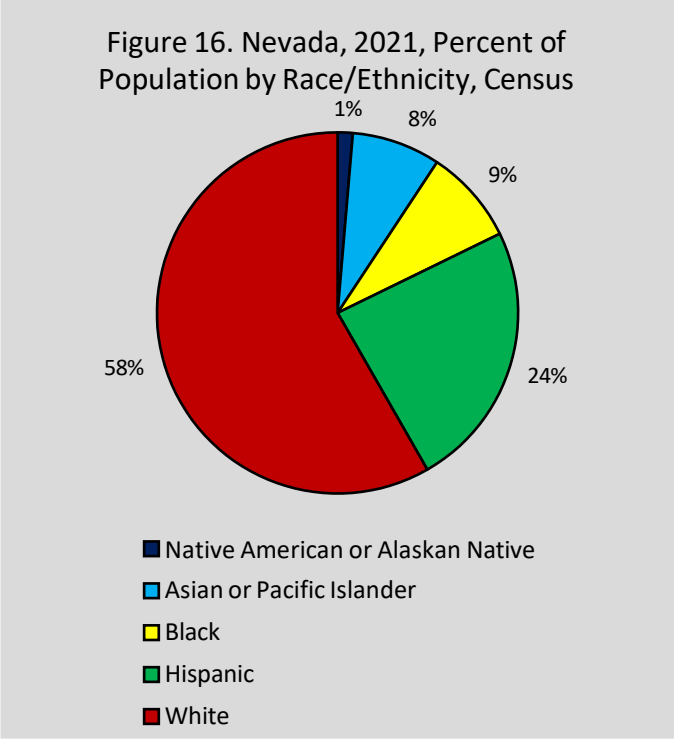


Source: Nevada Department of Health and Human Services, Office of Analytics, 2017-2022.

Figures 15 and 16 show a side-by-side comparison of the percent stroke by origin to the percentage of the population. Figure 15 represents the percentage of stroke patients in Nevada by race/ethnicity for 2021. *Figure 16* represents the percentage of the population in Nevada by race/ethnicity for 2021. The demographics are defined using the United States Census Bureau population estimates for 2021 definitions for Non- Hispanic White, Non-Hispanic Black, Hispanic, Asian and Pacific Islander, and Native American or Alaskan Native.

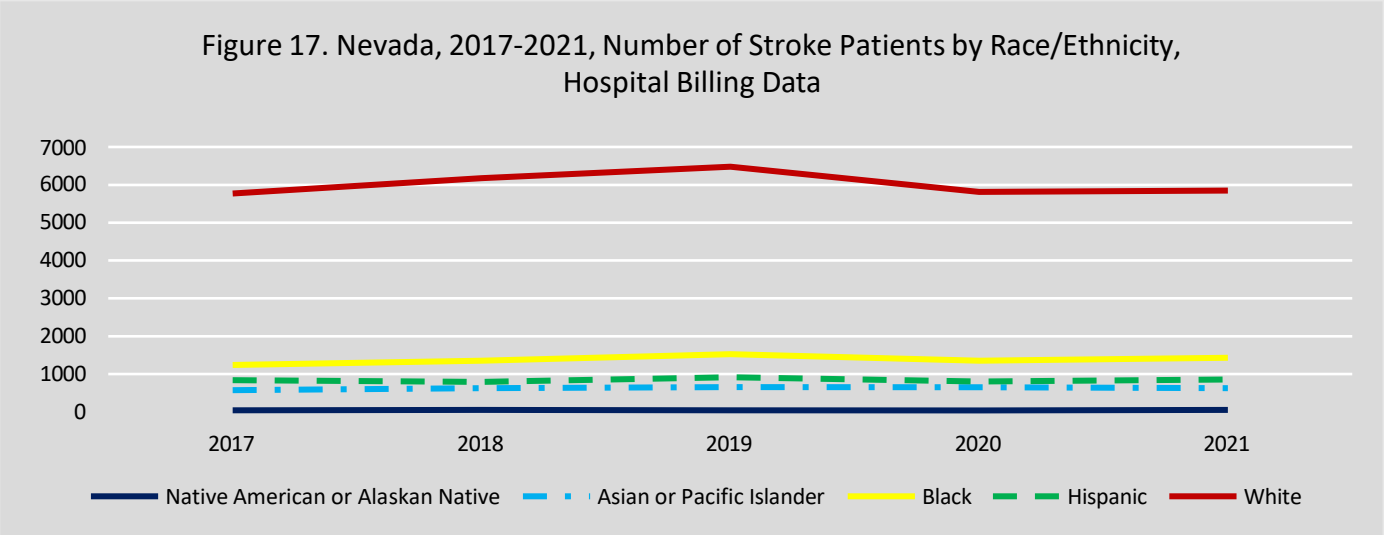


Source: Nevada Department of Health and Human Services, 2021. Office of Analytics, 2021.



Source: https://www.census.gov/quickfacts/fact/table/NV,US/PST045221.

Figure 17 represents a five-year trend of the number of stroke patients by race/ethnicity in Nevada from 2017 to 2021.



Source: Nevada Department of Health and Human Services, Office of Analytics, 2017-2021**.**

Report Conclusion

The data aggregated in this report provides an opportunity to enhance stroke survivorship and reduce the burden of disease and disability in Nevada. Through identifying high-burden populations and systemic strengths and weaknesses, quality improvement strategies can be planned, implemented, tracked, and adjusted to meet the needs of Nevadans.

The Behavioral Risk Factor Surveillance System (BRFSS) data (Fig. 2 – 4) indicates that the prevalence of stroke, cancer, diabetes, chronic obstructive pulmonary disease, and heart disease in Nevada is comparable to the U.S. over the past few years. The data also demonstrates that Nevada's Black population has experienced the highest stroke mortality. Nevadans' chronic disease mortality rates (Fig. 5 and 6) are comparable to U.S. rates and have remained relatively stable over the past five years.

The Coverdell performance measures (Fig. 7 and 8) indicate that the participating hospitals successfully adhere to evidence-based recommendations developed by the Joint Commission, American Heart Association, American Stroke Association, and the Centers for Disease Control and Prevention. Nearly 70 percent of strokes treated in Nevada Certified Stroke Centers are ischemic strokes caused by a blood clot blocking the blood flow to an area of the brain.[1] Nevada hospital discharge data (Fig 9 – 17) indicates which communities and populations experience elevated risk and possible trends to watch.

Recommendations

Pursuant to NRS 439.5297(2) The division shall compile an annual report concerning the operation and use of the Registry and the data collected by the Registry. On or before June 1 of each year, the Division shall post the report on its Internet website, if any, and submit the report to the Governor. The report must include, without limitation: (a) Aggregated data from the Registry; and (b) Any recommendations for legislation designed to improve the quality of care provided to patients who suffer from strokes in this State. For the 2022 annual report there are no recommendations for legislation.

Strategies

Although not a statutory requirement of this report the following section identifies ongoing funded strategies and identifies the focus for future strategies as reviewed and approved by an advisory committee of the statewide Heart Disease and Stroke Prevention Taskforce.

DPBH

- Continue to develop The Barbershop and Beauty shop community-clinical linkage program in Clark County urban core to improve health literacy and address the higher incidence of stroke within the Black population.
- Enhance the Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN) program to address cardiovascular health risk factors for low-income and uninsured women.[29]
- Continue to promote the Million Hearts initiative to private sector partners to raise awareness about quality improvements in preventing heart disease and strokes.[29]
- Continue to support the Heart Disease and Stroke Prevention program efforts to expand the Heart Healthy Ambassador Blood Pressure Self-Monitoring program throughout Nevada.
- Continue support for the Nevada statewide Heart Disease and Stroke Prevention Taskforce.
- Increase support for collaborations between funded programs within the Division.
- Collaborate with the Division's public information bureau to expand public awareness campaigns to promote recognition of heart attacks and strokes and the importance of calling 911.[29]

Health Systems

- Use health information technology and electronic health record approaches to identify patients "hiding in plain sight" with undiagnosed or unmanaged heart disease and stroke risk factors.[29]
- Participate in the Nevada statewide heart disease and stroke prevention task force.
- Coordinate with Emergency Medical Service (EMS) care providers to implement coordinated systems of care that get patients to certified stroke centers fast and reduce delays in care transitions.[29]
- Work with community members to raise awareness of stroke and heart attack symptoms and

ensure EMS systems are activated quickly.

Healthcare Professionals

- Continue to identify and treat high blood pressure, diabetes, obesity, high cholesterol, smoking, and other stroke risk factors.[29]
- Continue to refer patients to community lifestyle change resources and programs such as quitting smoking lines, obesity, and diabetes prevention.[29]
- Continue to educate patients to recognize the signs and symptoms of heart attacks and strokes and the importance of calling 911.[29]

Every Nevadan

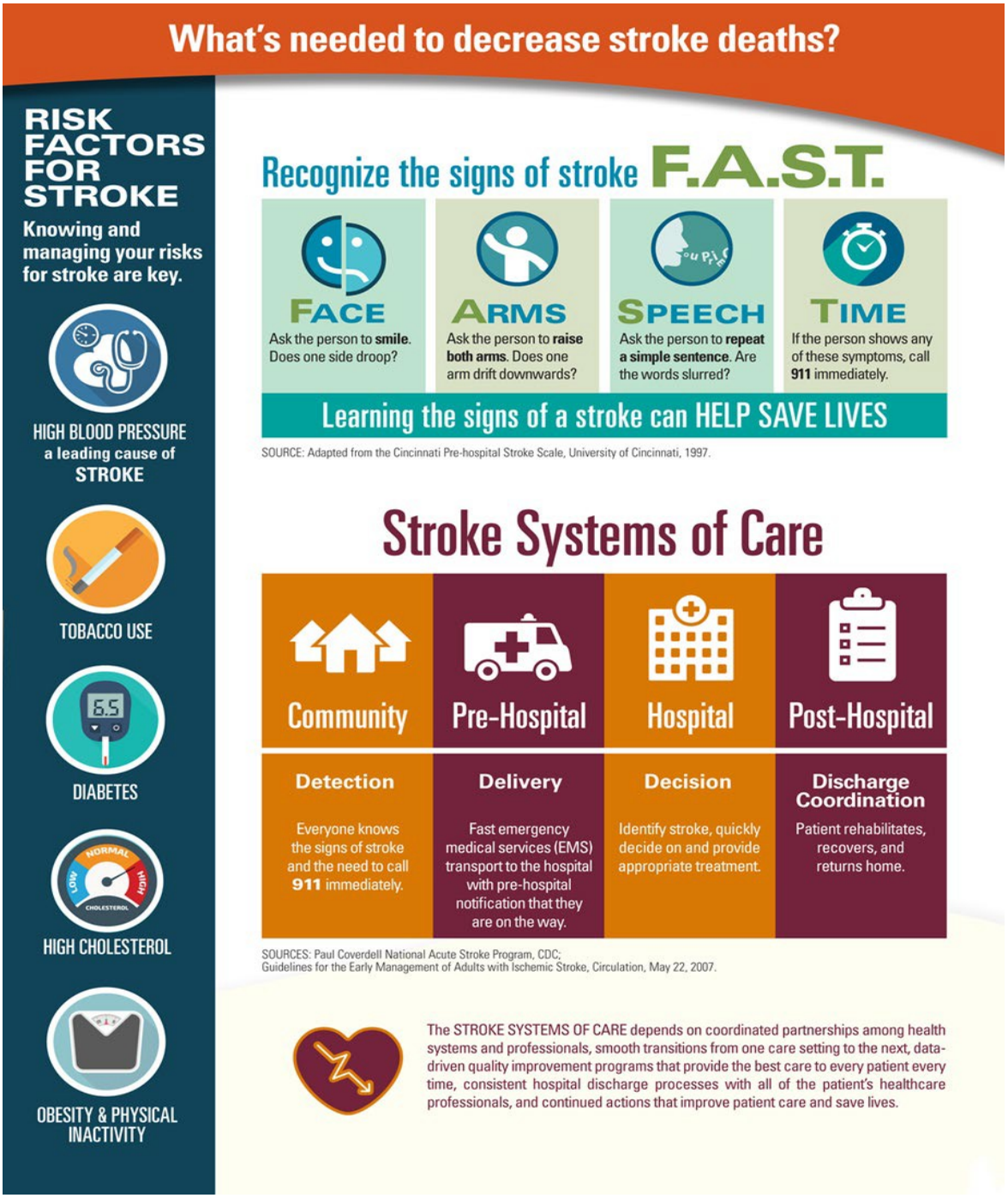
- Learn to recognize the signs and symptoms of a heart attack and stroke and call 911.[29]
- Eat a healthy diet with lots of fruit and vegetables, maintain a healthy weight, and be physically active.
- Manage medical conditions such as obesity, pulmonary disease, diabetes, high cholesterol, and high blood pressure by following medical advice and taking medication as prescribed.[18,19]
- Avoid smoking, vaping, and secondhand smoke.[14,16]
- Share this information with a friend, neighbor, or loved one.

Stroke Reporting Terms - Acronym List

Acronym	Definition
ACH	Acute Care Hospitals
AF	Atrial Fibrillation/Flutter
AHA	American Heart Association
AI/AN	American Indian and/or Alaskan Native
API	Asian and/or Pacific Islander
ASA	American Stroke Association
BMI	Body Mass Index
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Center for Disease Control
CDPHP	Chronic Disease Prevention and Health Promotion
CFCW	Child, Family, and Community Wellness
COPD	Chronic Obstructive Pulmonary Disease
Coverdell	Paul Coverdell National Acute Stroke Act
CQI	Continuous Quality Improvement
CSCs	Certified Stroke Centers
DHHS	Department of Health and Human Services
DM	Diabetes Mellitus
DPBH	Division of Public and Behavioral Health
DVT	Deep Vein Thrombosis
ED	Emergency Department
EMS	Emergency Medical Services
GWTG-S	Get With the Guidelines-Stroke
HBD	Hospital Billing Data
HDD	Hospital Discharge Data
HDL	High-Density Lipoprotein
HDSP	Heart Disease and Stroke Prevention
ICD-10-CM	International Classification of Diseases, Tenth Revision, Clinical Modification code
JC	Joint Commission
M/F	Male/Female
NH	Non-Hispanic
NRS	Nevada Revised Statute
PE	Pulmonary embolism
SES	Socioeconomic Status
tPA	Tissue Plasminogen Activator
U.S.	United States
VTE	Venous Thromboembolism
WISEWOMAN	Well-Integrated Screening and Evaluation for Woman Across the Nation

Call To Action

Figure 18 is the summation of this report and its call to action. Strokes happen wherever Nevadans are born, live, learn, work, play, worship, and age. To enjoy active, productive years of life, know and manage the risk factors. Learn to recognize the signs of a stroke and take action to save lives. To reduce the burden of disability, healthcare systems and professionals can ensure coordinated, well-informed care transitions.



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