

Brian Sandoval
Governor

Richard Whitley, MS
Director, DHHS



Cody L. Phinney, MPH
Administrator, DPBH

Leon Ravin, MD
Acting Chief Medical Officer

Chronic Disease in Nevada

Legislative Committee on Health
May 18, 2016

Prepared by: Michael Lowe and Adel Mburia-Mwalili

Presented by: Monica Morales, MPA

Deputy Bureau Chief

Bureau of Child, Family and Community Wellness



What is a Chronic Disease?

- Chronic diseases are conditions that occur over a long period of time. They progress slowly and are usually the result of multiple factors.
- The conditions may not be cured completely but can be controlled.

Sources:

World Health Organization, 2013.

Martin, CM. Chronic disease and illness care: Adding principles of family medicine to address ongoing health system redesign. *Can Fam Physician*.

Dec 2007; 53(12): 2086–2091.



Division of Public and Behavioral Health

2

HEALTH CARE
May 18, 2016
Agenda Item VIII B



Impact of Chronic Disease

- In 2013, 7 out of 10 deaths in Nevada were due to a chronic disease¹
- In 2013, 1 out of 3 Nevadans reported at least one chronic disease²
- 1 out of 4 adults with a chronic disease have some type of functional limitation or disability

Sources:

¹ Nevada Office of Vital Records

²Centers 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, 2013.



Division of Public and Behavioral Health

3



Impact of Chronic Disease

- In 2015, 6 out of 10 deaths in Nevada were due to a chronic disease¹
- In 2014, 1 out of 3 Nevadans reported at least one chronic disease²
- 1 out of 4 adults with a chronic disease have some type of functional limitation or disability

Sources:

¹ Nevada Division of Public and Behavioral Health, Electronic Death Registry System, 2015 Preliminary Data

²Centers 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, 2014.

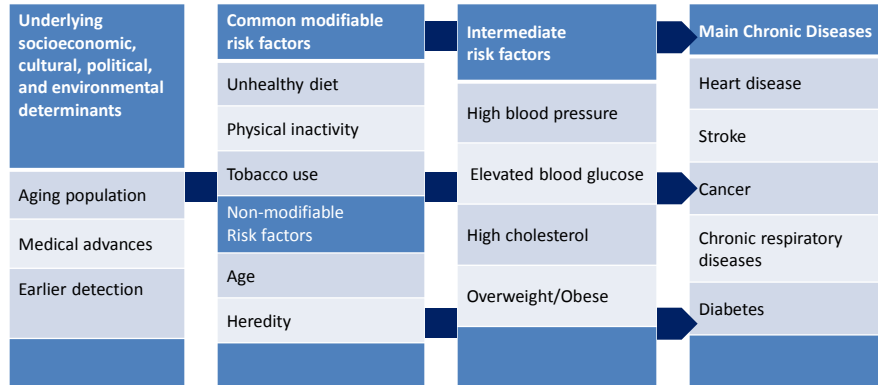


Division of Public and Behavioral Health

4



Causes of Chronic Diseases



Source: World Health Organization. (2011). *Chronic diseases and their common risk factors: Facing the Facts #1*

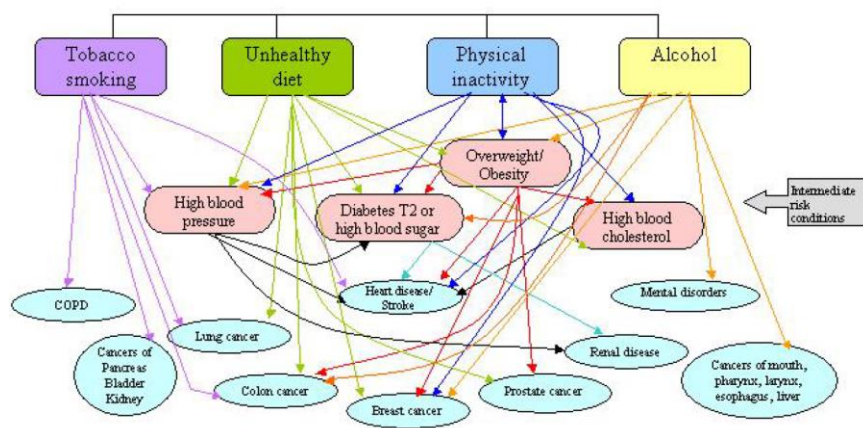


Division of Public and Behavioral Health

5



Chronic Disease Modifiable Risk Factors



Source: Preventing and Managing Chronic Disease: Ontario's Framework (2007).



Division of Public and Behavioral Health

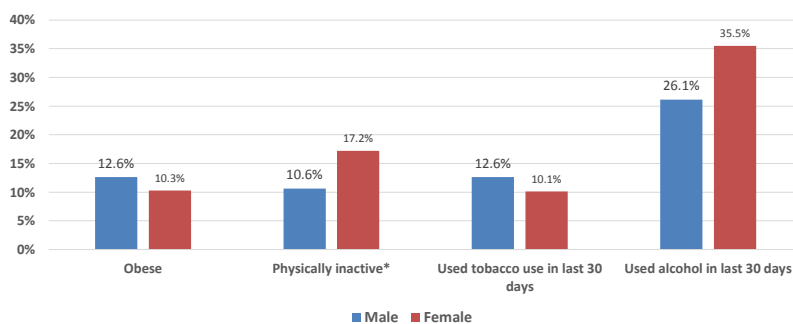
6



Prevalence of Risk Factors for Chronic Diseases among Youth in Nevada



Risk Factors for Chronic Diseases Among High School Students



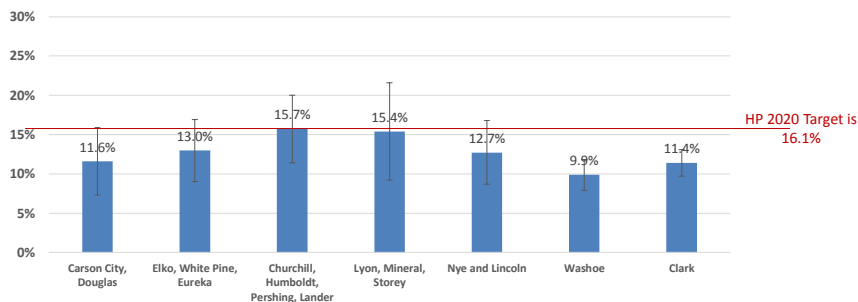
Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

* Physically inactive is defined as not participating in at least 60 minutes of physical activity on any day during the previous seven days before the survey



Risk Factors for Chronic Diseases

**Percentage of high school students
who were obese by region, Nevada, 2015 YRBSS Data**



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

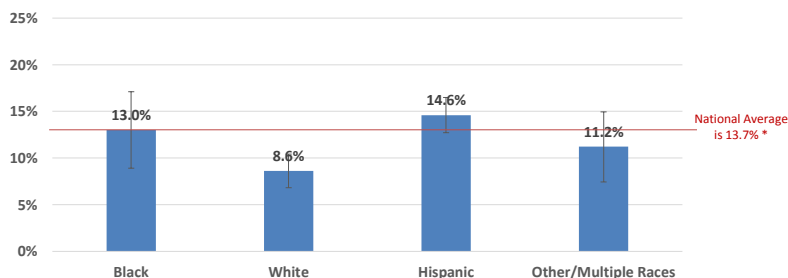
Division of Public and Behavioral Health

9



Risk Factors for Chronic Diseases

**Percentage of high school students who were obese by race/ethnicity,
Nevada, 2015 YRBSS Data**



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

* The national average is based on 2013 Youth Risk Behavior Surveillance System Data from states; 2015 YRBSS national data are not yet available.

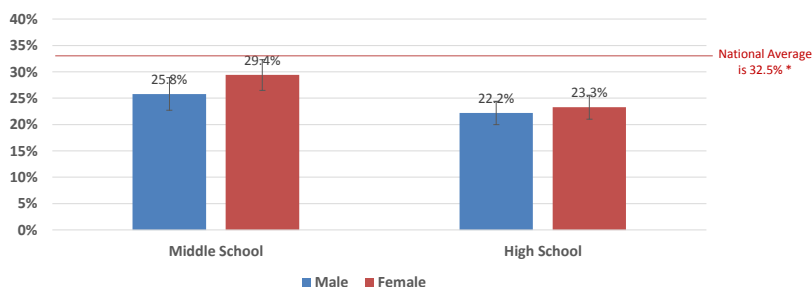
Division of Public and Behavioral Health

10



Risk Factors for Chronic Diseases

Percentage of middle school and high school students who watched 3 or more hours/day of television by sex, Nevada, 2015 YRBSS Data



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

* The national average is based on 2013 Youth Risk Behavior Surveillance System Data from states; 2015 YRBSS national data are not yet available.

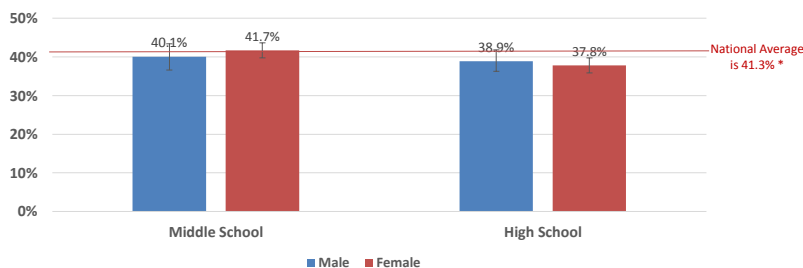
Division of Public and Behavioral Health

11



Risk Factors for Chronic Diseases

Percentage of middle school and high school students who played video games or used a computer for 3 or more hours/day by sex, Nevada, 2015 YRBSS Data



* The national average is based on 2013 Youth Risk Behavior Surveillance System Data from states; 2015 YRBSS national data are not yet available.

Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

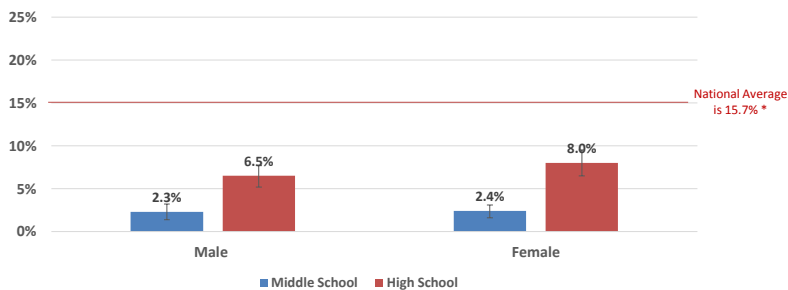
Division of Public and Behavioral Health

12



Risk Factors for Chronic Diseases

Percentage of middle school and high school students who currently smoke cigarettes by sex, Nevada, 2015 YRBSS Data



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

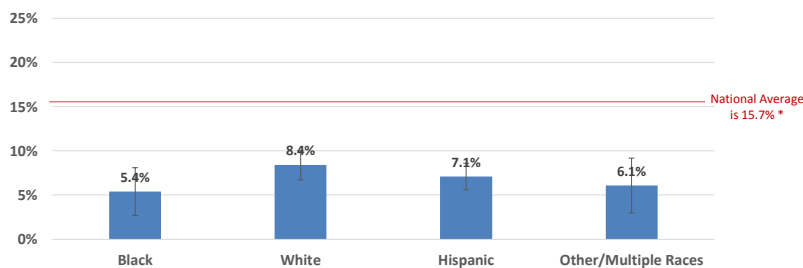
Division of Public and Behavioral Health

13



Risk Factors for Chronic Diseases

Percentage of high school students who currently smoke cigarettes by race, Nevada, 2015 YRBSS Data



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

* The national average is based on 2013 Youth Risk Behavior Surveillance System Data from states; 2015 YRBSS national data are not yet available.

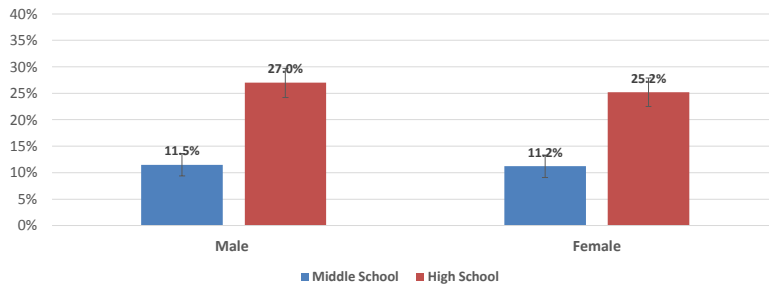
Division of Public and Behavioral Health

14



Risk Factors for Chronic Diseases

Percentage of middle school and high school students who currently use electronic vapor products by sex, Nevada, 2015 YRBSS Data



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

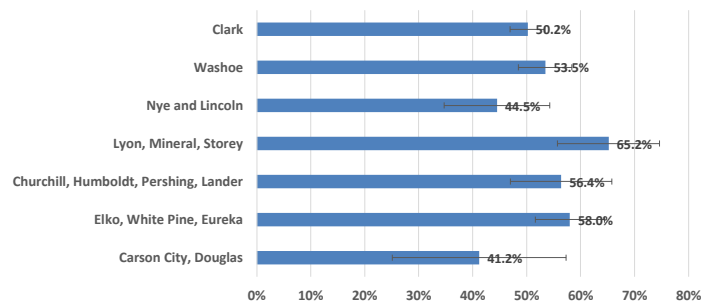
Division of Public and Behavioral Health

15



Risk Factors for Chronic Diseases

Percentage of high school students who ever used electronic vapor products by region, Nevada, 2015 YRBSS Data



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

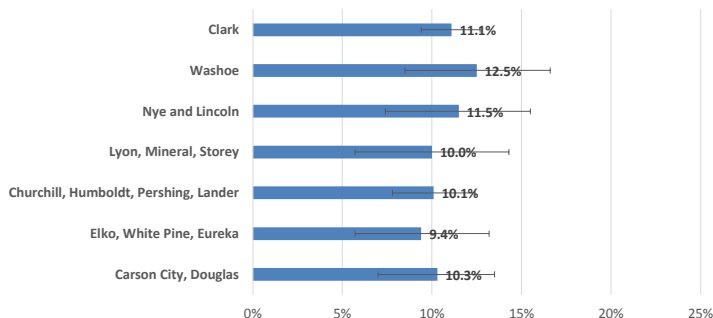
Division of Public and Behavioral Health

16



Food Insecurity Among Youth

Percentage of middle school students who sometimes go hungry because there is not enough food in the house, Nevada, 2015 YRBSS Data*



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2013.

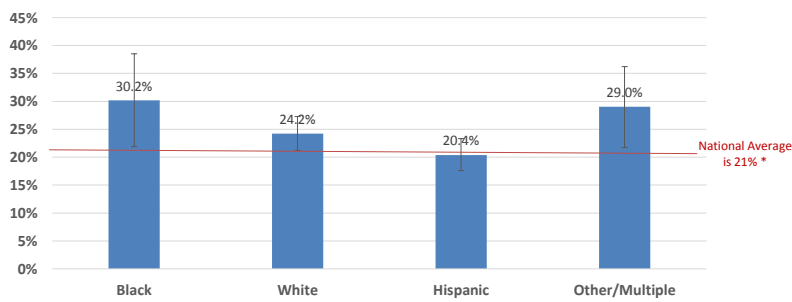
Division of Public and Behavioral Health

17



Chronic Diseases: Asthma

Percentage of high school students who had asthma by race/ethnicity, Nevada, 2013 YRBSS Data*



Source: Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2013.

* Questions on asthma were not included on the 2015 YRBSS; most recent data is 2013 YRBSS.

Division of Public and Behavioral Health

18

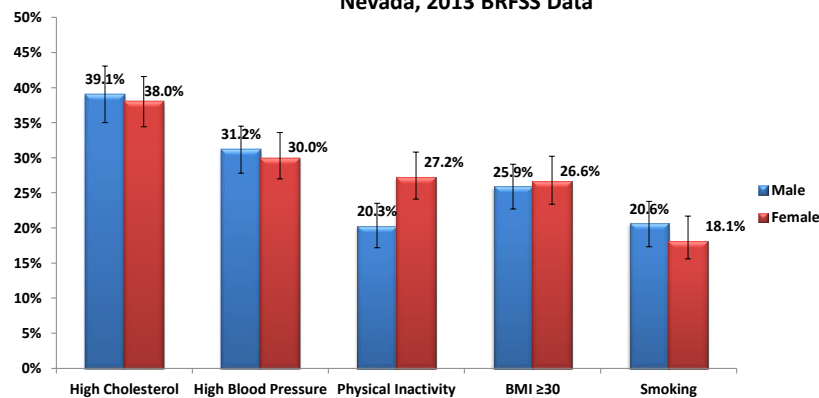


Prevalence of Risk Factors for Chronic Diseases Among Adults, Nevada



Risk Factors for Chronic Diseases

Prevalence of Chronic Disease Risk Factors for Adults by Sex,
Nevada, 2013 BRFSS Data

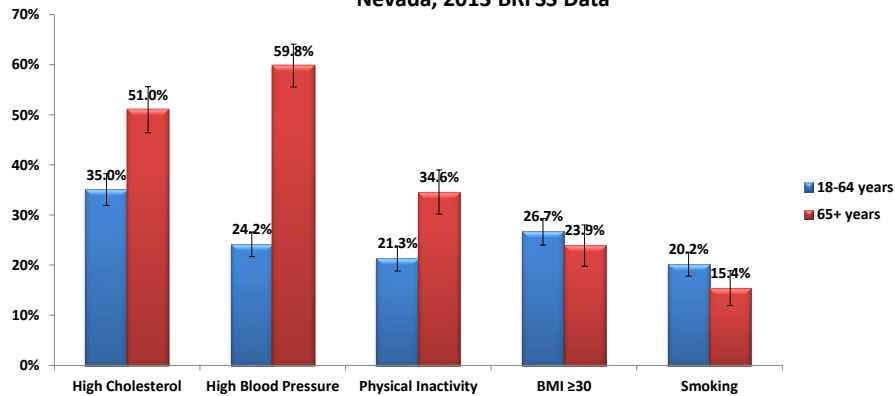


Source: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2013.



Chronic Diseases

Prevalence of Chronic Disease Risk Factors for Adults by Age Groups,
Nevada, 2013 BRFSS Data



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, 2013.



Division of Public and Behavioral Health

21



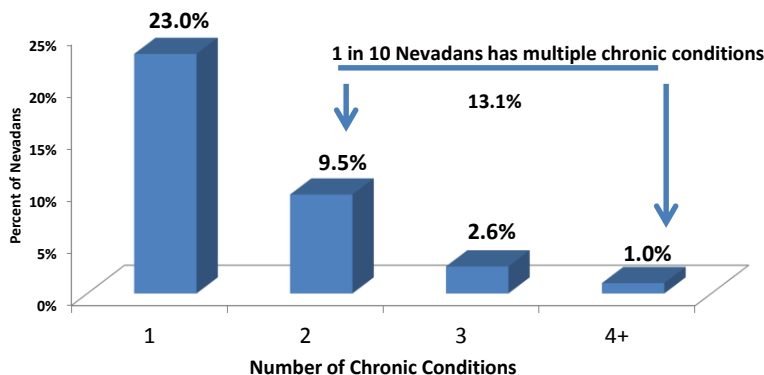
Prevalence of Chronic Diseases in Adults, Nevada





Prevalence of Multiple Chronic Conditions

Adults with chronic conditions in Nevada, 2013 BRFSS Data



Note: Chronic conditions include the following: coronary heart disease, stroke, diabetes, cancer (combined skin and other types of cancer), arthritis, and chronic obstructive pulmonary disease.

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, 2013.



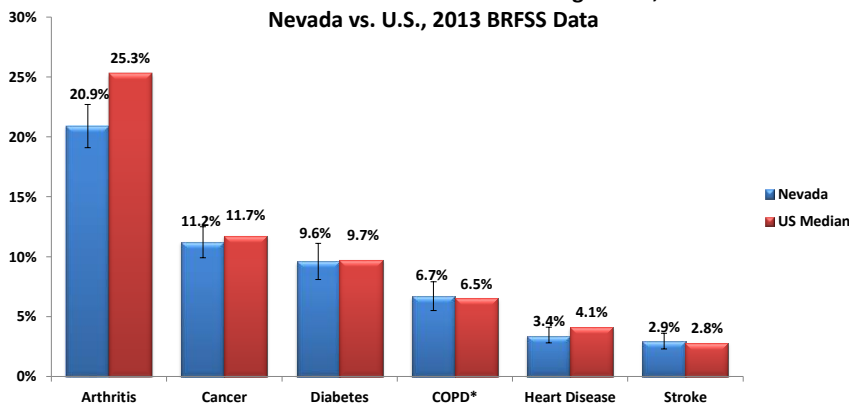
Division of Public and Behavioral Health

23



Chronic Diseases

Prevalence of Chronic Diseases Among Adults,
Nevada vs. U.S., 2013 BRFSS Data



Note: *COPD is chronic obstructive pulmonary disease.

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, 2013.



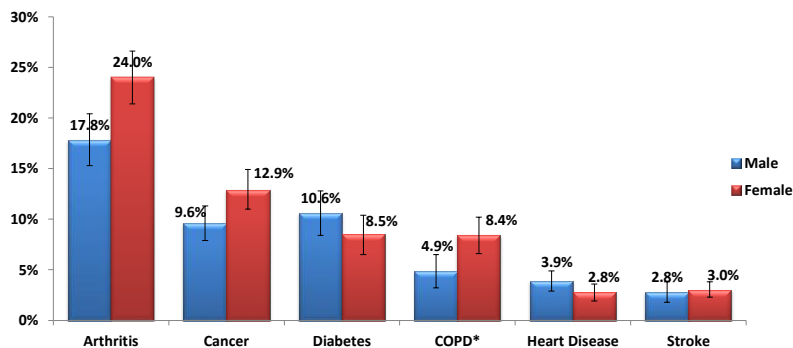
Division of Public and Behavioral Health

24



Chronic Diseases

Prevalence of Chronic Diseases Among Adults by Sex,
Nevada, 2013 BRFSS Data



Note: *COPD is chronic obstructive pulmonary disease.

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, 2013.



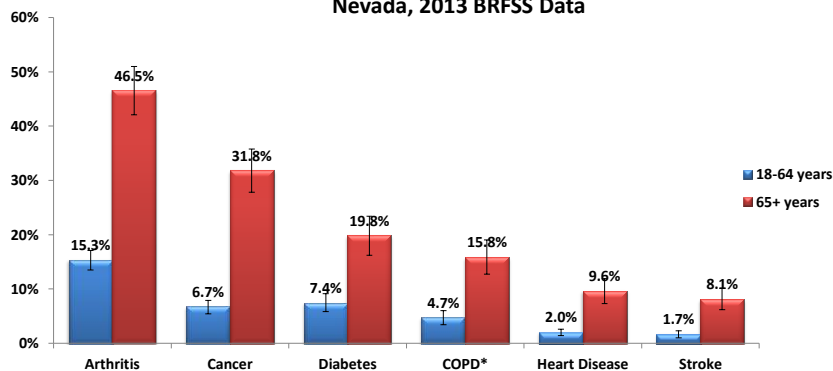
Division of Public and Behavioral Health

25



Chronic Diseases

Prevalence of Chronic Diseases Among Adults by Age Groups,
Nevada, 2013 BRFSS Data



Note: *COPD is chronic obstructive pulmonary disease.

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, 2013.



Division of Public and Behavioral Health

26

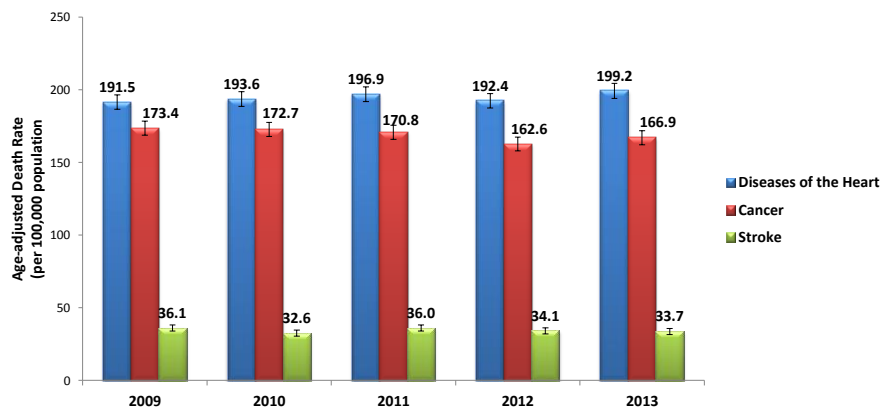


Mortality in Nevada (Data from Nevada Vital Statistics)



Mortality

Chronic Disease Mortality by Year, Nevada Residents, 2009-2013

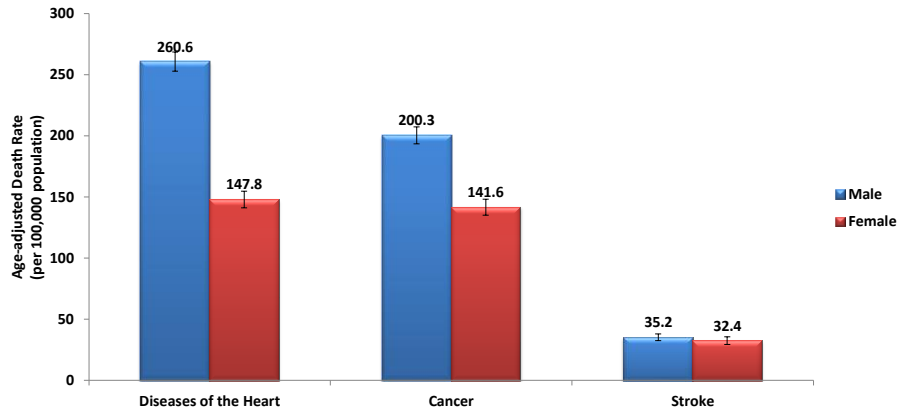


Source: Nevada Division of Public and Behavioral Health, Office of Public Health Informatics and Epidemiology, 2014.
Note: 2013 Mortality data is preliminary and is subject to change.



Mortality

Chronic Disease Mortality by Sex, Nevada Residents, 2013



Source: Nevada Division of Public and Behavioral Health, Office of Public Health Informatics and Epidemiology, 2014.
Note: 2013 Mortality data is preliminary and is subject to change.



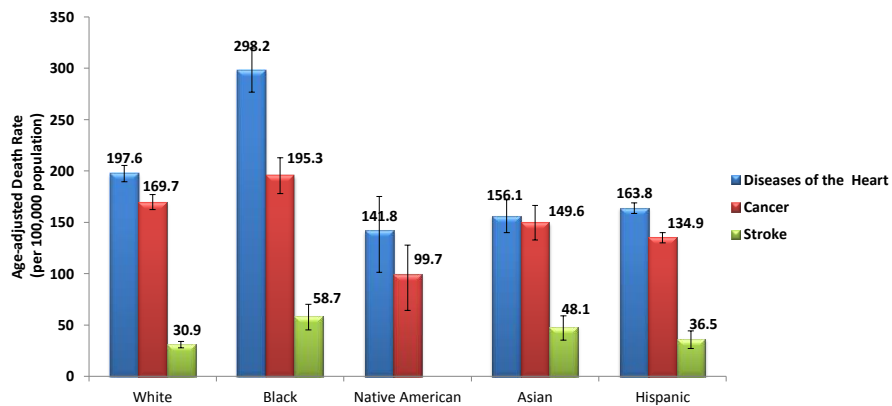
Division of Public and Behavioral Health

29



Mortality

Chronic Disease Mortality by Race/Ethnicity, Nevada Residents, 2013



Source: Nevada Division of Public and Behavioral Health, Office of Public Health Informatics and Epidemiology, 2014.
Note: 2013 Mortality data is preliminary and is subject to change.



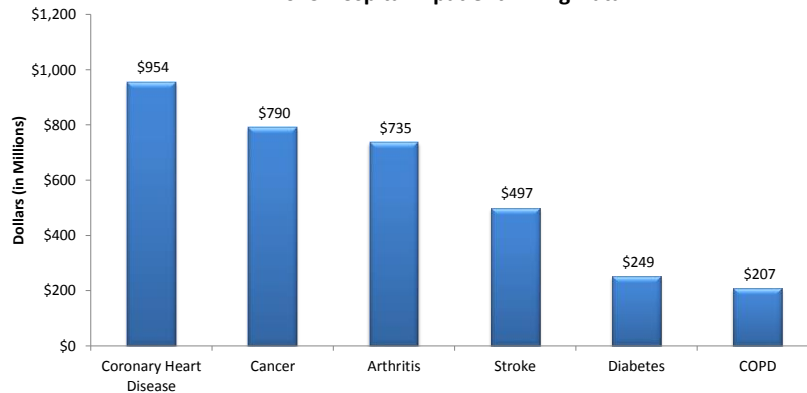
Division of Public and Behavioral Health

30



Cost of Chronic Diseases

**Chronic Diseases Total Billed Charges, Nevada Residents,
2013 Hospital Inpatient Billing Data**



Source: Nevada Division of Public and Behavioral Health, Office of Public Health and Informatics and Epidemiology. 2013 Hospital Inpatient Billing Data.
Note: Cost is for the chronic diseases listed as the primary diagnosis.

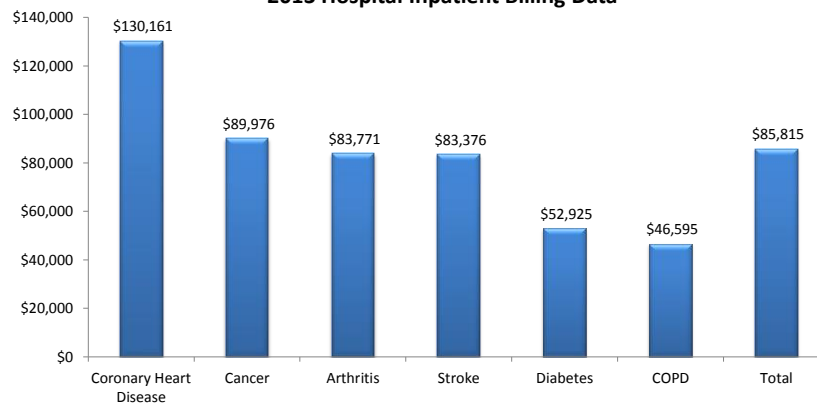
Division of Public and Behavioral Health

31



Cost of Chronic Diseases

**Chronic Diseases Mean Charges, Nevada Residents,
2013 Hospital Inpatient Billing Data**



Source: Nevada Division of Public and Behavioral Health, Office of Public Health and Informatics and Epidemiology. 2013 Hospital Inpatient Billing Data.
Note: Cost is for the chronic diseases listed as the primary diagnosis.



Division of Public and Behavioral Health

32



Cost of Chronic Disease

Total Economic Burden in Nevada			
	Direct Costs	Indirect Costs	Total Estimated Economic Burden
2003	\$1,900,000,000	\$7,500,000,000	\$9,400,000,000
2011*	\$4,062,820,904	\$16,251,283,616	\$20,314,104,520
2023	\$9,100,000,000	\$36,400,000,000	\$45,500,000,000

Source: Milken Institute, The Economic Burden of Chronic Disease on Nevada, 2007.

Analysis used the Medical Expenditure Panel Survey (MEPS) data from 2003, the most recent year available at time of analysis.

*Numbers calculated from Economic Burden of NV section

Division of Public and Behavioral Health

33



Prevention of Chronic Diseases in Nevada





Prevention of Chronic Disease

Requires a multi-pronged approach

- Lifestyle
 - Changing unhealthy behaviors (tobacco use, physical inactivity, unhealthy diet, and excessive use of alcohol)
- Biomedical
 - Screening
 - Medication
 - Surgery
- Social determinants
 - Policy change to create supportive environments



Division of Public and Behavioral Health

35 of [total slides]



Obesity Prevention Program

- Program Funding:
 - \$119,000
- Key Stakeholders
 - Children's Cabinet
 - Children's Advocacy Alliance
 - Southern Nevada Health District
 - DP Video



Division of Public and Behavioral Health

36



Obesity Prevention Program

- Objectives

- Increase physical activity
- Increase number of ECEs that develop and/or adopt policies to implement food service guidelines/nutrition standards by conducting training on evidence obesity prevention standards
- Increase worksites that develop and/or implement food service guidelines/nutrition standards
- Increase community settings that develop and/or adopt policies to implement food service guidelines/nutrition standards
- Decrease food insecurity by increasing the availability of healthy foods



Division of Public and Behavioral Health

37



Obesity Prevention Program

- Recommendations

- Restore the data collection of BMI in schools, SB178
 - This bill sunset during the 78th Nevada Legislative Session, impeding our ability to track youth Body Mass Index data for grades 4th, 7th, and 10th. This was one of the only data sets available to track youth wellness in the state.
- Include nutrition standards in AB 152
 - Nevada currently only meets 3 out of 47 national obesity prevention standards in early care and education settings. Although AB152 passed in the 78th Nevada Legislative Session, the nutrition components were not included in the bill.



Division of Public and Behavioral Health

38



School Health Prevention Program

- Program Funding:
 - \$143,000
- Key Stakeholders
 - Nevada Department of Agriculture
 - Department of Education
 - DP Video
 - Social Entrepreneurs



Division of Public and Behavioral Health

39



School Health Program

- Objectives
 - Increase the number of local education agencies where staff received professional development and TA strategies to establish a multi-component physical education program
 - Increase the number of local education agencies where staff received professional development and TA strategies to create a healthy school nutrition environment
 - Promote and assist in the implementation of the Scholl Wellness Policy



Division of Public and Behavioral Health

40



School Health Program

- Recommendations
 - Establish a minimum requirement of physical education in schools
 - The National Association of Sport and Physical Education (NASPE) recommends at least 150 minutes per week of school-based PE for elementary students and 225 minutes per week for middle and high school students
 - Establish certification/licensing requirements for individuals who teach elementary physical education



Division of Public and Behavioral Health

41



Tobacco Prevention & Control Program

- Objectives
 - Increase the use of Nevada Tobacco Quitline through direct health-care, social service and behavioral health referrals.
 - Increase education through community based programs and youth advocacy programs
 - Increase smoke-free multi-unit housing
 - Increase smoke-free communities, schools, and campuses
 - Increase marketing of *Tips from a Former Smoker Campaign*

Division of Public and Behavioral Health

42



Tobacco Prevention & Control Program

- Recommendations
 - Tobacco 21: Raise legal age to 21 to purchase tobacco
 - Proven effective to limiting youth access to tobacco
 - Two states and 143 municipalities in ten states have moved the legal age to purchase to 21.
 - Expected to reduce smoking rate by 12% and smoking-related deaths by 10%
 - Taxation of E-cigarettes, vaping products and paraphernalia
 - Traditional tobacco use among youth has decreased but use of e-cigarettes and associated products has greatly increased
 - Increased prices reduce youth initiation and increase cessation

Division of Public and Behavioral Health

43



Thank you!



Monica Morales, MPA
Deputy Bureau Chief
Bureau of Child, Family and Community Wellness
mmorales@health.nv.gov
775-684-3205

This presentation was produced by the Chronic Disease Section of the Nevada Division of Public and Behavioral Health.



Division of Public and Behavioral Health

44