

Brian Sandoval
Governor

Richard Whitley, MS
Director



Cody L Phinney, MPH
Administrator

John DiMuro, DO
Chief Medical Officer

Maternal Deaths in Nevada, 2003-2014

Presented by:
Sandra Ochoa, MPH

MCHAB Meeting
12 August 2016

Department of Health and Human Services
Division of Public and Behavioral Health
Office of Public Health Informatics and
Epidemiology



Outline

- Definitions
- CDC's Pregnancy Mortality Surveillance System (PMSS)
- Maternal Deaths
- Select Maternal Morbidities and Risk Factors During Pregnancy
- Questions and Feedback



Definitions

Pregnancy-Associated Deaths

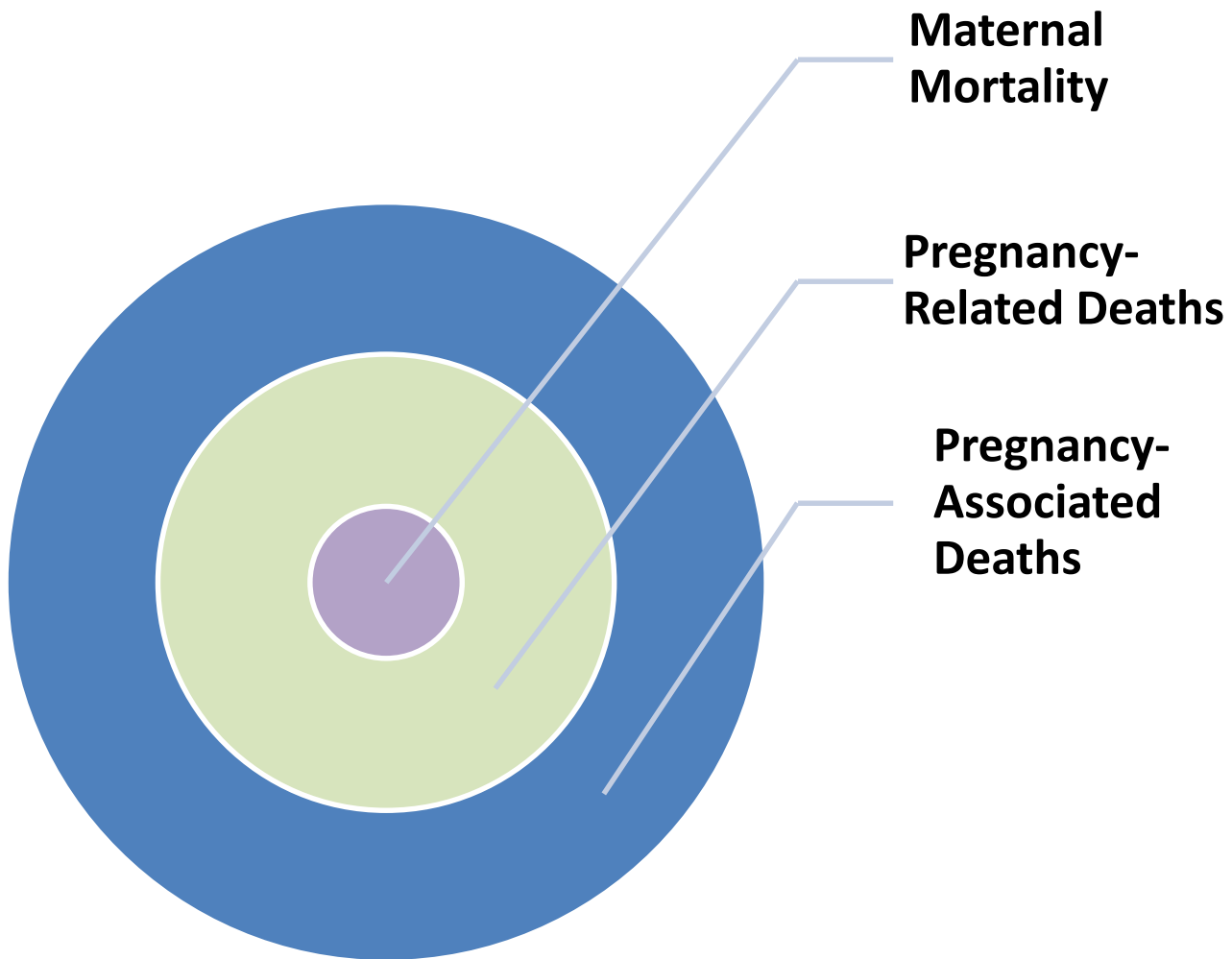
- Death during pregnancy or within one year of the end of pregnancy, irrespective of cause.

Pregnancy-Related Deaths

- Death during or within one year of pregnancy, related to the pregnancy.

Maternal Mortality

- Pregnancy-related deaths during pregnancy or up to 42 days after the end of a pregnancy.





U.S. and Nevada Vital Records Timeline

2003

- National Center for Health Statistics revised the 1989 death and live birth certificate records.

2006

Nevada implements the 2003 revised death certificate

Mid-2009

Nevada implements the 2003 revised live birth certificate



CDC's Pregnancy Mortality Surveillance System (PMSS)

- National surveillance system focused on gathering data annually related to pregnancy deaths.
- States voluntarily submit copies of death certificates for all women who died during pregnancy or within 1 year of pregnancy.
 - Send de-identified certificates of death and matching birth or fetal death certificates.





PMSS Methodology (continued)

- **Death Certificate Data**
 - Nevada residents
 - Females, aged 12 to 55
 - Added pregnancy status box information
- **Birth and Fetal Death Certificate Data of Infants**
 - Two years of birth data
 - Previous year and the current year of interest
 - One year of fetal death data
 - Current year of interest



PMSS Methodology (continued)

- **Vital records variables kept for linking**
 - Names
 - Social security number
 - Dates: Date of birth and date of death
 - Age of mother
 - Birth state of mother



PMSS Methodology (continued)

- **Vital records variables kept for analysis**
 - Certificate year and number
 - Race/Ethnicity
 - Residence information
 - Date of baby's birth or fetal death date



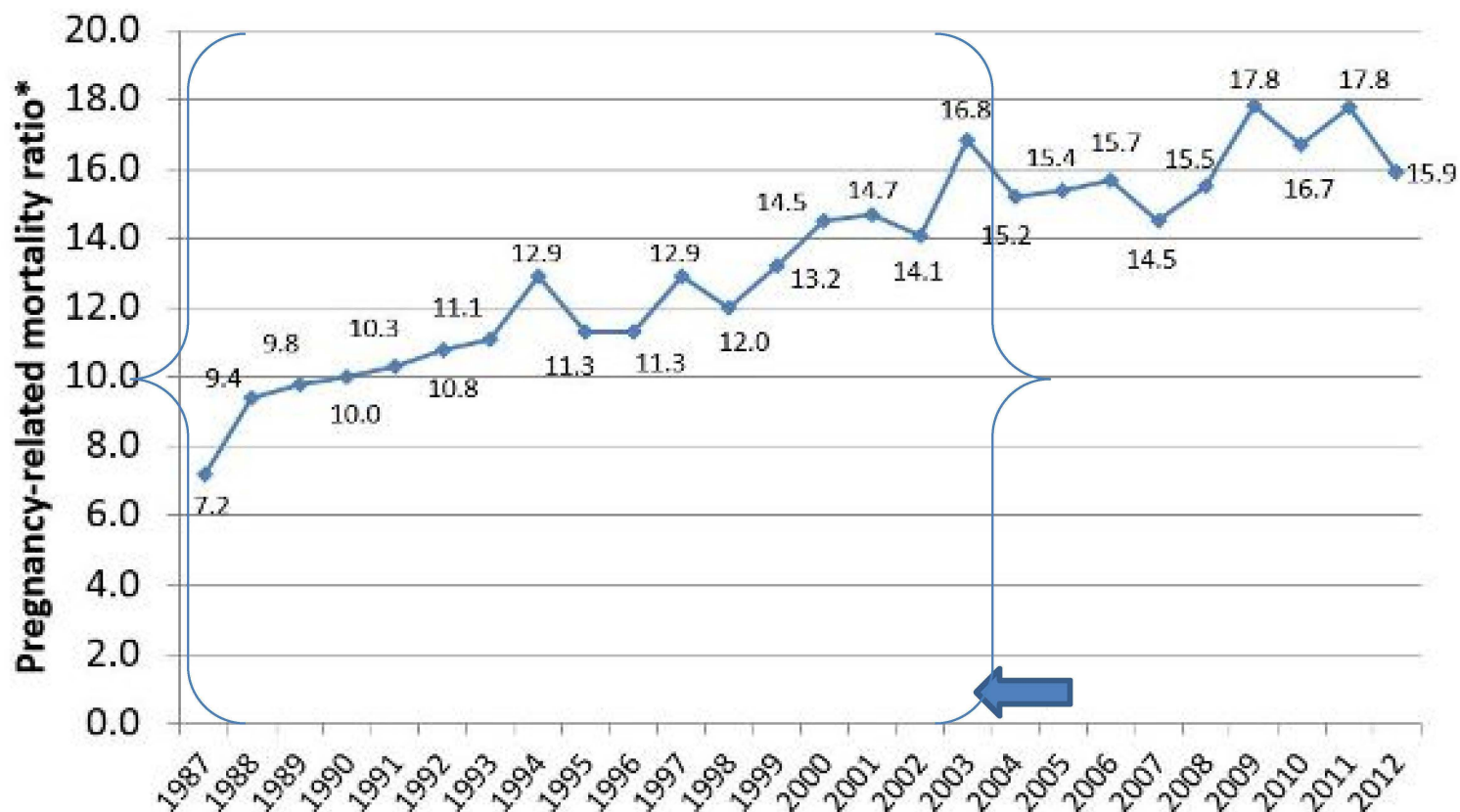
PMSS Methodology (Continued)

- **Link Plus**

- Probabilistic record linkage software from CDC
- Vital record files loaded to the program to create matches based on similarity and an algorithm score
- Matches taken and analysis of data completed



Trends in pregnancy-related mortality in the United States: 1987–2012

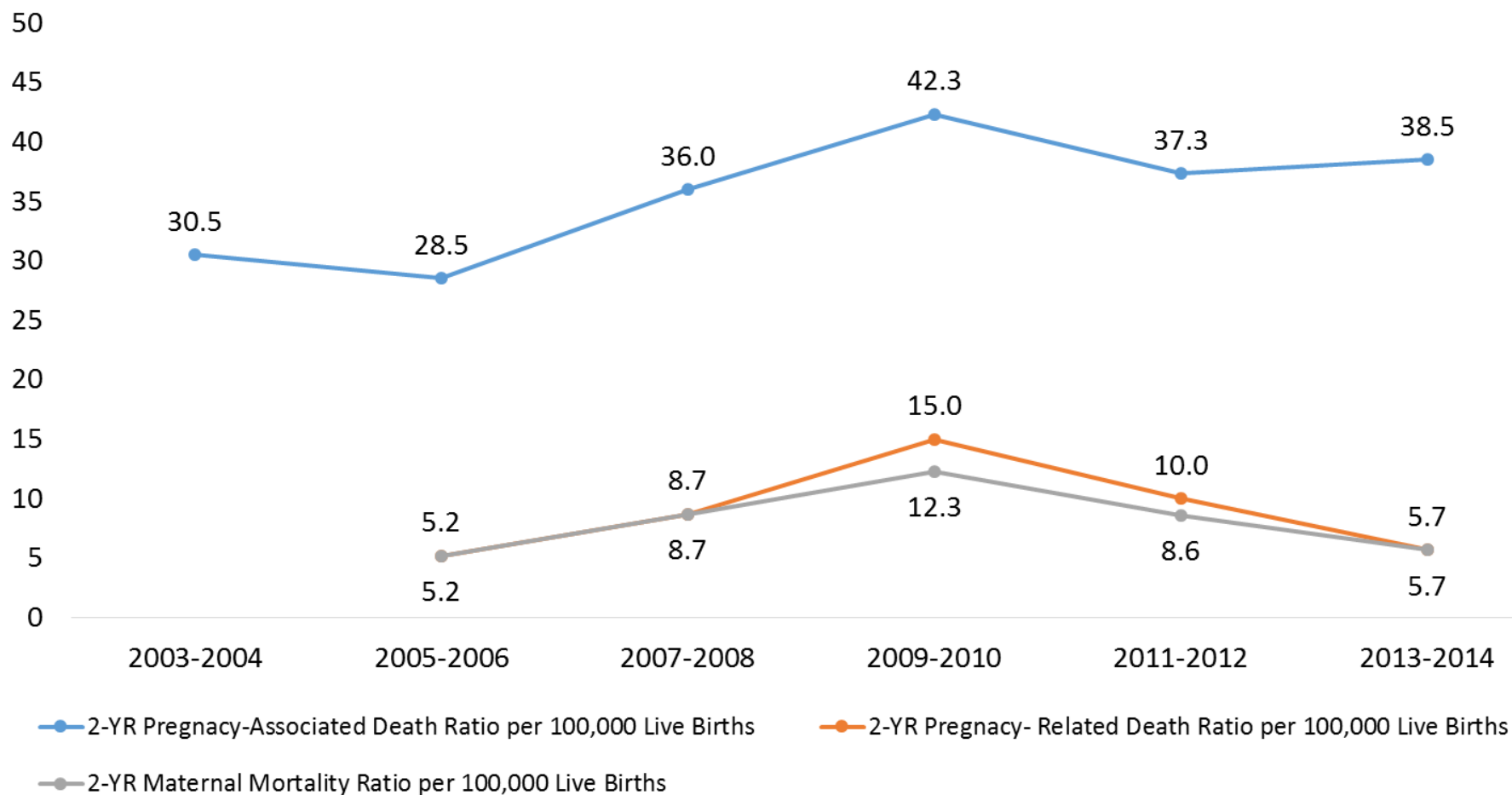


*Note: Number of pregnancy-related deaths per 100,000 live births per year.

Source: Pregnancy Mortality Surveillance System. <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pmss.html>



Trends in Pregnancy Deaths, Ratio per 100,000 Live Births, Nevada 2003-2014

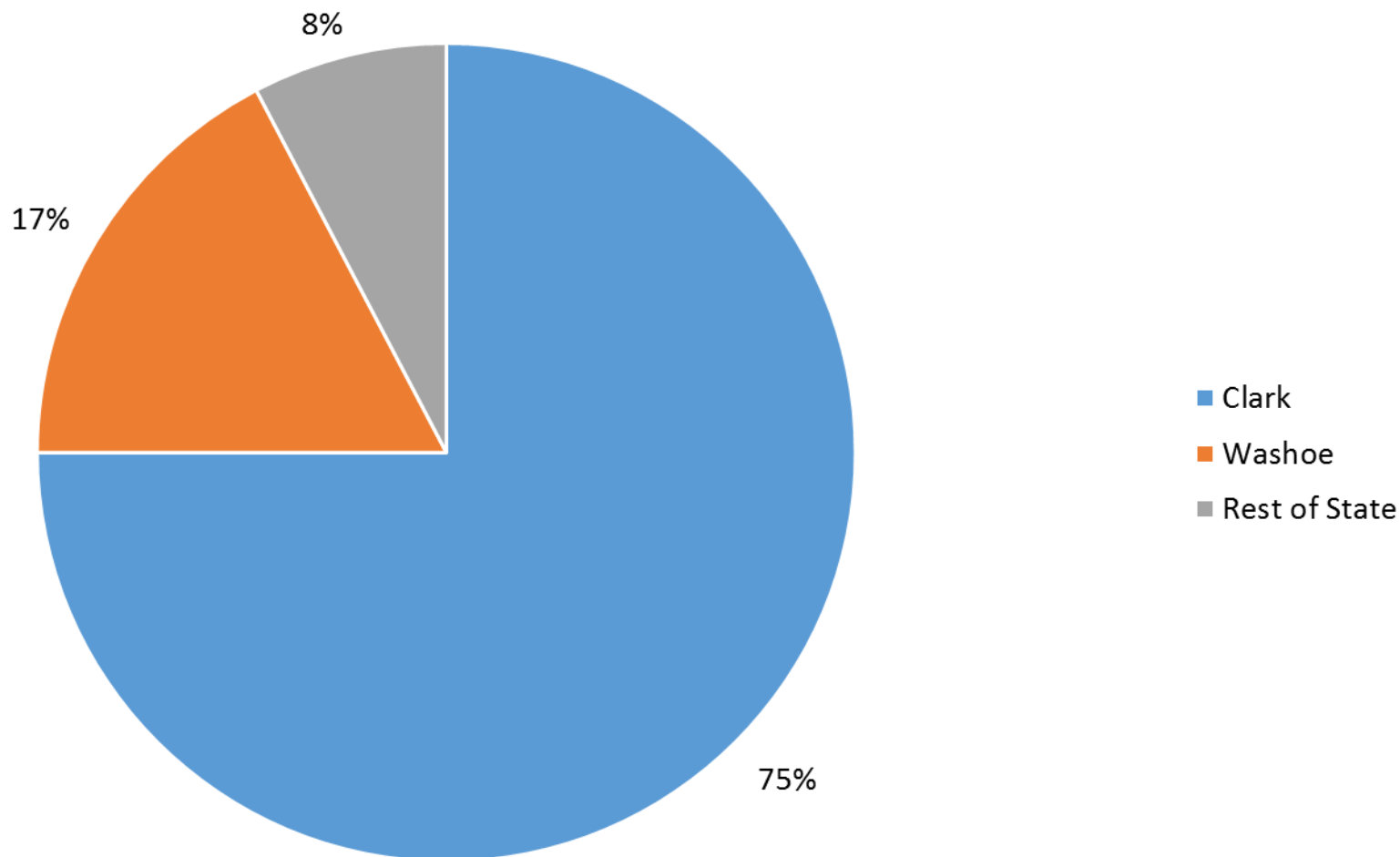




	Total Resident Births	Pregnancy-Associated Deaths	Pregnancy-Associated Death Ratio per 100,000 Live Births
2003	33,605	13	38.7
2004	35,147	8	22.8
2005	37,259	13	34.9
2006	40,006	9	22.5
2007	41,175	7	17.0
2008	39,474	22	55.7
2009	37,523	17	45.3
2010	35,682	14	39.2
2011	35,230	13	36.9
2012	34,558	13	37.6
2013	34,504	11	31.9
2014	35,658	16	44.9
2003-2014	439,821	156	35.5



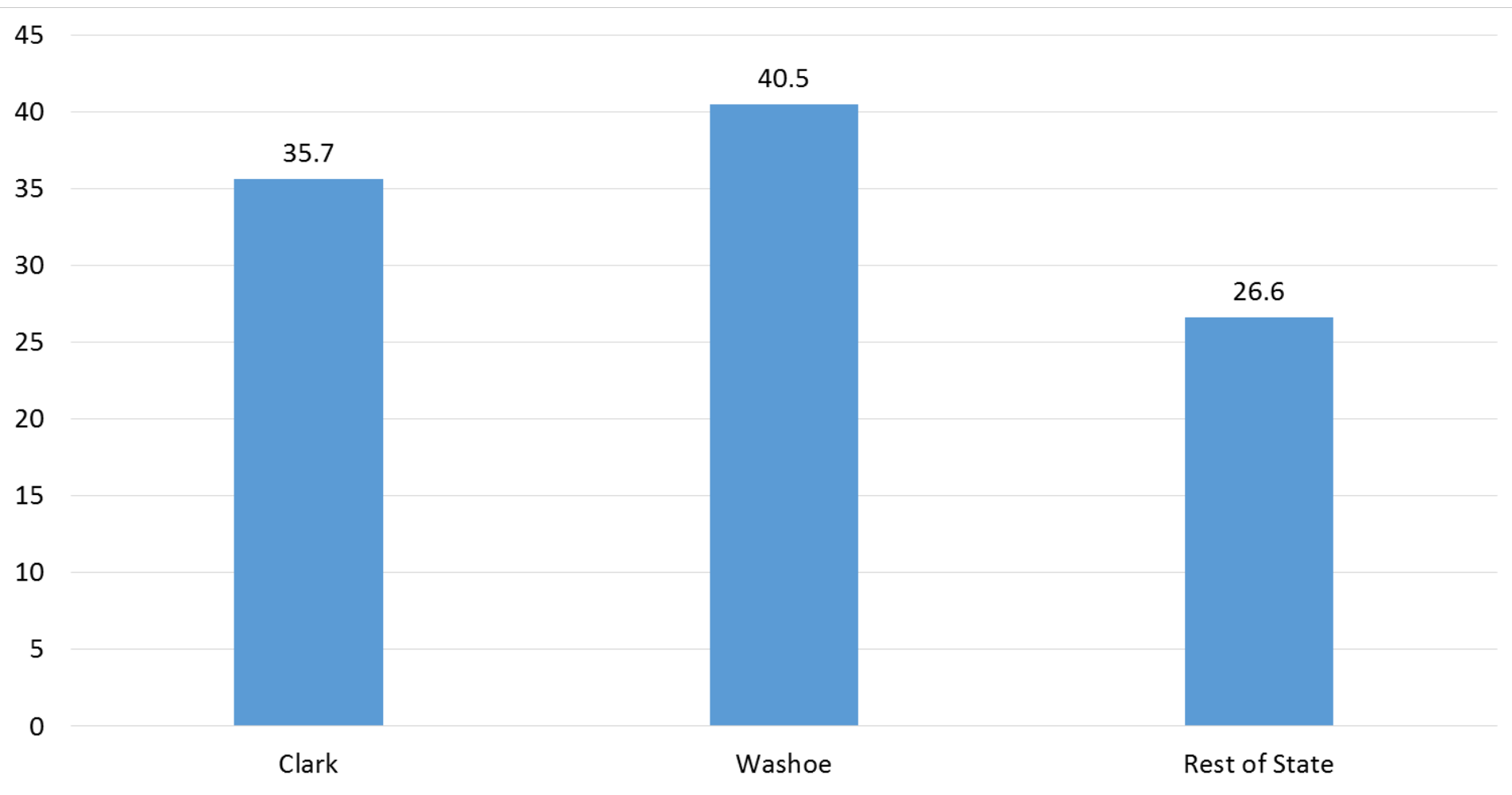
Percent of Pregnancy-Associated Deaths by County of Residence, Nevada 2003-2014



N= 156

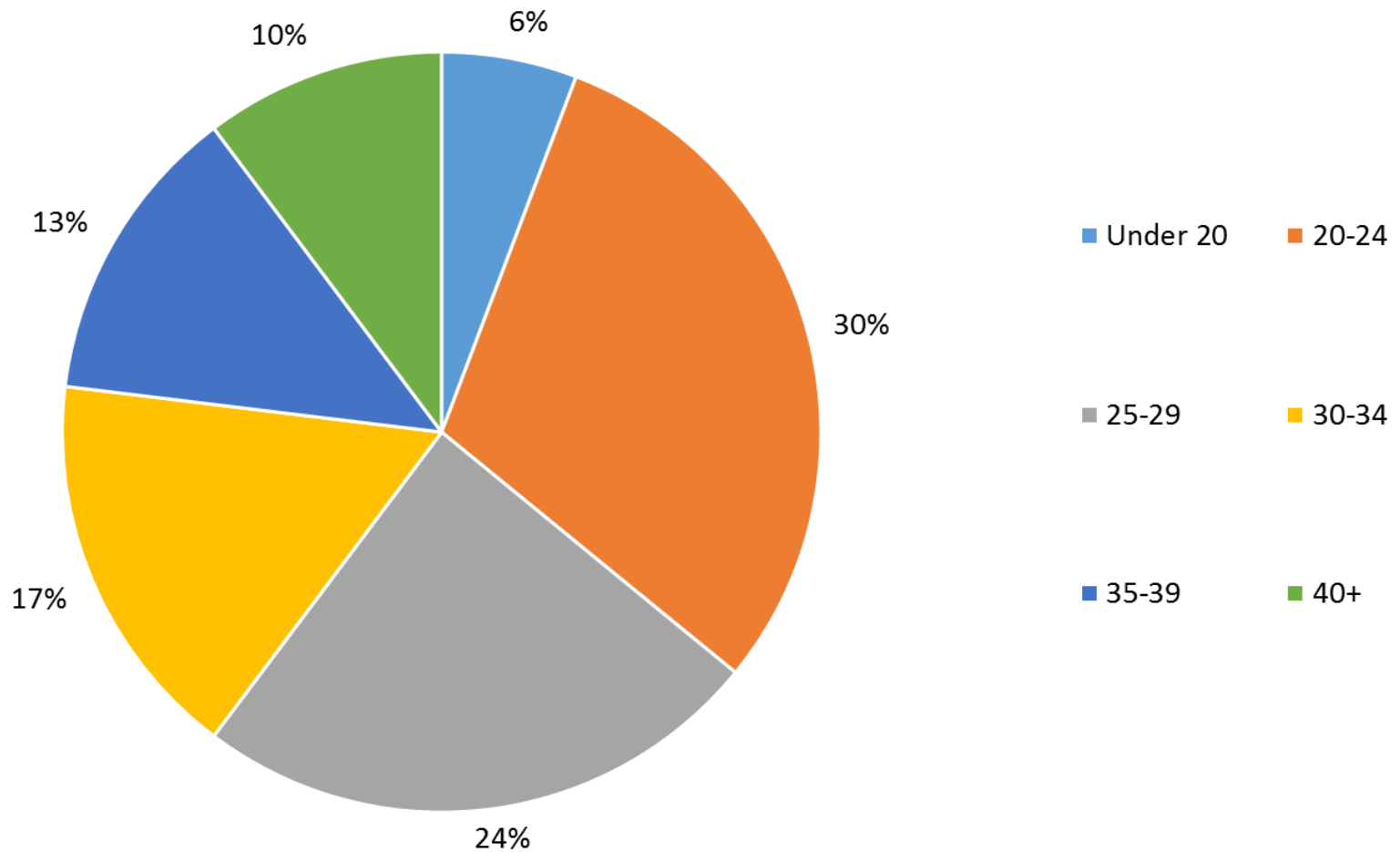


Pregnancy-Associated Deaths Ratio per 100,000 Live Births by County of Residence, Nevada 2003-2014



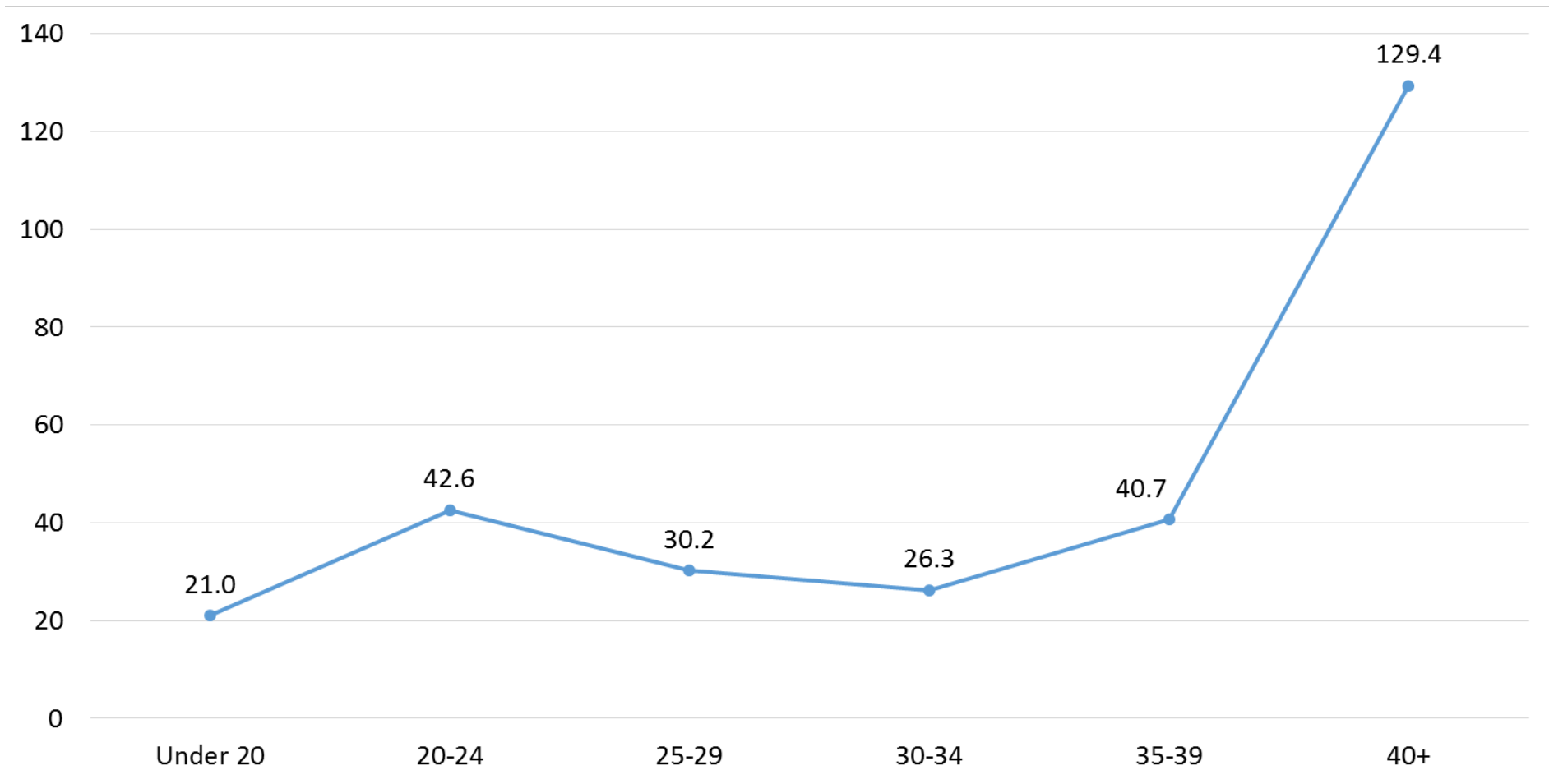


Percent of Pregnancy-Associated Deaths by Age Category, Nevada 2003-2014



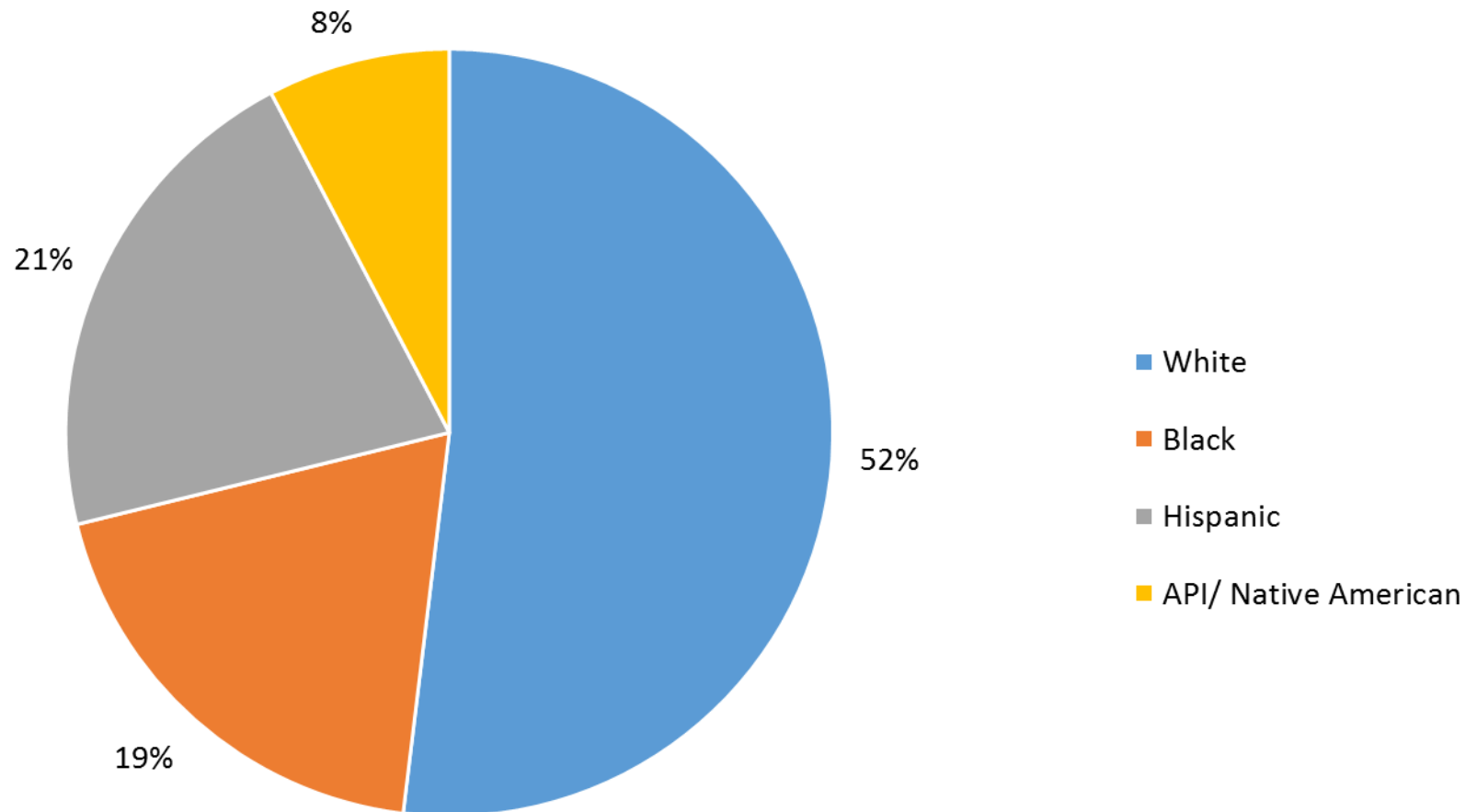


Pregnancy-Associated Deaths Ratio per 100,000 by Age Category, Nevada 2003-2014





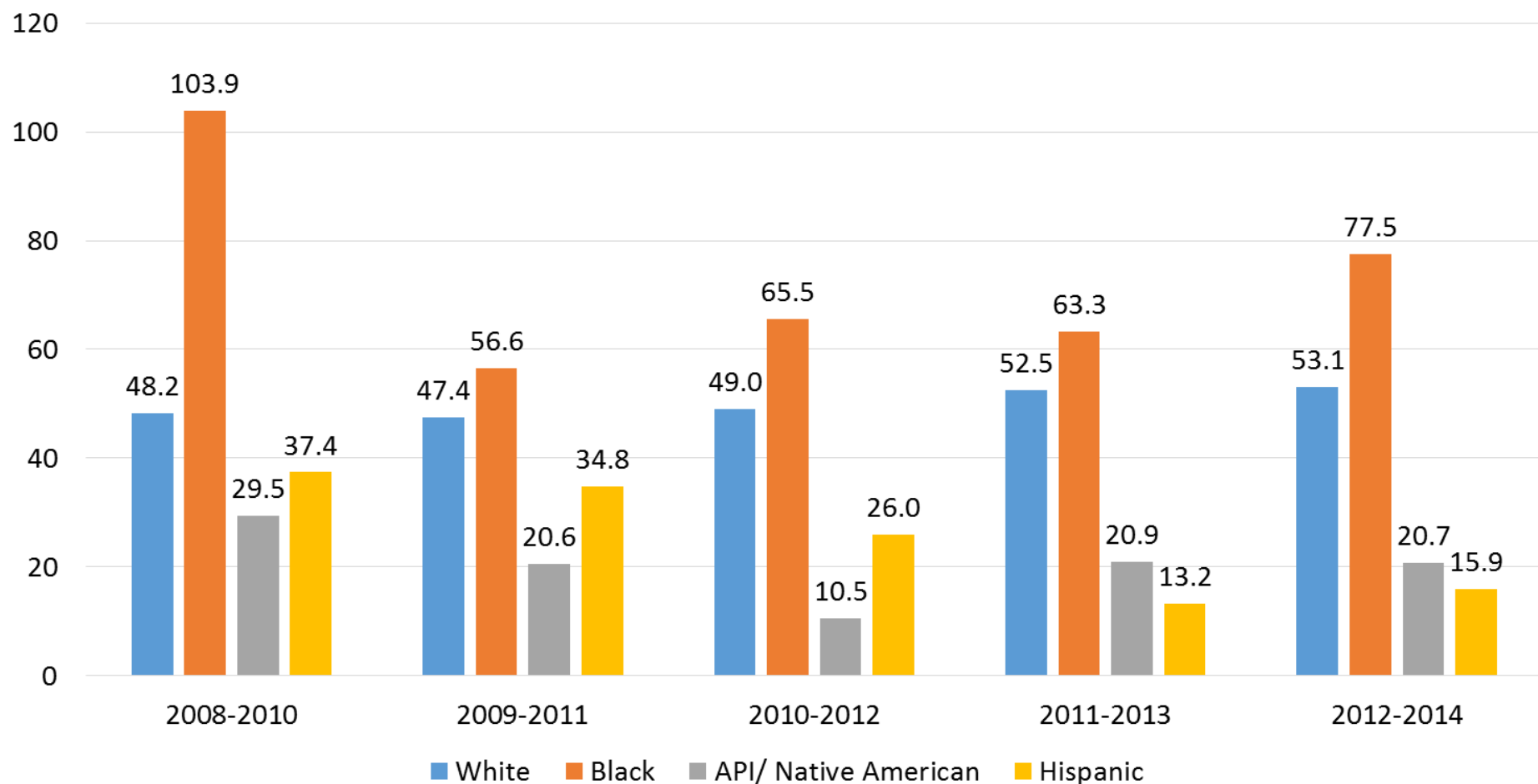
Percent of Pregnancy-Associated Deaths by Race/Ethnicity, Nevada 2003-2014



N= 156

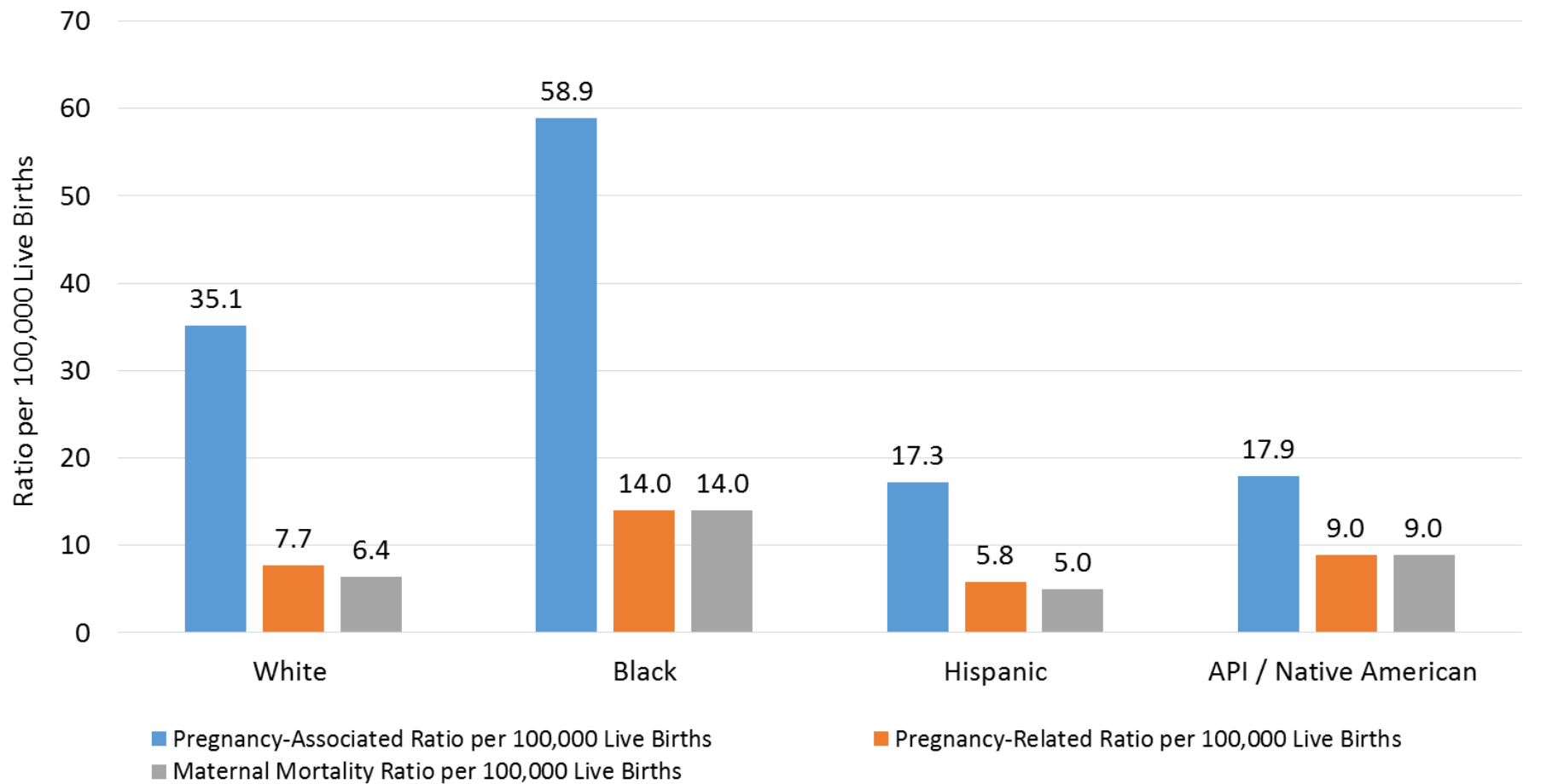


Pregnancy-Associated Deaths Ratio per 100,000 Live Births by Race/Ethnicity per 3-Year Moving Average, Nevada 2008-2014



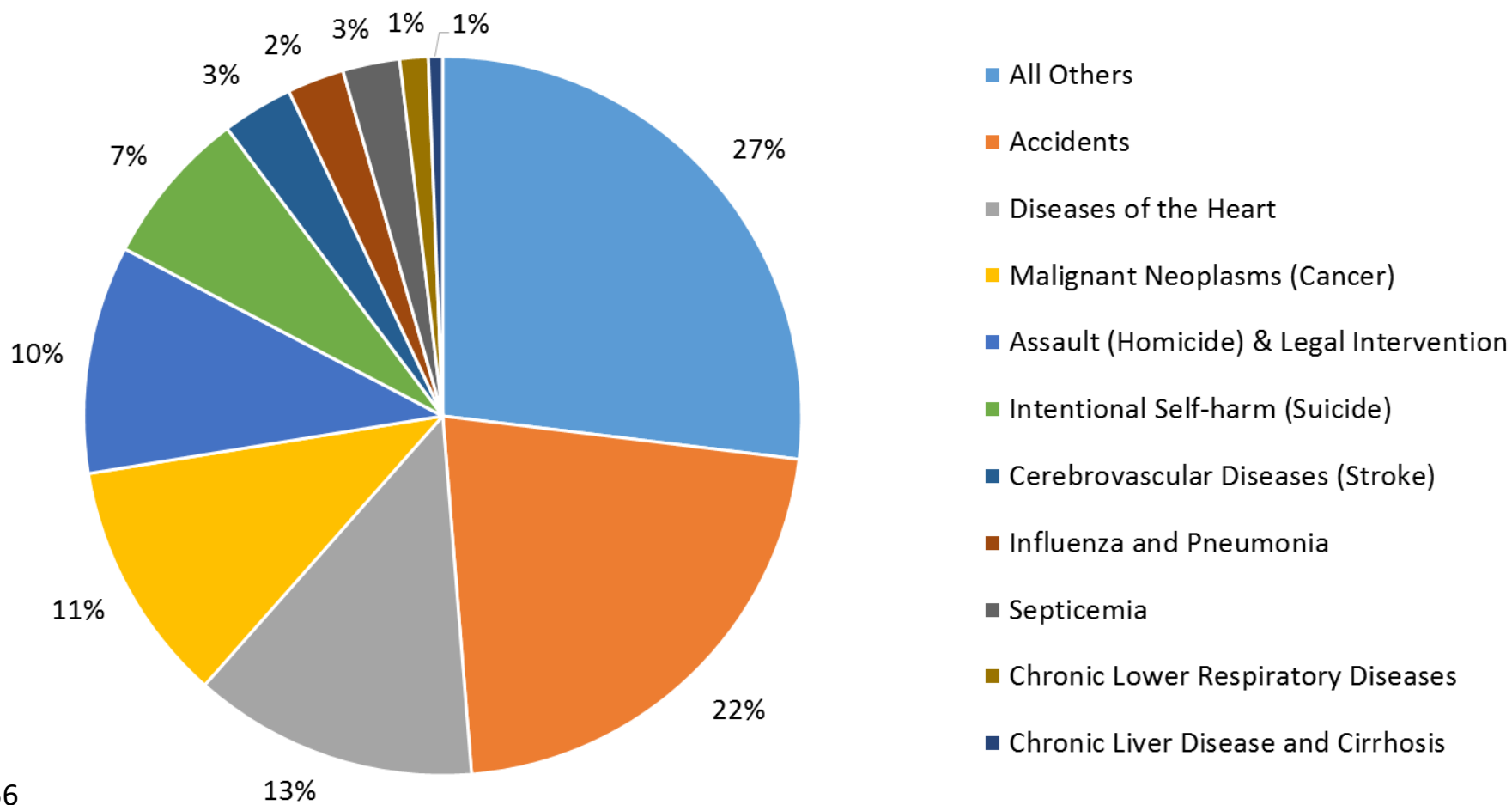


Pregnancy Deaths Ratio per 100,000 Live Births by Race/Ethnicity, Nevada 2008-2014



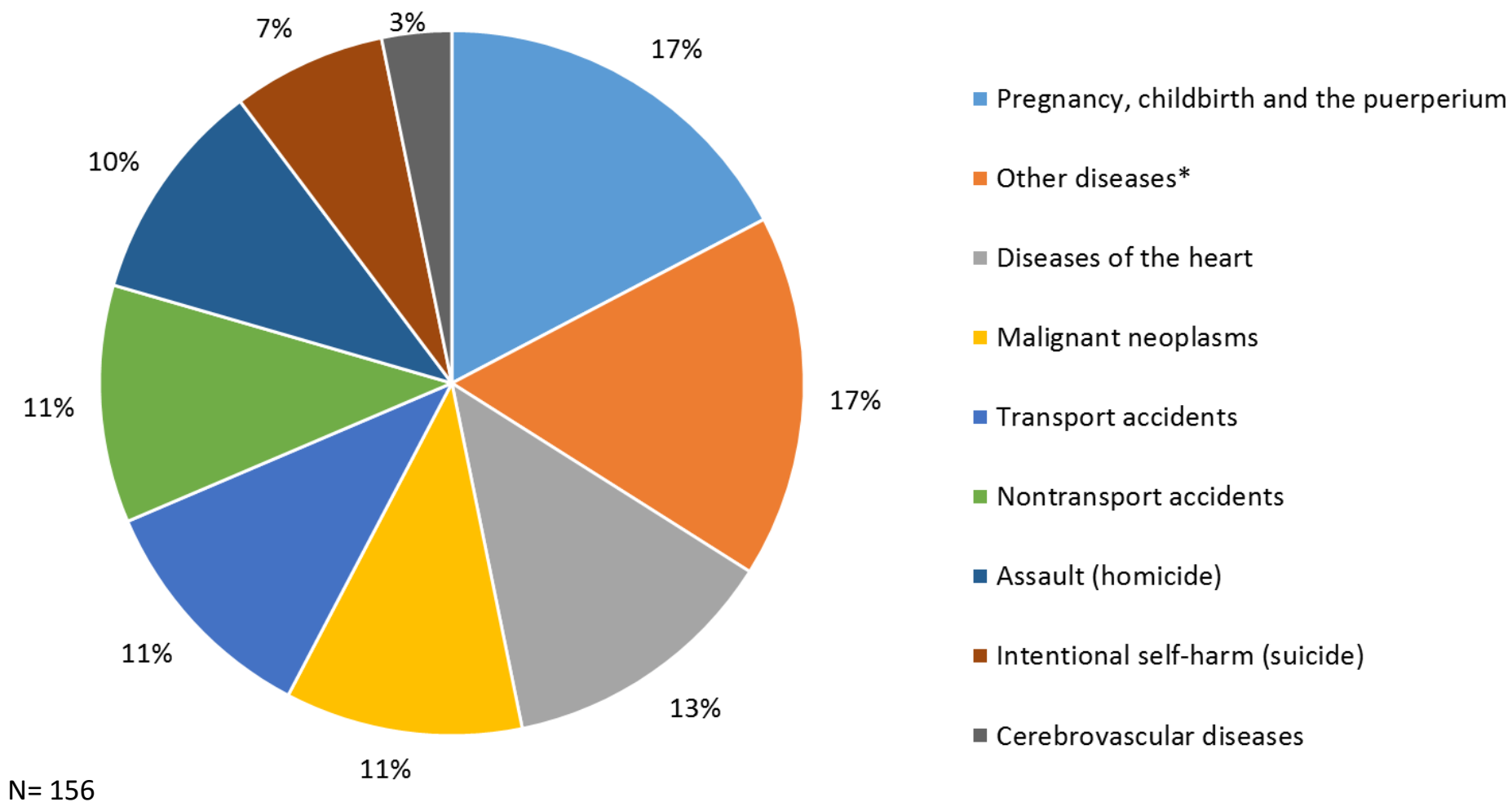


Percent of Pregnancy-Associated Deaths by Causes of Death Grouped by Top 15 Causes of Death, Nevada 2003-2014



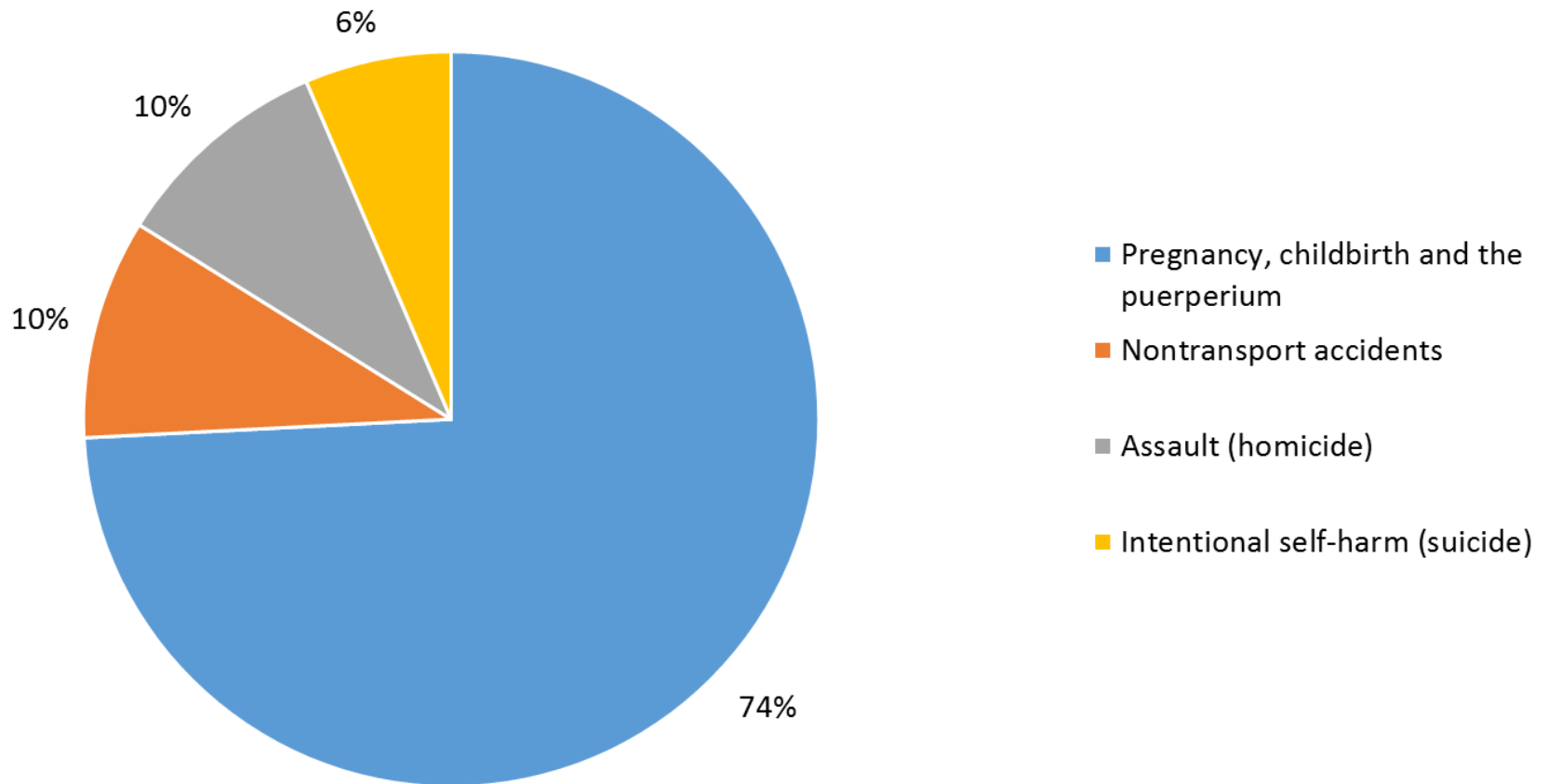


Percent of Pregnancy-Associated Deaths Grouped by Top Causes of Deaths, Nevada 2003-2014





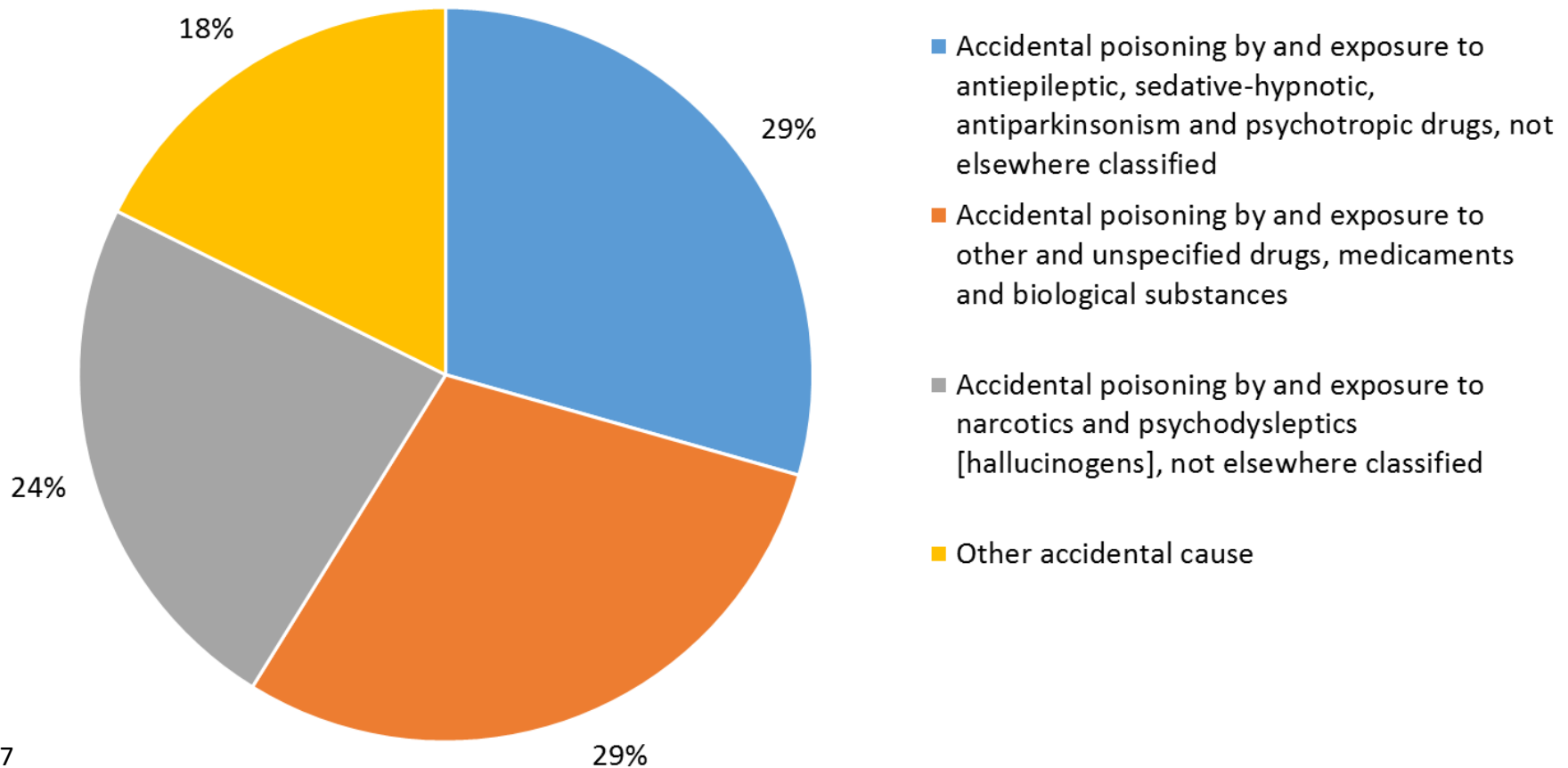
Percent of Maternal Mortality Causes of Death, Nevada 2003-2014



N= 31

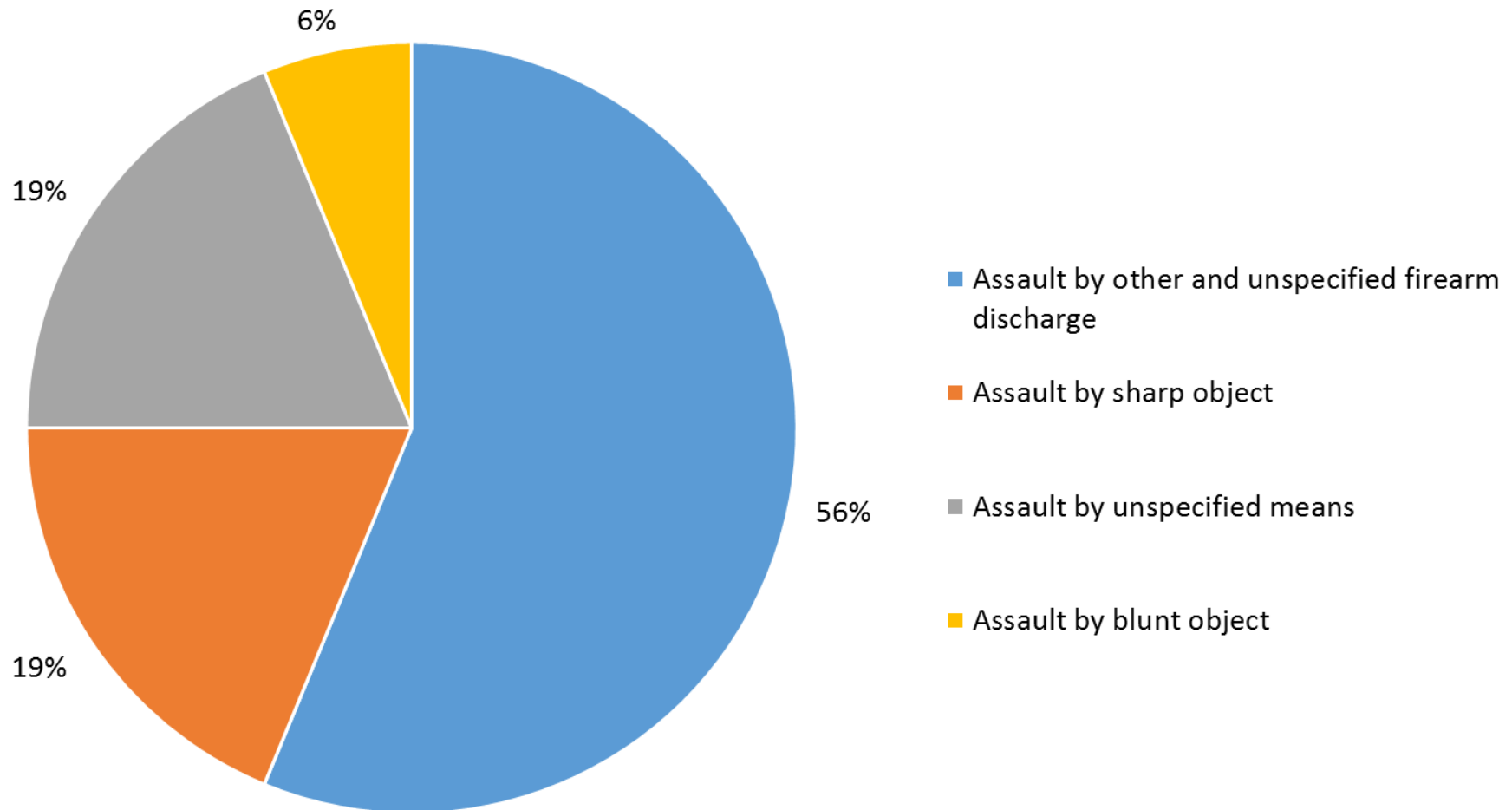


Percent of Pregnancy-Associated Deaths by Type of Non-transport Accident, Nevada 2003-2014





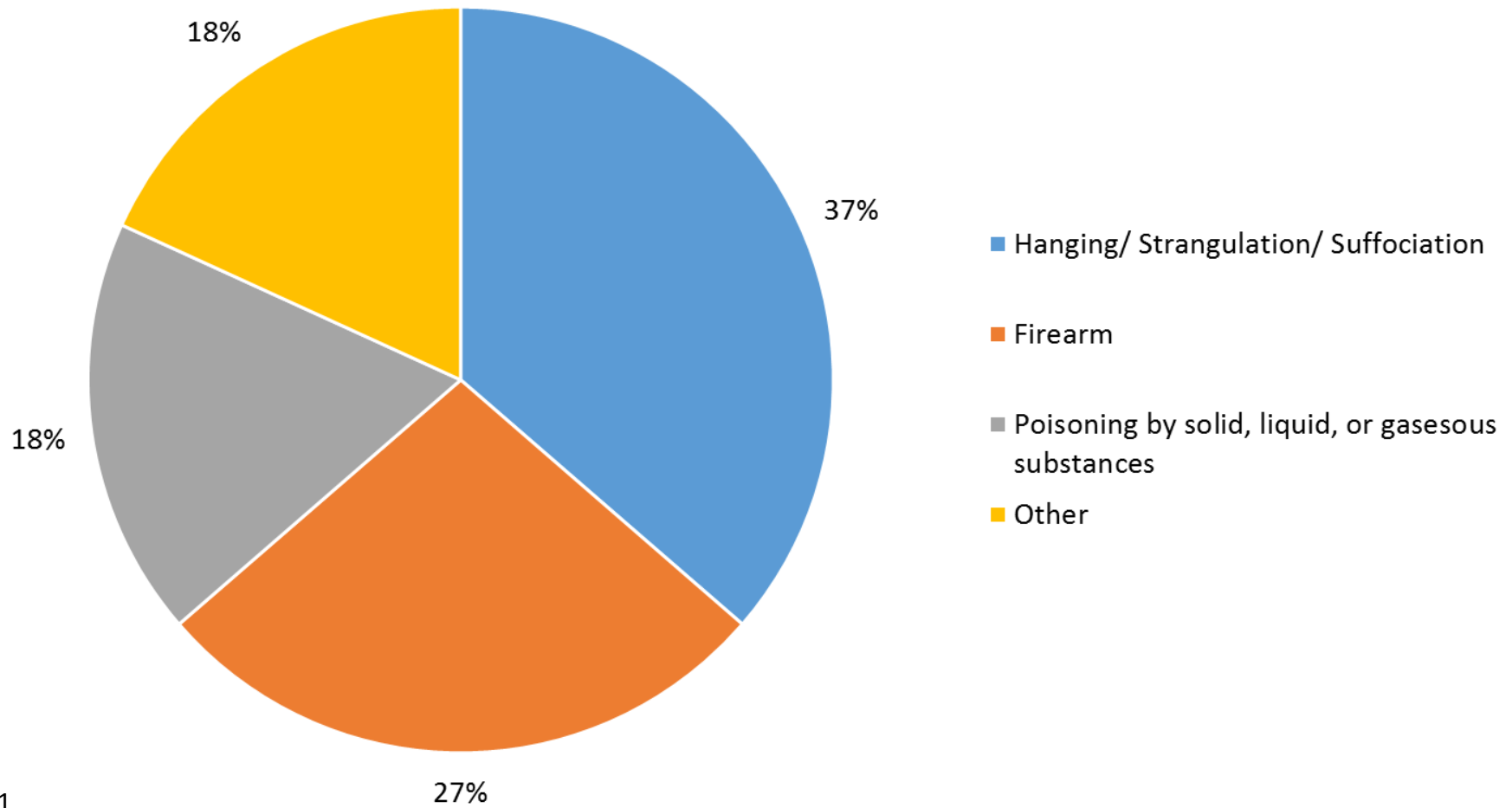
Percent of Pregnancy-Associated Deaths by Type of Assault, Nevada 2003-2014



N= 16



Percent of Pregnancy-Associated Deaths by Type of Intentional Self-Harm, Nevada 2003-2014





Selected Maternal Morbidities and Risk Factors During Pregnancy by Maternal Race/Ethnicity per 1,000 Live Births, Nevada 2003-2014

	Diabetes*	Gestational Hypertension	Eclampsia
White	51.9	39.2	4.3
Black	49.5	39.3	7.0
Native American	72.9	42.7	4.8
Asian	107.7	35.6	5.5
Hispanic	65.4	25.2	6.2

* Includes both pre-pregnancy diabetes and gestational diabetes.



Selected Maternal Morbidities and Risk Factors During Pregnancy by Maternal Age per 1,000 Live Births, Nevada 2003-2014

	Diabetes*	Gestational Hypertension	Eclampsia
Under 20	17.5	26.0	6.0
20-24	31.0	26.5	4.1
25-29	53.8	34.4	4.6
30-34	77.5	37.1	5.7
35-39	115.6	39.6	7.2
40+	138.0	52.6	10.5

* Includes both pre-pregnancy diabetes and gestational diabetes.





Thank you!

- Sandra Ochoa, MPH
- Division of Public and Behavioral Health
- Office of Public Health Informatics and Epidemiology
- sochoa@health.nv.gov
- 775-684-5982