Maternal Deaths in Nevada, 2003-2014

Presented by:
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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**

<table>
<thead>
<tr>
<th>Pregnancy-Associated Deaths</th>
<th>Pregnancy-Related Deaths</th>
<th>Maternal Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Death during pregnancy or within one year of the end of pregnancy, irrespective of cause.</td>
<td>• Death during or within one year of pregnancy, related to the pregnancy.</td>
<td>• Pregnancy-related deaths during pregnancy or up to 42 days after the end of a pregnancy.</td>
</tr>
</tbody>
</table>
Maternal Mortality

Pregnancy-Related Deaths

Pregnancy-Associated Deaths
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
• **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
• 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

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

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

- Clark: 75%
- Washoe: 17%
- Rest of State: 8%

N = 156

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

- Clark: 35.7
- Washoe: 40.5
- Rest of State: 26.6
Percent of Pregnancy-Associated Deaths by Age Category, Nevada 2003-2014

- 20-24: 30%
- 30-34: 17%
- 35-39: 13%
- 40+:
- 25-29:
- Under 20: 10%
- 6%

N = 156

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

White: 52%
Black: 19%
Hispanic: 21%
API/Native American: 8%

N= 156
Pregnancy-Associated Deaths Ratio per 100,000 Live Births by Race/Ethnicity per 3-Year Moving Average, Nevada 2008-2014

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

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Pregnancy-Associated Ratio per 100,000 Live Births</th>
<th>Pregnancy-Related Ratio per 100,000 Live Births</th>
<th>Maternal Mortality Ratio per 100,000 Live Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>35.1</td>
<td>7.7</td>
<td>6.4</td>
</tr>
<tr>
<td>Black</td>
<td>58.9</td>
<td>14.0</td>
<td>14.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17.3</td>
<td>5.8</td>
<td>5.0</td>
</tr>
<tr>
<td>API / Native American</td>
<td>17.9</td>
<td>9.0</td>
<td>9.0</td>
</tr>
</tbody>
</table>

- All Others: 27%
- Accidents: 10%
- Diseases of the Heart: 11%
- Malignant Neoplasms (Cancer): 13%
- Intentional Self-harm (Suicide): 10%
- Assault (Homicide) & Legal Intervention: 7%
- Cerebrovascular Diseases (Stroke): 3%
- Influenza and Pneumonia: 2%
- Septicemia: 1%
- Chronic Lower Respiratory Diseases: 3%
- Chronic Liver Disease and Cirrhosis: 1%

- Pregnancy, childbirth and the puerperium: 17%
- Other diseases*: 7%
- Diseases of the heart: 3%
- Malignant neoplasms: 11%
- Transport accidents: 13%
- Nontransport accidents: 11%
- Assault (homicide): 11%
- Intentional self-harm (suicide): 11%
- Cerebrovascular diseases: 10%

N = 156

- Pregnancy, childbirth and the puerperium: 74%
- Nontransport accidents: 10%
- Assault (homicide): 10%
- Intentional self-harm (suicide): 6%

N= 31

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

- Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified (29%)
- Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances (24%)
- Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified (18%)
- Other accidental cause (N=17)
Percent of Pregnancy-Associated Deaths by Type of Assault, Nevada 2003-2014

- Assault by other and unspecified firearm discharge: 56%
- Assault by sharp object: 19%
- Assault by unspecified means: 19%
- Assault by blunt object: 6%

N=16

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

- Hanging/Strangulation/Suffocation: 37%
- Firearm: 27%
- Poisoning by solid, liquid, or gaseous substances: 18%
- Other: 18%

N= 11
### Selected Maternal Morbidities and Risk Factors During Pregnancy by Maternal Race/Ethnicity per 1,000 Live Births, Nevada 2003-2014

<table>
<thead>
<tr>
<th></th>
<th>Diabetes*</th>
<th>Gestational Hypertension</th>
<th>Eclampsia</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>51.9</td>
<td>39.2</td>
<td>4.3</td>
</tr>
<tr>
<td>Black</td>
<td>49.5</td>
<td>39.3</td>
<td>7.0</td>
</tr>
<tr>
<td>Native American</td>
<td>72.9</td>
<td>42.7</td>
<td>4.8</td>
</tr>
<tr>
<td>Asian</td>
<td>107.7</td>
<td>35.6</td>
<td>5.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>65.4</td>
<td>25.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>

* 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

<table>
<thead>
<tr>
<th>Maternal Age Group</th>
<th>Diabetes*</th>
<th>Gestational Hypertension</th>
<th>Eclampsia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 20</td>
<td>17.5</td>
<td>26.0</td>
<td>6.0</td>
</tr>
<tr>
<td>20-24</td>
<td>31.0</td>
<td>26.5</td>
<td>4.1</td>
</tr>
<tr>
<td>25-29</td>
<td>53.8</td>
<td>34.4</td>
<td>4.6</td>
</tr>
<tr>
<td>30-34</td>
<td>77.5</td>
<td>37.1</td>
<td>5.7</td>
</tr>
<tr>
<td>35-39</td>
<td>115.6</td>
<td>39.6</td>
<td>7.2</td>
</tr>
<tr>
<td>40+</td>
<td>138.0</td>
<td>52.6</td>
<td>10.5</td>
</tr>
</tbody>
</table>

* Includes both pre-pregnancy diabetes and gestational diabetes.
Thank you!

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