The Impact of Detroit on the State Infant Mortality Rate and the Causes and Manners of Deaths for Wayne County Infants

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Objectives

- Illustrate the comparison of MI infant mortality rate to US mortality rate
- Illustrate the comparison of the Wayne County mortality rate to rest of MI
- Illustrate the Detroit mortality rate and its impact on Wayne County and MI Mortality rates
Sources of Data

- Wayne County Medical Examiner Office
Terminology Clarification

- “Rates” are per 1,000 live births
- “Infant” refers to children less than one year old
Governor Snyder’s Goal

- Infant Mortality is one of Governor Snyder’s “dashboard” items.

- Why it Matters: Infant mortality is a critical indicator of the overall health and welfare of Michigan and the quality and accessibility of prenatal care for women.
Status of Michigan

- For every 1,000 Michigan live births, approximately eight infants die before reaching their first birthday.
- In 2009, 881 infants under the age of one year died, resulting in an infant mortality rate of 7.5 per 1,000 live births.
### Characteristics of Mother & Impact on IMR

<table>
<thead>
<tr>
<th>Characteristics of Mother</th>
<th>Infant Deaths</th>
<th>Live Births</th>
<th>Infant Death Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age of Mother</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 20</td>
<td>116</td>
<td>11,841</td>
<td>9.8 ±1.8</td>
</tr>
<tr>
<td>20 - 29</td>
<td>484</td>
<td>62,957</td>
<td>7.7 ±0.7</td>
</tr>
<tr>
<td>30 - 39</td>
<td>251</td>
<td>39,723</td>
<td>6.3 ±0.8</td>
</tr>
<tr>
<td>40 +</td>
<td>30</td>
<td>2,786</td>
<td>10.8 ±3.8</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>371</td>
<td>68,654</td>
<td>5.4 ±0.5</td>
</tr>
<tr>
<td>Unmarried</td>
<td>510</td>
<td>48,655</td>
<td>10.5 ±0.9</td>
</tr>
<tr>
<td><strong>Level of Prenatal Care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate</td>
<td>453</td>
<td>79,754</td>
<td>5.7 ±0.5</td>
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<tr>
<td>Intermediate</td>
<td>224</td>
<td>25,112</td>
<td>8.9 ±1.2</td>
</tr>
<tr>
<td>Inadequate</td>
<td>161</td>
<td>9,347</td>
<td>17.2 ±2.6</td>
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</table>
## Impact of Smoking on IMR

<table>
<thead>
<tr>
<th>Exposure to Tobacco</th>
<th>Infant Deaths</th>
<th>Live Births</th>
<th>Infant Death Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smoked During Pregnancy</strong></td>
<td>881</td>
<td>117,309</td>
<td>7.5 ±0.5</td>
</tr>
<tr>
<td>No</td>
<td>701</td>
<td>95,982</td>
<td>7.3 ±0.5</td>
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<tr>
<td>Yes</td>
<td>180</td>
<td>21,327</td>
<td>8.4 ±1.2</td>
</tr>
<tr>
<td><strong>Secondhand Smoke</strong></td>
<td>881</td>
<td>117,309</td>
<td>7.5 ±0.5</td>
</tr>
<tr>
<td>During Pregnancy</td>
<td>881</td>
<td>117,309</td>
<td>7.5 ±0.5</td>
</tr>
<tr>
<td>No</td>
<td>600</td>
<td>91,169</td>
<td>6.6 ±0.5</td>
</tr>
<tr>
<td>Yes</td>
<td>177</td>
<td>19,694</td>
<td>9.0 ±1.3</td>
</tr>
<tr>
<td><strong>Smoked or Secondhand Smoke</strong></td>
<td>881</td>
<td>117,309</td>
<td>7.5 ±0.5</td>
</tr>
<tr>
<td>During Pregnancy</td>
<td>881</td>
<td>117,309</td>
<td>7.5 ±0.5</td>
</tr>
<tr>
<td>No</td>
<td>544</td>
<td>82,583</td>
<td>6.6 ±0.6</td>
</tr>
<tr>
<td>Yes</td>
<td>254</td>
<td>29,319</td>
<td>8.7 ±1.1</td>
</tr>
<tr>
<td><strong>History of smoking</strong></td>
<td>881</td>
<td>117,309</td>
<td>7.5 ±0.5</td>
</tr>
<tr>
<td>No</td>
<td>619</td>
<td>91,868</td>
<td>6.7 ±0.5</td>
</tr>
<tr>
<td>Yes</td>
<td>228</td>
<td>24,169</td>
<td>9.4 ±1.2</td>
</tr>
</tbody>
</table>
Michigan and US Infant Mortality Rate Comparison 2000 - 2009

Mortality Rate

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

US

MI
National Comparison of Infant Mortality Rates for Whites and Blacks 1990 - 2008

Mortality Rate

- All US
- White US
- Black US
- Linear (Black US)
Michigan Comparison of Infant Mortality Rates for Whites and Blacks 1990 - 2009
Race Disparities in the Infant Mortality Rate in Michigan for 2009

- Infant Mortality Rate for Whites in MI is 5.4
- Infant Mortality Rate for Blacks in MI is 15.5
- Infant Mortality Rate for other races in MI is 6.6

- White
- Black
- Other
Wayne County’s Status - 2009

- As mentioned before – MI Infant Mortality Rate is 7.5

- The Infant Mortality Rate for Wayne County is 10.1
Wayne County (Excluding Detroit) & MI
Infant Mortality Rate Comparison
1990 - 2009

All MI
Wayne County
Michigan, Wayne County and Detroit IMR Comparison - 2009

- MI IMR is 6.8 when Wayne County is removed from statistics (much closer to the national IMR of 6.3)
- Wayne County IMR is 6.2 when Detroit is removed from statistics
- Detroit IMR is 14.8
MI (Excluding Wayne County), Wayne County (Excluding Detroit), and Detroit Infant Mortality Rate Comparison 1990 - 2009

- Michigan-Excluding Wayne County
- Wayne County-Excluding Detroit
- Detroit
Manner of Death Comparisons for Wayne County
January 1, 2009 - September 30, 2011

- Natural: 40
- Accident: 68
- Homicide: 17
- Indeterminate: 43
Major Causes of Death for Wayne County Infants for 2009  N=151

- Unsafe Sleep Conditions (Overlay or Positional Asphyxia): 50
- Congenital Heart Defect: 9
- Pneumonia (or other ailment): 29
- Child Abuse: 11
- Car Accidents: 9
- Precipitous Deleviery or Complications due to Low Birth Weight: 43
Location of Sleep-Related Infant Deaths Reviewed 2007-2010, by Location (N=561)*

- Adult Bed, 46%
- Crib/Bassinet, 27%
- Chair/Couch/Floor, 16%
- Other/Unknown, 11%

*Source: Child Death Review. Data is based on cases reviewed for all of Michigan.
Conclusion

- Detroit IMR has a big impact on the State IMR
- The two leading causes of deaths in Wayne County are natural deaths, and unsafe sleep conditions
- Targeted efforts to reduce infant deaths due to unsafe sleep have greatest chance to move Governor Snyder’s IMR “dashboard” item in the right direction
- Infant mortality (children under two years of age) is still a significant public health problem in Wayne County and especially in Detroit.
- The vast majority of infant deaths seen at the Medical Examiner Office have identifiable environmental risk factors (e.g. co-sleeping, unsafe sleep surfaces, objects in crib, etc…). Many of these risk-factors can be ameliorated by stepped-up prevention efforts.
- Excluding Detroit, the infant mortality rate (number of deaths per 1,000 live births) in Wayne County is similar to that of Michigan’s and the National infant mortality rate.
Questions & Contact Info

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