Rising Changes in Maternal Health Events Disproportionately Impact Racial/Ethnic Minorities
Kristelle S. Pierre, MPH Candidate
SUNY Downstate School of Public Health, Department of Community Health Sciences

Abstract
Adverse maternal outcomes are an ongoing public health concern in the United States. Adverse maternal health events encompass maternal mortality and severe maternal morbidity (SMM). Presently, it is reported that approximately 700 women die annually due to pregnancy, and it is estimated that 50,000 women will experience a severe maternal morbidity event. This is concerning given the recent National Vital Statistic System (NVSS) findings which reported 3.8 million births in US during 2018; of which, racial/ethnic minority women contributed to 48.4% of births. It is well known that racial/ethnic minority women are not only less likely to receive needed medical attention but are also more likely to have an unfavorable experience when receiving medical care. That is also the case with the reproductive and maternal health of minority women. Underlying chronic health conditions and the delayed utilization of prenatal care services were found to be risk factors that predisposed women, in particular Black women, to a greater risk of developing SMM. Similarly, pre-existing comorbidities were found to exacerbate Black women’s risk for maternal mortality. That is, in addition to existing structural and economic inequalities as well as inequalities in healthcare access. Lastly, women of color were found to experience SMM and die from pregnancy related complications at a disproportionately greater rate than White women, irrespective of a state’s SMM or pregnancy related mortality rate (PRMR) tertile ranking. Ongoing efforts to reduce racial/ethnic disparities in maternal health outcomes include refining the US death certification system, instituting beneficial healthcare policies, and improving the quality of obstetric care.

Objectives
- Highlight the disparities in maternal health outcomes among racial/ethnic minorities.
- Ongoing, and potential measures that can be instituted to mitigate the consequences of maternal morbidity and maternal mortality will be discussed.

Methods
- Primary database used was NCBI PubMed. 71 articles were found. 15 articles published from 2010 – Present were selected and reviewed. Snow-ball method was used to cross-reference articles bibliography.
- Key Terminology Searched: maternal health, maternal health disparities, maternal mortality, pregnancy related deaths, severe maternal morbidity; and racial disparities in maternal morbidity.
- Other sources utilized includes the US Census, the National Institute of Health (NIH), the World Health Organization (WHO), and the Center for Disease Control and Prevention (CDC)

Results

Maternal Morbidity
- Black women less likely to attend more than 9 prenatal care appointments compared to White women (79.9% vs. 86.06%; P<0.0001)
- 15% of Non-Hispanic Black women began prenatal care during the 2nd trimester
- Overweight/Obese weight status (52.72% vs. 36.5%; P=0.0001)
- Chronic Hypertension: 3.0% vs. 0.7%; (P=0.0001)
- Diabetes: (1.85% vs. 0.53%; P<0.0001)

Maternal Mortality
- Table 1. Racial/Ethnic Differences in Deliveries in Healthcare Institutions

<table>
<thead>
<tr>
<th>Hospitals w/ High SMM Tertile Rank</th>
<th>Hospitals w/ Low SMM Tertile Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.3% of deliveries were by Black women</td>
<td>18% of deliveries were by White women</td>
</tr>
<tr>
<td>21.3% of deliveries were by Black women</td>
<td>65.3% of deliveries were by White women</td>
</tr>
</tbody>
</table>

Table 2. Importance of the Post-partum Period in Maternal Mortality

<table>
<thead>
<tr>
<th>Petersen et al.</th>
<th>Pregnancy: 33.3% of deaths occurred</th>
<th>Post-partum: 50.7% of deaths occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis et al.</td>
<td>Pregnancy: 26.2% of deaths occurred</td>
<td>Post-partum: 63.3% of deaths occurred</td>
</tr>
</tbody>
</table>

Various studies have identified women of color as being adversely impacted by cardiovascular events during the postpartum period.

Discussion/Conclusion
- Underlying chronic health conditions and the delayed utilization of prenatal care services serve as risk factors that predispose women, in particular Black women, to a greater risk of developing severe maternal morbidity.
- Women of color experience SMM and die from pregnancy related complications at a disproportionately higher rate irrespective of a states SMM or PRMR tertile ranking.
- The post-partum period is a pivotal time, wherein women can experience maternal events that can lead to their untimely death. It has been identified that women of color are impacted by cardiovascular events during the postpartum period. Understanding the effects of timing and the identification of health events that precede PRM will ensure the health of women during their post-partum journey.
- Ongoing efforts to reduce adverse maternal outcomes includes refining the US death certification system, instituting beneficial healthcare policies and improving the quality of obstetric care.
- To address the ongoing racial/ethnic disparities in maternal mortality and maternal morbidity, there is a dire need for healthcare providers to be aware of their implicit biases and establish an environment that fosters patient-provider interactions built on trust, as well as a need to identify cause-specific indicators and risk factors that facilitate adverse maternal events.

Acknowledgement
SUNY Downstate Health Sciences University School of Public Health Community Health Sciences Department Faculty Advisor: Dr. Denise Bruno

Bibliography
- Note the bibliography includes a variety of sources from academic journals, government publications, and other reputable health care organizations. Each entry is properly formatted according to APA citation guidelines.