Maternal Mortality Review

Issue

Maternal deaths have been rising in the United States. Delaware's MMR reveals the toll that violence and substance abuse, along with medical complications, take on the well-being of pregnant and postpartum women. MMR is an important public health surveillance program that provides a snapshot of women's health in general and contributes to the national effort to conduct quality reviews and take action to reduce maternal deaths.

Findings

MMR panels see a snapshot of deaths occurring among women of childbearing age. These cases are identified by vital statistics data from the death certificate. In Delaware, all deaths occurring among pregnant women or up to one year postpartum are reviewed by the MMR regardless of cause. This broad inclusion criterion allows the Delaware MMR key insights into the health of women overall. Among 2017 cases, what is striking is the preponderance of psychosocial risk that accounted for 4 out of 5 of the maternal deaths.

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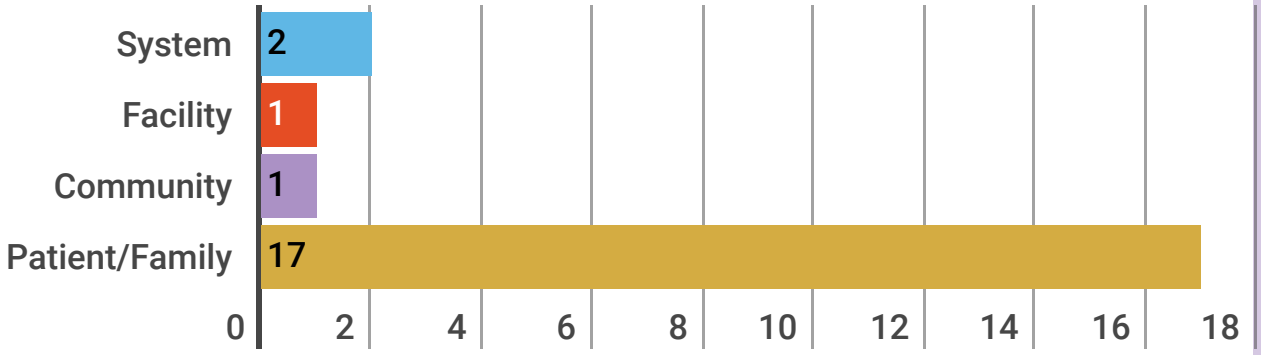
In 2017, Delaware's MMR panel met once and reviewed 5 cases of maternal deaths. Three mothers were White, and two mothers were Black. The panel deemed one of the five cases to be pregnancy-related, meaning the woman's death was causally linked to pregnancy or its complications. This pregnancy-related death was due to a medical complication in the immediate postpartum period. The other four cases reviewed were designated as pregnancy-associated but not -related, meaning the cause of death was not related to the woman's pregnancy. Two of these deaths were homicides, and two were due to acute drug intoxication.

Of the five maternal deaths, three occurred while the woman was still pregnant. One death occurred in the early postpartum period (before 42 days postpartum), and one death occurred in the late postpartum period (between 43 days and one year postpartum).

The MMR panel reviewed each case to identify pertinent contributing factors at various levels that may have impacted the outcome of the case. On average, 4 to 5 factors were identified for each case reviewed. Contributing factors (Figure 7) identified include:

- Lack of referral for intimate partner violence (IPV) (Systems of care level)
- Lack of referral for substance abuse (Systems of care level)
- Desensitization to violence (Community level)
- Lack of IPV screening (Facility level)
- Delay in seeking care (Patient/family level)
- Difficulty adhering to medical advice (Patient/family level)
- Substance abuse (Patient/family level)
- Mental health (Patient/family level)
- IPV (Patient/family level)

Figure 7: Contributing factors identified in 2017 MMR cases (n=5)



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In 2017, CDRC staff worked closely with the Office of Vital Statistics-Division of Public Health, to implement a process for linking Mothers' information from live birth and fetal death certificates with death certificates of women of reproductive age. Many MMR programs and the CDC have found that this type of linkage improves the chances of identifying potential maternal death cases compared to the use of the pregnancy check box question on death certificates alone, which until now has been the way the Delaware MMR has primarily been identifying cases.

Recommendation

Improve case identification of possible maternal deaths by linking live birth and fetal death certificate information with death certificates of women of reproductive age.

Maternal deaths are the tip of the iceberg in the spectrum of outcomes for pregnant women, representing the most dire and rarest outcome (Figure 8). For every maternal death that occurs, it is estimated that 100 women suffer a severe maternal morbidity.(13) Yet what we can learn from in-depth reviews of pregnancy-associated deaths can shed broader light on issues affecting a larger group of women. Some of these women may suffer a complication or morbidity, one that may result in a hospitalization or ER visit for example, but does not progress to the severity of being fatal. Data from Delaware on severe maternal morbidity shows an increasing trend in these rates, which climbed by 37% between 2010 and 2014.(14)

The CDC is spearheading efforts to standardize data collected by MMR programs across the US and identify key issues and recommendations to inform impactful action. Delaware is working with partners nationally in these efforts and was one of 9 states that contributed data to the 2018 CDC report available at: https://www.cdcfoundation.org/sites/default/files/files/ReportFromNineMMRCs.pdf.

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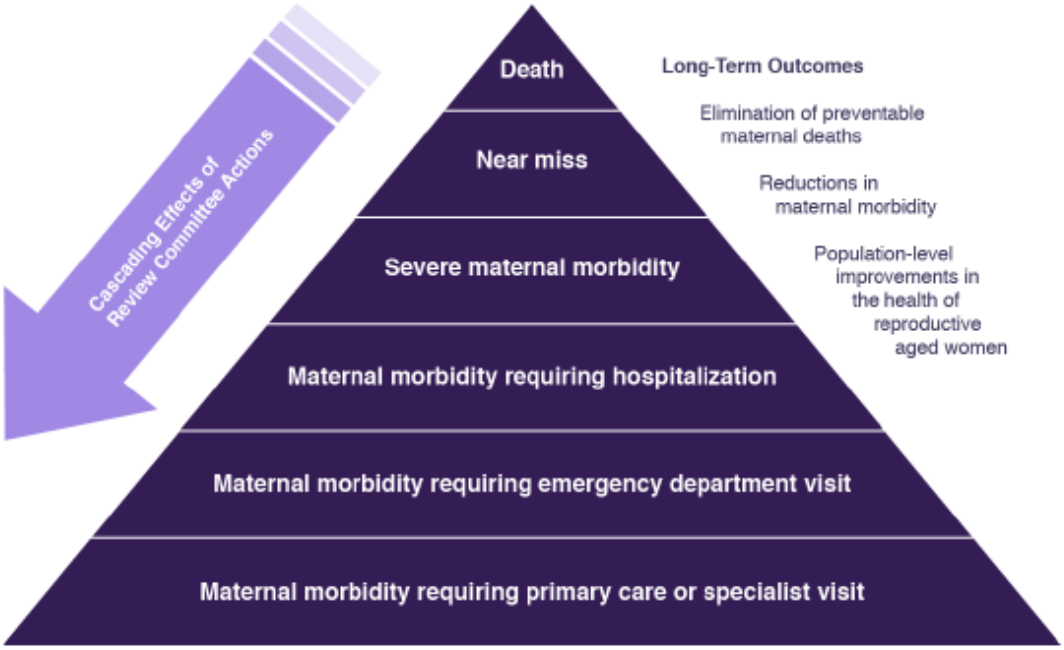
Figure 8: Prevention impact of MMR



Source: Building U.S. capacity to review and prevent maternal deaths. 2018. Report from nine maternal mortality review committees. Available at: https://www.cdcfoundation.org/sites/default/files/files/ReportFromNineMMRCs.pdf.

13. Callaghan WM, Creanaga AA, Kuklina EV. Severe maternal morbidity among delivery and postpartum hospitalizations in the United States. OB Gyn, 2012; 120(5): 1029-1036.
14. Hussaini, SK. Severe Maternal Morbidity: Delaware, 2010-2014. Data Brief. Delaware Health and Social Services, Division of Public Health. Published August 2017.