

Maternal Health and Morbidity: FIMR

The 2018 FIMR cases provide unique insights into the health of mothers who experienced a poor pregnancy outcome. Categorizing FIMR deaths by birthweight and type of death (fetal, early neonatal, late neonatal or post neonatal) as done in the Perinatal Periods of Risk (PPOR) approach, it was found that almost 90% of FIMR deaths are primarily attributable to maternal care and maternal health/prematurity. (5) (See page 11 in the addendum) This underscores the importance of mothers' health in not only affecting their chance of a healthy pregnancy but also in determining the chance of their babies' survival.

The most common PPOR category for FIMR cases (60%) was maternal health and prematurity, which encompasses issues relating to mothers' preconception health, health behaviors and perinatal care. The second most common category of deaths was maternal care, often the underlying factor in fetal deaths and encompassing prenatal care, high-risk referral and obstetric care. Case review teams identified the following contributing conditions in FIMR fetal deaths:

- Pre-eclampsia (27% of cases)
- Umbilical cord problem (14%)
- Placental abruption (14%)
- Mother's pre-existing hypertension (9%)



Almost 90% of FIMR cases are primarily attributable to maternal health, maternal care or prematurity according to the Perinatal Periods of Risk classification.

The other group of FIMR deaths was attributable to congenital anomalies, either in the newborn period or post neonatal period, but this was much less common at 11%.

Eight FIMR mothers (18%) had a severe maternal morbidity in the index pregnancy reviewed. Severe maternal morbidities are complications that could result in death if not treated appropriately. In the spectrum of maternal outcomes, these life-threatening complications are a step down from the most dire outcome--maternal death. The conditions that met the criteria for severe maternal morbidity among FIMR mothers, in order of decreasing frequency were: pre-eclampsia, obstetric hemorrhage, placenta increta and postpartum cardiomyopathy.



Similar to the trends in the FIMR cohort, data from all Delaware delivery hospitalizations indicates the prevalence of severe maternal morbidity has been on the rise. Between 2010 and 2014, the rate of severe maternal complications increased 37%, from 114 cases per 10,000 delivery hospitalizations to 157 cases. (6) (See Figure 5 on page 17.)

FIMR mothers also have other comorbidities of lower severity with one-third of mothers seeing healthcare providers at multiple sites, an increased proportion compared to earlier years. The postpartum visit rate, however, has not appreciably improved and remains suboptimal at 60%. The 2018 data addendum contains more information on FIMR mothers' medical conditions and healthcare utilization.

The CDRC is working with the maternal child health epidemiologist at DPH to look at the spectrum of severe maternal morbidity and maternal mortality as it informs priorities for maternal health and well woman initiatives in Delaware.



(5) City Match. Perinatal Periods of Risk. Accessed on May 1, 2019. Updated on March 14, 2017. Available at: <https://www.citymatch.org/perinatal-periods-of-risk-ppor/>.

(6) Hussaini K. Delaware Division of Health and Social Services, Division of Public Health. Data brief: severe maternal morbidity, Delaware profile 2010-2014. August 2017.

Figure 5: Pregnancy-related mortality and severe maternal morbidity fact sheet



FACTS ABOUT RISING PREGNANCY-RELATED DEATHS IN DELAWARE AND THE U.S.

The United States is one of very few developed countries where deaths related to pregnancy or childbirth are increasing. Black mothers are particularly at risk. In Delaware, maternal mortality rates are on the rise, as are risk factors for pregnancy-related complications such as obesity, pre-eclampsia, and high blood pressure. The good news is that over 50 percent of maternal deaths are preventable.



IN DELAWARE, almost **65% OF MATERNAL PREGNANCY-RELATED DEATHS** occur within 42 days postpartum.



IN DELAWARE, risk factors such as **OBESITY, PRE-ECLAMPSIA, AND HIGH BLOOD PRESSURE ARE ON THE RISE** in women of reproductive age.



IN DELAWARE, **SEVERE MATERNAL MORBIDITY ROSE** by **37%** between 2010 and 2014.



IN DELAWARE, 53% of pregnancy-related deaths are **PREVENTABLE**.



IN THE U.S., **BLACK WOMEN ARE 4X MORE LIKELY TO DIE** during pregnancy and childbirth than white women.



IN THE U.S., **BLACK WOMEN SUFFER** from life-threatening pregnancy complications **TWICE AS OFTEN AS WHITE WOMEN**.



IN DELAWARE, as in the U.S. overall, **SUBSTANCE ABUSE AND ADDICTION ARE ON THE RISE**, and impacting the health of mothers and their babies.



IN DELAWARE, about **40% OF WOMEN WHO DIED** from pregnancy-related causes **ALSO HAD A SERIOUS MENTAL HEALTH CONDITION**.



IN DELAWARE, **APPROXIMATELY 60% OF PREGNANCIES ARE UNPLANNED**, which significantly increases the risk of poor health outcomes for moms and babies.



Sources: Centers for Disease Control and Prevention, Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion
State of Delaware, Child Death Review Commission, Delaware Maternal Mortality Review Report, cases from calendar years 2011-2017



Source: Delaware Division of Health and Social Services (DHSS), Division of Public Health (DPH)