

# ANNUAL REPORT 2018





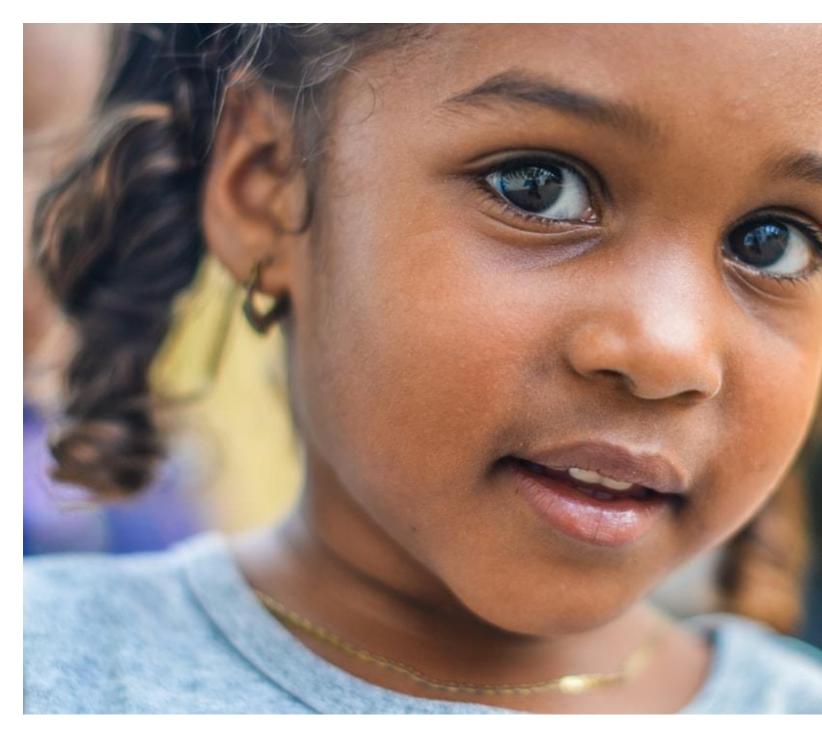
# STATE OF DELAWARE Child Death Review Commission

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The Honorable John Carney, Governor State of Delaware

Garrett H. C. Colmorgen, M.D., Chair

Working Together to Understand Why Children Die 7 Taking Action to Prevent Deaths





"in order to provide its findings or recommendations to alleviate those practices or conditions which impact the mortality of children and pregnant women "

-Child Death Review Commission, Statute 31 Del. C. § 320



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# **Overview and 2018 Highlights**

The Child Death Review Commission (CDRC) oversees three fatality review programs that are linked by their common mission to safeguard the health and safety of Delaware's children and mothers. Based on information gathered from a variety of sources, each case that meets the selection criteria is reviewed by a multidisciplinary team to identify opportunities for prevention and systems improvement.

#### CDR/SDY

Child Death Review (CDR) is the longest running fatality review program in Delaware. It is comprised of a CDR panel and a Sudden Death in the Young (SDY) panel, the latter began with grant support from the Centers for Disease Control and Prevention (CDC) in 2014. In 2018, the CDRC was awarded a second five-year SDY grant. This grant will allow work to continue on improving the quality of surveillance data on sudden, unexpected deaths in children and more in-depth analysis to inform community partners on prevention priorities.

In 2018, 52 child death cases were reviewed: 26 by the CDR panel and 26 by the SDY panel. Figure 1 shows the 52 CDR/SDY cases by year of death. Sixteen of these cases (31%) were infant deaths that met criteria for CDR based on the cause of death being possibly related to unsafe sleep or child abuse/neglect, the latter are jointly reviewed with the Child Protection Accountability Commission's (CPAC) Child Abuse and Neglect Panel. Natural causes accounted for 17 child death cases (33%), accidental causes for 12 cases (23%), homicides for 11 cases (21%), suicides for 3 cases (6%), and undetermined causes for 9 cases. For more detailed data on age, race and manner of death see the 2018 data addendum available at the CDRC reports website:

https://courts.delaware.gov/childdeath/reports.aspx.

#### **FIMR**

The Fetal and Infant Mortality Review (FIMR) program reviews infant deaths and fetal deaths occurring after 20 weeks gestation. In 2018, Delaware FIMR adopted the new National FIMR database operated by the National Center for Fatality Review and Prevention, the same organization that maintains the CDR/SDY database.

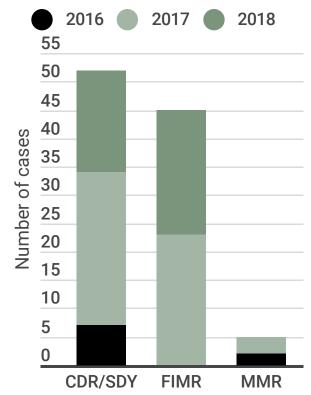


Figure 1: CDRC cases by type of review and year of death

2018 also marked staff's renewed efforts to bolster the declining maternal interview rate. The maternal interview is a unique aspect of FIMR that provides insight into mothers' experiences with systems of care and their life course perspective. CDRC staff reviewed family contact procedures and the content and design of materials shared with families to introduce FIMR and request a maternal interview.

In 2018, 45 FIMR cases were reviewed, including 23 (51%) infant deaths and 22 (49%) fetal deaths. Five cases involved twins. Four FIMR mothers had a history of a previous fetal or infant loss. One FIMR case also involved a maternal death. The time between the occurrence of a death and FIMR review has shortened to 4 months, with all cases occurring in calendar years 2017 and 2018 (Figure 1).

#### **MMR**

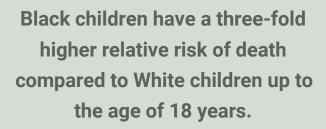
Five cases were reviewed by the Maternal Mortality Review (MMR) Committee. These cases represent deaths occurring during pregnancy or up to one year after the end of pregnancy, irrespective of cause. Two cases were picked up by the pregnancy checkbox on the death certificate, and three cases were picked up by vital statistics linkage of fetal death and birth certificate information with death certificates of women residing in Delaware. The vital statistics linkage process has been in place since 2016 and has improved the identification of potential maternal death cases, particularly of late postpartum deaths due to causes that are not necessarily linked to pregnancy.

### **Key Findings**

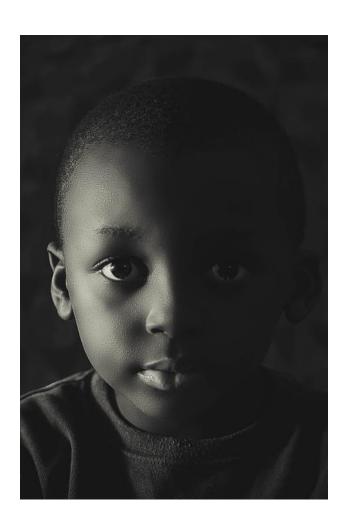
Based on the findings of the three fatality review panels, the following issues have been identified as important in 2018:

- Lack of provision of home visiting services to high-risk families
- 2. Substance use disorder
- 3. Unsafe sleep deaths
- 4. Firearm-related deaths
- 5. Maternal health and morbidity
- 6. Maternal mortality

These six issues are explored further in the briefs that follow.



Black children made up 25% of the population of 0-19 year olds in Delaware in 2017 but made up 59% of the CDR/SDY and FIMR cases in 2018.



# **Evidence-based Home Visiting**

Evidence-based home visiting (HV) programs can help educate and engage high-risk families to address medical and psychosocial risk factors that positively impact health outcomes. Delaware HV programs include Nurse Family Partnership, Healthy Families America and Parents as Teachers, with each having their own eligibility criteria and service model. Together, they are an important part of the system of care to support pregnant women and families with young children.

Data from multiple years of fatality reviews confirms low rates of referrals to HV programs as documented in the medical records and even lower rates of high-risk families enrolling in services. Table 1 summarizes findings from three years for CDR/SDY, FIMR and MMR cases. While there is some improvement in the 2018 referral and enrollment rates among CDR/SDY infant cases—with all infants with prenatal substance exposure receiving an HV referral in 2018—this issue has persistently been identified over several years as a priority by both the CDRC and CPAC.

Based on the low rates of HV engagement with families affected by child and maternal mortality, the CDRC voted to:

Establish a home visiting (HV)

Committee to overcome barriers to establishing a HV service system for at-risk families. The committee shall address referrals, services, funding and outcome measures.

The HV Committee will study examples from other local and state programs that implement universal screening of pregnant women and infants, coordinate intake and referrals, and models of universal or precision home visiting. Actionable recommendations to address the issues and barriers specific to Delaware are the ultimate goal.

Table 1: Proportion of cases with findings from CDR/SDY, FIMR and MMR, 2016-2018

	2018	2017	2016
CDR/SDY -infant cases only			
HV referral made	50%	25%	19%
HV enrollment	19%	0%	10%
FIMR			
HV referral made	7%	11%	8%
Lack of HV referral when mother may have been eligible & benefited			
MMR			
HV referral made	0%	20%	0%
HV enrollment	0%	0%	0%



In addition, the 2018-2019 Joint Action
Plan from CPAC and CDRC includes these
two HV action items:

- 1. Create an opt out referral for evidencebased home visiting services in the standard nursing admission orders for every Delaware birthing hospital when the mother comes into labor and delivery and the newborn is at-risk.
- 2. Advocate to the Department of Health and Social Services (DHSS) and the General Assembly for Medicaid reimbursement for all evidence-based home visiting providers in Delaware.

Both of these action items will be incorporated into the newly formed CDRC HV Committee.



## **Substance Use Disorder**

June 2018 marked the passage of House Bill 140, an act to amend the Delaware Code "relating to infants with prenatal substance exposure." The passage of this non-punitive, public health oriented bill to implement a Plan of Safe Care resulted in the creation of a statewide protocol between a multidisciplinary team including the Division of Family Services (DFS), birthing hospitals, and substance use disorder treatment providers. This was a main goal of the CDRC/CPAC Substance Exposed Infant (SEI) Committee. A Plan of Safe Care now must be created, preferably at the birthing hospital prior to discharge, for all infants born exposed to substances. Staff at the birthing hospital must notify DFS when an infant is born exposed to substances. The Plan of Safe Care Coordinator will work with the family to identify needs to ensure that the infant will be safe after hospital discharge and that the caregivers will have supports in place to assist with their needs. DFS has instituted a statewide specialized unit to work with these families.

As of August 1, 2018, all six birthing hospitals had a plan of safe care protocol in place. As a result, the number of DFS notifications for SEI increased in 2018 to 612, up 33% from 460 notifications in 2017. The majority of notifications (69%) were for prenatal exposure to one substance—with marijuana accounting for almost two-thirds of these cases. Twenty-one percent of notifications involved exposure to two substances; and 10% of cases involved exposure to three or more substances, most commonly some combination of opioids, cocaine, marijuana and methadone. Four hundred infants had a plan of safe care prepared in 2018, and 91% of them remained in the family home. About one-third of mothers were engaged in treatment services at the time of the infant's birth.



of caregivers were substance impaired at the time of an infant death (CDR/SDY cases)

24%
of FIMR mothers had concurrent illicit drug use

32%
of mothers who died had a history of substance use disorder

Substance use in pregnancy and postpartum remains a risk factor strongly associated with infant CDR/SDY deaths--especially unsafe sleep deaths--FIMR deaths and maternal deaths. Tables 2 and 3 (next page) present the prevalence of substance use disorder history and associated factors in CDR/SDY infant cases and FIMR cases, respectively. Among FIMR cases, 24% of mothers had current illicit drug use, most often marijuana use. Among MMR cases in 2018, three out of the five mothers had a substance use history and an infant born substance exposed. Overall, since MMR's inception, 32% of the 34 cases reviewed have involved a mother with a substance use disorder. Several MMR contributing factors and findings in 2018 pertain to substance use history and access to treatment (see MMR section, page 18.)

There is evidence of progress in 2018 to assess and refer infants. All SEI infant cases reviewed by the CDR/SDY panel did have a referral to a HV program and DFS. Also, the number of FIMR mothers who had no drug testing has decreased to 13% in 2018 from 20% and 31% in earlier years.

SEI Committee goals for 2019 include:

- Finalize and publish the Plan of Safe Care Implementation Guide
- Facilitate discussions on adaptation of a universal drug test panel
- Continue to collect and report SEI data to track trends in Delaware and inform opportunities to improve care for infants and their families

Table 2: CDR/SDY infant cases, proportion with substance use history 2016-2018

	2018 (n=16)	2017 (n=16)	2016 (n=31)
Intrauterine drug exposure	38%	19%	13%
Intrauterine tobacco exposure	31%	29%	52%
Intrauterine alcohol exposure	6%	6%	3%
No drug screen done on mother	13%	6%	6%
Infant tested positive for drugs	19%	6%	19%
NAS scoring	13%	0%	22%
DFS notification for SEI	25%	6%	13%
Caregiver's substance use at time of infant death	31%	19%	3%

Table 3: FIMR cases, proportion with substance use history 2016-2018

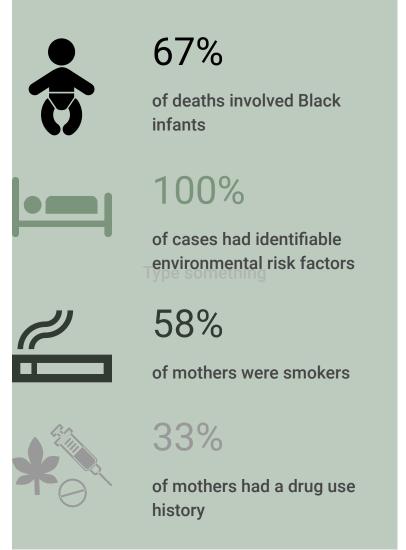
	2018 (n=45)	2017 (n=81)	2016 (n=84)
Positive drug test: mother	22%	18%	14%
No drug test: mother	13%	20%	31%
Tobacco use (current)	18%	22%	16%
Illicit drug use (current)	24%	11%	10%
Illicit drug use (history)	13%	15%	11%
NAS diagnosis	0%	0%	0%

# **Unsafe Infant Sleep Deaths: SDY**

Twelve unsafe sleep deaths occurring among infants aged 0-7 months were reviewed by the SDY panel in 2018. Two-thirds of these deaths occurred among Black infants, and 75% of them involved infants born at term, that is after 37 weeks gestation.

The three-year average rate of infant unsafe sleep deaths has been fairly constant over the last five years in Delaware. (Figure 2) Despite more cases with documented safe sleep education in 2018-94% versus 62% in 2017-environmental factors such as the infant not sleeping in a crib or bassinette, not sleeping on his or her back, unsafe bedding or toys, and sleeping with other people were identified in 67% to 100% of cases. (Table 4, next page) Prone sleeping was more prevalent in unsafe sleep deaths compared to the Pregnancy Risk Assessment Monitoring System (PRAMS) data based on a sample of all mothers giving birth in Delaware, 21% of whom reported not placing their infant on their back to sleep. (1) These environmental factors were also found in a national study looking at unintentional suffocation deaths which reported that soft bedding was implicated in 69% of cases, most commonly when the infant was in an adult bed and in a prone position. (2)

Mother's use of tobacco and/or drugs have been increasing in prevalence among cases of unsafe sleep deaths, with 58% of infants exposed to maternal second-hand smoke and 33% exposed to drugs in utero among 2018 cases. This proportion of maternal tobacco use is over twice that reported in Delaware PRAMS between 2012-2015. (1) For additional information on unsafe sleep deaths see the 2018 data addendum.



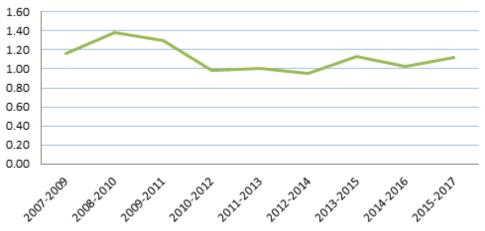


Figure 2: Rate of unsafe sleep deaths per 1,000 live births in Delaware, 3-year average

Table 4: Sleep-related deaths, associated factors identified by the SDY panel 2016-2018 compared to PRAMS data

	2018 (n=12)	2017 (n=12)	2016 (n=23)	PRAMS 2012- 2015 (1)
Not in a crib, bassinette, side sleeper or baby box	100%	100%	82%	
Not sleeping on back	75%	60%	50%	21%
Unsafe bedding or toys near infant	100%	90%	83%	
Sleeping with other people	67%	83%	65%	16%
Intrauterine drug exposure	33%	10%	*	
Infant born drug-exposed	27%	10%	*	
Tobacco use: mother	58%	40%	57%	24%
Adult was alcohol or drug impaired at time of death	25%	25%	26%	

<sup>\*</sup>More than 50% of values unknown

Based on the concerning findings of increasing prevalence of maternal drug or tobacco use histories in cases of infant unsafe sleep deaths and the persistent racial disparity:



The CDRC recommends that an infant safe sleep media campaign be conducted collaboratively by DFS, the Office of the Child Advocate and the CDRC to increase public awareness of unsafe sleep risk factors.

The CDRC will also conduct a multiyear analysis of unsafe sleep deaths in conjunction with the Division of Public Health (DPH) and consider community-level risk to help identify specific community partners and craft culturally appropriate messages for high-risk populations.

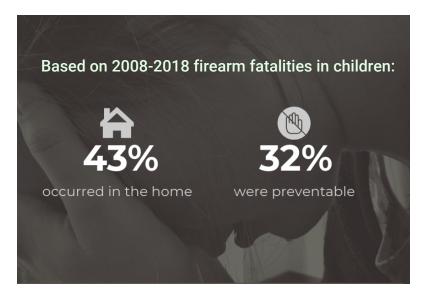
<sup>(1)</sup> Hussaini, SK. Pregnancy Risk Assessment Monitoring System Consolidated Report 2012-2015. Delaware Department of Health and Social Services, Division of Public Health. July 2018.

<sup>(2)</sup> Erck Lambert AB, et al. Sleep-related infant suffocation deaths attributable to soft bedding, overlay, and wedging. Pediatrics 2019; e20183408.

## Firearm-related Deaths: CDR

Nationally, firearm-related deaths are the third leading cause of death in children between the ages of 1 and 17 years, and the second leading cause of injury-related deaths. (3) Seven deaths reviewed by the CDR panel in 2018 were caused by the use of firearms. One death was a suicide, and six were homicides.

Due to Delaware's relatively small population size and the small numbers of firearm fatalities each year, data from 2008 to 2018 was analyzed together. Over this time, the 28 firearm deaths were reviewed that occurred among Delaware children. Twelve deaths (43%) occurred in the child's home, and 77% involved the use of a handgun. Over this time period, the CDR panel determined that nine deaths (32%) were preventable, meaning that if the child or someone nearby did not have access to a loaded firearm, the death would not have occurred. (Figure 3) In two-thirds of preventable cases, the firearm was stored loaded, and in that same proportion the gun was owned by a parent. (Figure 4, next page) In one-third of preventable cases, the child was playing with the gun. In one case, the gun owner was charged as result of the death. Based on national statistics compiled by the Children's Hospital of Philadelphia's Center for Injury Research and Prevention: about 1 in 3 handguns is stored loaded and unlocked. Over 75% of 1st and 2nd graders know where their parents keep their guns and 36% admitted handling the weapon, contrary to their parents' report. (4)



Four of the nine preventable firearm deaths were suicides. National statistics indicate that the use of a firearm in a suicide attempt is fatal 75% of the time, much higher than other methods of self-harm. Teen suicides are often impulsive, with some studies indicating that many teens spend 10 minutes or less deciding on their action. A highly lethal method of injury at the time of crisis is a crucial factor in whether a suicide attempt will become fatal. (3)



Figure 3: Preventability as determined by the CDR panel in 2008-2018 child firearm fatalities

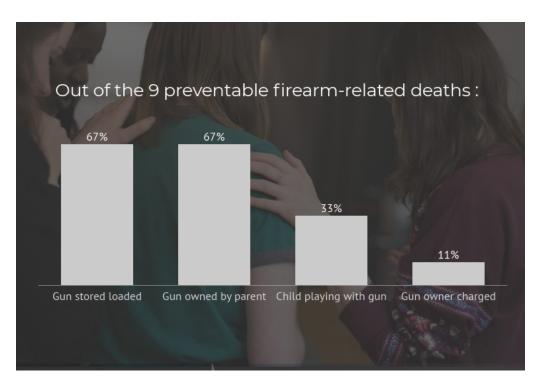


Figure 4: Findings of the CDR Panel in the nine cases of preventable firearmrelated fatalities



"The absence of guns from children's homes and communities is the most reliable and effective measure to prevent firearm-related injuries in children and adolescents. Adolescent suicide risk is strongly associated with firearm availability. Safe gun storage (guns unloaded and locked, ammunition locked separately) reduces children's risk of injury. Physician counseling of parents about firearm safety appears to be effective, but firearm safety education programs directed at children are ineffective."

--American Academy of Pediatrics Policy Statement Pediatrics 2012, Vol 130/Issue 55

<sup>(3)</sup> Fowler KA, et al. Childhood firearm injuries in the United States. Pediatrics 2017; 140(1): e20163486.

<sup>(4)</sup> Children's Hospital of Philadelphia Research Institute. Gun violence: facts and statistics. Updated May 2018. Available at: https://injury.research.chop.edu/violence-prevention-initiative/types-violence-involving-youth/gun-violence/gun-violence-facts-and#.XMO59GhKjIU.

# **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 outcomematernal 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.

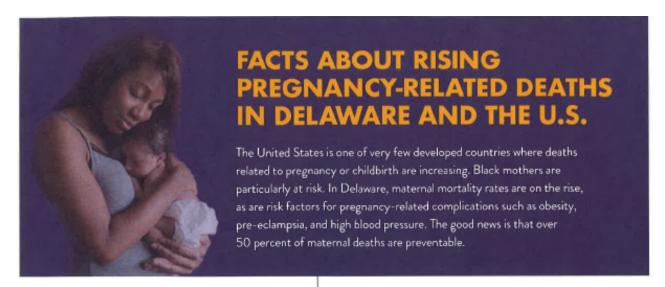
The CDRC is working with the maternal child health epidemiologist at DPH to look at the spectrum of severe maternal morbidity and maternal mortality as it informs priorities for maternal health and well woman initiatives in Delaware.



(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/.

<sup>(6)</sup> 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





IN DELAWARE, almost 65%
OF MATERNAL PREGNANCYRELATED 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 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.

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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)

# Maternal Mortality Review

#### Cases reviewed in 2018

The high U.S. maternal mortality rate has fittingly garnered concern both in the public and political eye. Senator Tom Carper convened a meeting to discuss Delaware's approach to reducing maternal mortality in August 2018. With the support of Senator Carper and others, the Preventing Maternal Deaths Act (H.R. 1318) was passed on December 21, 2018 to fund Maternal Mortality Review (MMR) Committees and standardize data collection across the country.

Five maternal death cases were reviewed in 2018 involving three White women and two Black women ranging in age from 29 to 42 years old. Two cases were identified by the pregnancy checkbox question on the death certificate, and three more cases were identified by vital statistics linkage of maternal identifiers on fetal death or birth certificates and death certificates, underscoring the importance of the linkage process to more accurate case ascertainment. An additional three cases identified did not go on for full panel review. Two of these cases initially picked up by the pregnancy checkbox turned out to be false positives: in one case the woman was not in fact pregnant, and in the other case the mother died over one year after delivery—beyond the defined timeframe to be considered a maternal death. Another case identified by the vital statistics linkage was beyond the two year policy time frame after the occurrence of the death and so the case did not go on for review.

All five maternal deaths occurred postpartum: one case within 42 days postpartum, and the other four cases between 42 and 365 days after delivery. Four cases were pregnancy-associated, meaning the underlying cause of death was not linked to pregnancy or its complications; and one case was pregnancy-related, meaning the death was causally linked to the woman's pregnancy or a complication thereof. In four cases, the MMR Committee determined the death may have been preventable. In four of the five cases, the mother had a mental health issue, and three cases involved a current substance use issue.

For each case deliberated, the MMR Committee identifies factors that contributed to the outcome and assigns them a level: patient/family, provider, facility, systems of care or community. Figure 6 presents the contributing factors identified by level and the number of relevant cases with each finding. Each case had an average of 7 contributing factors identified.

# Figure 6: Contributing factors identified in 2018 maternal death cases (number of relevant cases)

#### **Patient/Family Factors:**

Chronic disease (4)

Substance use disorder (3)

Tobacco use (3)

Lack of social support/isolation (2)

Lack of adherence to medical recommendations (2)

Mental health issue (2)

Delay in seeking care (2)

Lack of knowledge (2)

Childhood trauma (2)

Intimate partner violence (1)

Unstable housing (1)

Incarceration (1)

#### **Provider Factors:**

Lack of quality care (2)

Lack of continuity of care (1)

#### **Facility Factors:**

Lack of quality care (1)

Lack of continuity of care (1)

Inadequate community outreach/services (1)

#### **Systems of Care Factors:**

Lack of access to care (1)

Lack of care coordination (1) - limited options for inpatient drug addiction treatment

#### **Community Factor:**

Environment (1) - availability of drugs in community

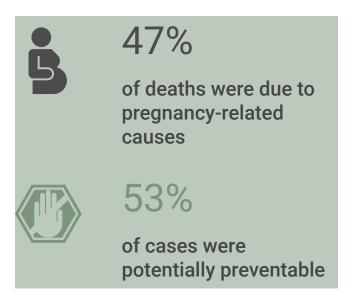


- 1. There is an increasing prevalence of pregnancy-associated deaths over the last few years. This may be linked to the changes in case identification procedures. Late ascertainment of maternal deaths is occurring based on the vital statistics linkage.
- 2. There is a lack of continuity of care or referral between the emergency department, where patients may access care, and substance abuse treatment. Every point of contact is an opportunity to ask if the patient is ready to access services, provide a referral or a list of resources and call the primary care physician.
- 3. The MMR panel recommends that DHSS explore the availability of resources for inpatient and outpatient drug rehabilitation and accessibility for high risk populations.
- 4. There may be need for increased public awareness education on the risk of breast cancer even in younger women and the importance of getting checked for a palpable breast lump.
- 5. Family planning counseling is an important part of the care plan for women and men of child bearing age undergoing cancer treatment.



## MMR cases reviewed in 2011-2018: cumulative findings

Since the inception of the MMR program in Delaware, 34 cases have been reviewed by the MMR Committee.



There has been an increasing number of pregnancy-associated deaths identified over time mainly as a result of adding the vital statistics linkage to the case identification process. For case counts over time, see the 2018 data addendum. A higher proportion of pregnancy-related deaths (50%) involved Black mothers as shown in Table 5.

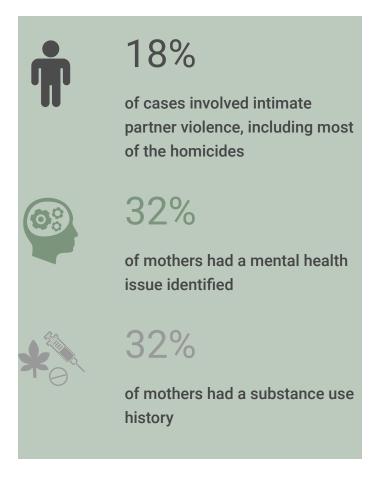
Table 5: Maternal deaths and pregnancyrelated deaths, by maternal race

	All maternal deaths (n=34)	Pregnancy- related deaths (n=16)
White	50%	44%
Black	38%	50%
Other	12%	6%

Based on the data available to date, the pregnancy-related mortality ratio in Delaware is 18 per 100,000 live births for calendar years 2009-2018, a ratio on par with the 2014 national ratio as reported by the CDC's Pregnancy Mortality Surveillance System.\* (7)

Figure 5 (see page 17 of this report) summarizes some key statistics from the Delaware MMR program and national data to highlight the racial disparity in poor pregnancy outcomes.

The underlying causes of maternal death are very different between pregnancy-related and pregnancy-associated deaths. The former mostly includes medical complications of pregnancy, and the latter are predominantly attributable to motor vehicle crashes, acute drug intoxication and homicides. Key contributing factors identified in MMR cases include:



<sup>\*</sup>This includes a review of the death certificate information for 9 cases not fully reviewed by the MMR Committee because they were identified over 2 years after the death, one of which had a likely pregnancy-related cause of death.

(7) CDC. Pregnancy Mortality Surveillance System. Accessed on May 1, 2019. Updated on August 7, 2018. Available at: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm.

## **Conclusion**

The CDRC continues to work together with partners in Delaware and across the country to advance the public health agenda and improve the health of women, infants and children. 2018 saw progress with the passage of legislation to systematically document plans of safe care for infants with prenatal substance exposure and support Maternal Mortality Review Committees. In 2019, the CDRC will focus on examining the referral and coordination of care between home visiting programs and health care providers with the creation of a Home Visiting Committee. Other priorities for 2019 include conducting a multiyear analysis of unsafe sleep deaths and linking maternal morbidity data with findings and trends from Maternal Mortality Review.

The efforts of the CDRC would not be possible without the support and close partnership of numerous groups, and professional and community partners across the state. Together, we strive for better health outcomes and well-being so that children and their families can survive and thrive.

For more detailed data on the issues and findings presented in this report, please see the 2018 data addendum, available at the CDRC reports website:

https://courts.delaware.gov/childdeath/reports.aspx.

This annual report is dedicated to Dr. Regina Giannone-Tyler, Ed.D. who passed away on May 31, 2019. As a gifted grief counselor, Regina was passionate about serving the Child Death Review Commission in a variety of ways. She provided training on vicarious trauma at the Protecting Delaware's Children Conference and the Child Abuse/Neglect Panel in 2010. Nationally, Regina presented on vicarious trauma at the Mid-Atlantic Coalition Child Fatality Regional Meeting in 2012. In addition, she was the contractual FIMR Maternal Interviewer from 2017 to 2018.



## **Commissioners**

The State Attorney General 31 Del. C. § 321 (a) Sonia Augusthy, Esq., Deputy Attorney General, Designee

specializing in Neonatology 31 Del. C. § 321 (a) (1) David A. Paul M.D., Pediatric Chair at CCHS

A Representative of the Medical Society

The Secretary of the State Department of Health and Social Services 31 Del. C. § 321 (a)

Vacant

A Representative of the Medical Society specializing in Obstetrics 31 Del. C. § 321 (a) (1) Philip Shlossman, M.D.

The Secretary of the State Department of Services to Children, Youth and Their Families
31 Del. C. § 321 (a)
Trenee Parker, Director, Division of Family Services
Designee

A Representative of the Medical Society specializing in Perinatology 31 Del. C. § 321 (a) (1) Garrett Colmorgen, M.D., Chair of the Commission

Office of the Child advocate 31 Del. C. § 321 (a) Tania Culley, Esq., Child Advocate A Representative of the Delaware Nurses
Association
31 Del. C. § 321 (a)(2)
Nancy Forsyth, RN

Chair of the Child Protection
Accountability Commission
31 Del. C. § 321 (a)
Jennifer Donahue, Esq., Investigation
Coordinator, Designee

A Representative of the National Association of Social Workers 31 Del. C. § 321 (a) (3) Fran Franklin, DSW

The State Secretary of Education 31 Del. C. § 321 (a) Susan Haberstroh, Director, Policy and External Affairs, Designee A Representative of the Police Chief's Council of Delaware who is an Active Law-Enforcement Officer 31 Del. C. § 321 (a) (4) Chief Laura Giles, Elsmere Police Department

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The State Medical Examiner 31 Del. C. § 321 (a) Rebecca D. Walker, PhD, JD, MSN, Designee A Representative of the New Castle
County Police Department
31 Del. C. § 321 (a)(5)
Lt. Michael Bradshaw, Family Services
Unit

The Director of the Division of Public
Health
31 Del. C. § 321 (a)
Mawuna Gardesey, Public Health Administrator,
Designee

Two Child Advocates from State-Wide Nonprofit Organizations 31 Del. C. § 321 (a)(6) Vacant Leslie Newman, CEO, Children & Families First

The Chief Judge of the Family Court 31 Del. C. § 321 (a) The Honorable Joelle Hitch, Judge, Designee A Chairperson of each Regional Child Death Review Panel. 31 Del. C. § 321 Mary Ann Crossley, RN, SDY MDT Chair Kate Cronan, M.D., SDY Advanced Chair Amanda Kay, M.D., SDY Co-Chair Philip Shlossman, M.D., CDR Panel Chair

The Superintendent of the Delaware State Police 31 Del. C. § 321 (a) Corp. Adrienne Owen. Designee A Chairperson of each Maternal Death Panel.

31 Del. C. § 321 Garrett Colmorgen, M.D., Chair Vanita Jain, M.D., Co-Chair

A Representative of the Medical Society specializing in Pediatrics 31 Del. C. § 321 (a) (1) Amanda Kay, M.D.

A Chairperson of each Fetal and Infant Mortality Review Case Team. 31 Del. C. § 321 Aleks Casper, New Castle County Chair Patricia Ciranni, RN, Kent/Sussex County Chair

### **CDR Panel Members:**

Addie Asay (Family Court)

Angela Birney (OCA)

Kevin Bristowe, M.D.

Jane Boyd (DOE)

Lt. Todd Case (Dover PD)

Maureen Ewadinger and Nanette

Holmes(Child Development Watch)

Capt. Melissa Hukill (DSP)

Lt. Richard Jefferson (Milford PD)

Phillip Shlossman, M.D., Chair

Renee Stewart (DSCYF)

Aimee String (DVCC)

### **SDY Panel Members:**

Addie Asay (Family Court)

Remi Adepoju, APN (DPH)

Angela Birney (OCA)

Sgt. Dermot Alexander (DSP)

Alice Coleman, LCSW

Mary Ann Crosley, RN (SDY Chair)

Stewart Krug (parent advocate)

Det. James Leonard (NCCPD)

Det. Ron Mullin (WPD)

Natasha Smith (DVCC)

Renee Stewart (DSCYF)

### **SDY Secondary Medical Panel**

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Gary Collins, M.D.

Ember Crevar, M.D.

Kate Cronan, M.D.

Stephen Falchek, M.D.

Kristi Fitzgerald, MS, LCGC

Aisha Frazier, M.D.

Karen Gripp, M.D.

Amanda Kay, M.D.

Bradley Robinson, M.D.

Donna Stanowski

Joel Temple, M.D.



### FIMR New Castle County CRT Members:

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Heather Baker, RN

Aleks Casper (Chair)

Janet Coston, RN

Andrew Ellefson, M.D.

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Rebeca Heistand, RN

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Kim Petrella, RN

Nicole Purdy

Damaris C. Santiago

Natasha Smith

Patricia Szczerba, RN

**Elizabeth Thorpe** 

Leslie Tepner, RN

Dana Thompson

**Adriana Viveros** 

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Linda Brauchler, RN

Bridget Buckaloo, RN (Co-Chair)

**Stephanie Cantres** 

Patricia Ciranni, RN (Chair)

Theresa Crowson, RN

Kathy Doty, RN

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### **MMR Committee Members:**

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Law enforcement as relevant on case by

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