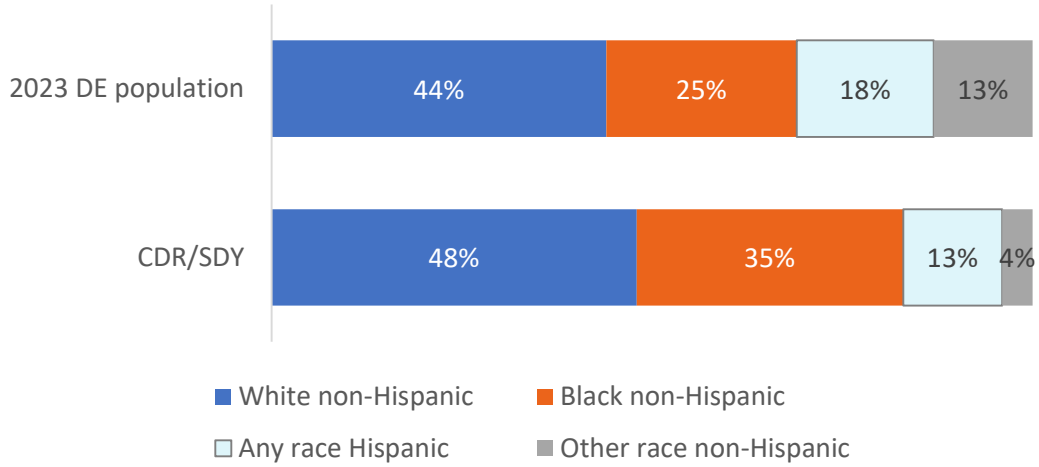
2023 Maternal & Child Death Review Commission Annual Report Data Addendum

Child Death Review and Sudden Death in the Young

Overview of Cases

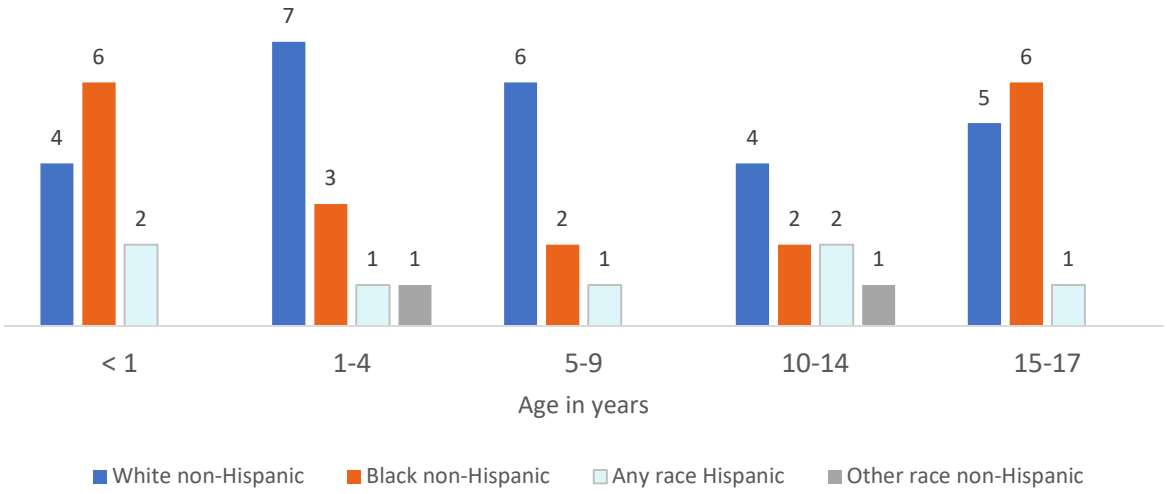
- 54 cases reviewed: CDR 38 cases, SDY 16 cases
- 5 cases administratively closed
- 12 infant cases reviewed
- 12 unsafe sleep deaths reviewed, including 3 involving children over 1 year of age
- 9 cases were reviewed jointly with the Child Abuse and Neglect (CAN) panel
- 20 children (37%) had known chronic health conditions: 17 of them died of natural causes, two were suicides, and one was a SUID
- New Castle residents made up 56%, Kent 17% and Sussex 28% of cases
    - This can be compared to the total population of 0-17-year-olds in Delaware, 59% of whom live in New Castle, 20% in Kent County, and 21% in Sussex County.[1]
- Males made up 52% of cases and females 48%
- The proportion of Black non-Hispanic children that made up CDR/SDY cases decreased but is still higher than their proportion of total Delaware children. While Black children make up 25% of the total population of 0-17-year-olds in Delaware, they make up 35% of the 2023 cohort of CDR/SDY cases. This is decreased from the 58% of 2022 CDR/SDY cases that involved Black children. (Figure 1)

Figure 1: Race and ethncity of children 0-17 years in 2023[1]



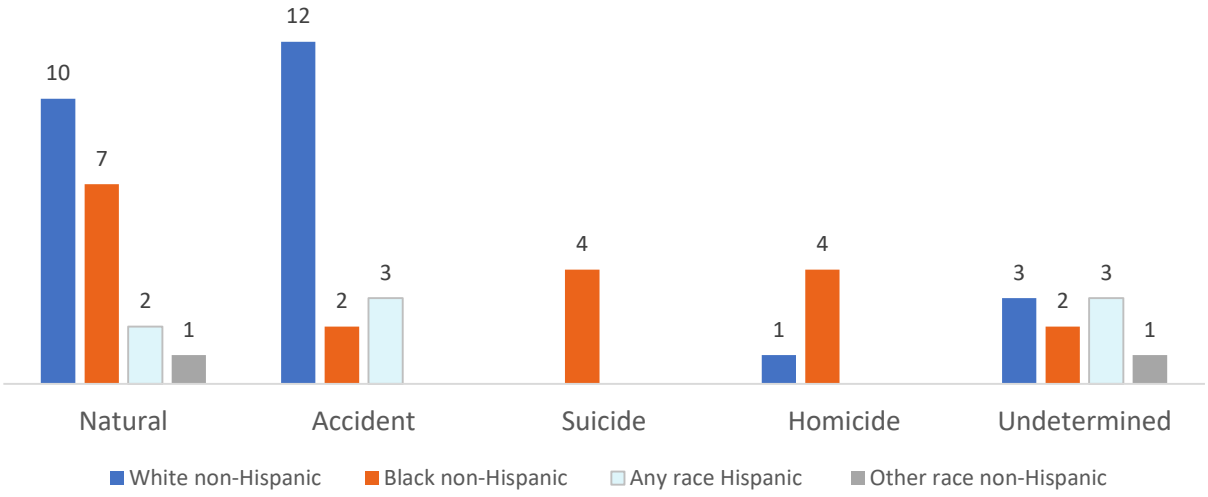
[1] Annie E. Casey Foundation, Kids Count Data Center. Child population in Delaware. Accessed at https://datacenter.aecf.org/data/tables/10056-child-population#detailed/5/1847-1849/false/2543/213/19451,19452 on January 31, 2024.

Figure 2: Age groups by race and ethnicity



- In 2023 cases, Black children made up a disproportionately high number of deaths among infants and older adolescents, 15-17—50% in each of these two age groups (Figure 2).
- All four suicides reviewed in 2023 involved Black adolescents. (Figure 3)[3]

Figure 3: Manner of death by race and ethnicity



[2] The MCDRC uses the terms White, Black, and Hispanic based upon the usage by the CDC, the National Center for Vital Statistics, and the National Center for Fatality Review's database.
[3] Nationally, Black high school students were more likely to attempt suicide compared to White or Hispanic students (YRBS report 2021 data).

Figure 4: Manner of death by age

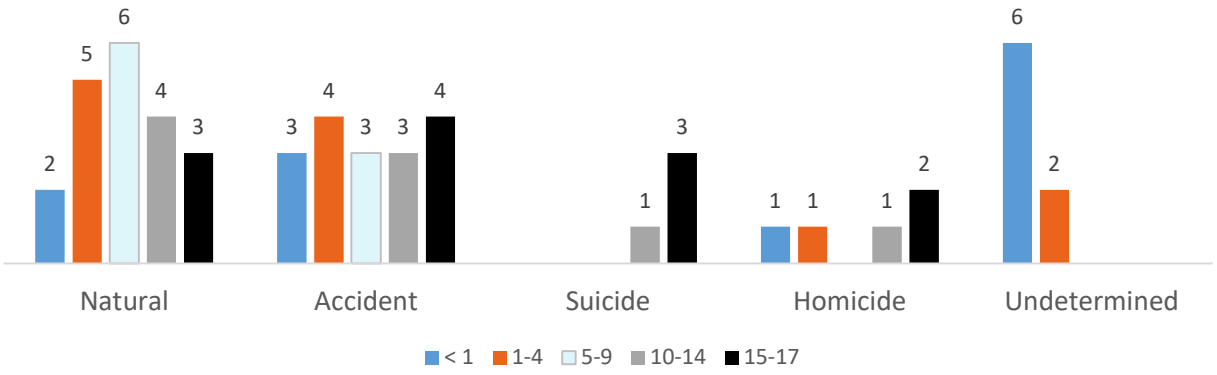
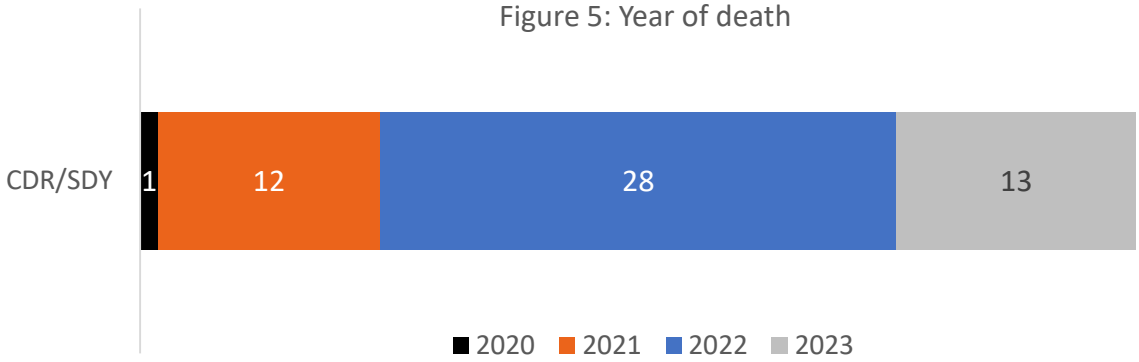


Figure 5: Year of death



Cases reviewed in 2023 represent deaths that occurred between 2020 and 2023. There is a lag between the occurrence of a death and its initial review by the CDR or SDY panel. The time to review depends on the time to referral, when the MCDRC becomes aware of a case, and the time it takes to abstract all pertinent records and get the case on a meeting agenda.

CDR/SDY Infant Deaths

- Eight of the 12 infant cases were related to unsafe sleep conditions.
- One infant was born premature, before 37 weeks gestation.
- No infants were born low birthweight, that is under 2500 grams.

Infant Cases: Tracking Issues by Year of Review

	2023 (n=12)	2022 (n=17)	2021 (n=9)	2020 (n=13)
Intrauterine tobacco exposure[1]	42%	35%	44%	15%
Intrauterine alcohol exposure[1]	8%	18%	0%	0%
Intrauterine drug exposure	45%	46%	29%	36%
Late or no prenatal care[2]	17%	12%	11%	8%
Insurance coverage for infant				
Medicaid	91%	59%	83%	69%
Private	9%	18%	17%	23%
None	0%	18%	0%	0%
No infant safe sleep education documented	0%	15%	0%	15%
Drug screen done on mother	100%	82%	83%	91%
Neonatal Opioid Withdrawal Syndrome (NOWS) scoring	60%[3]	0%	11%	8%
Substance-exposed infants with DFS notification	80%	67%	100%	75%
Home visiting referral made	30%	35%	22%	42%
Home visiting enrollment	33%	17%	100%	40%

[1]From NCFRP standardized report
[2]Late prenatal care defined as >6 months into pregnancy
[3]Out of those born to mothers who had a positive drug screen

	2022 (n=12)	2022 (n=17)	2021 (n=9)	2020 (n=13)
Caregiver at time of death				
Parent	100%	82%	78%	77%
Other	0%	18%	22%	23%
Substance use at time of death	57%[1]	25%[1]	22%	33%

[1]Five cases were marked as unknown; these cases are not included in the denominator

CDR/SDY Specific Causes of Death

Unsafe sleep-related deaths reviewed in 2023 (n=12)

- No families were a Cribs for Kids recipient.
- In 11 cases (92%), Infant Safe Sleep education was documented in the medical record. In the 12th case, it was unknown if the education was received.

Figure 7: Unsafe sleep deaths by year of review and race/ethnicity

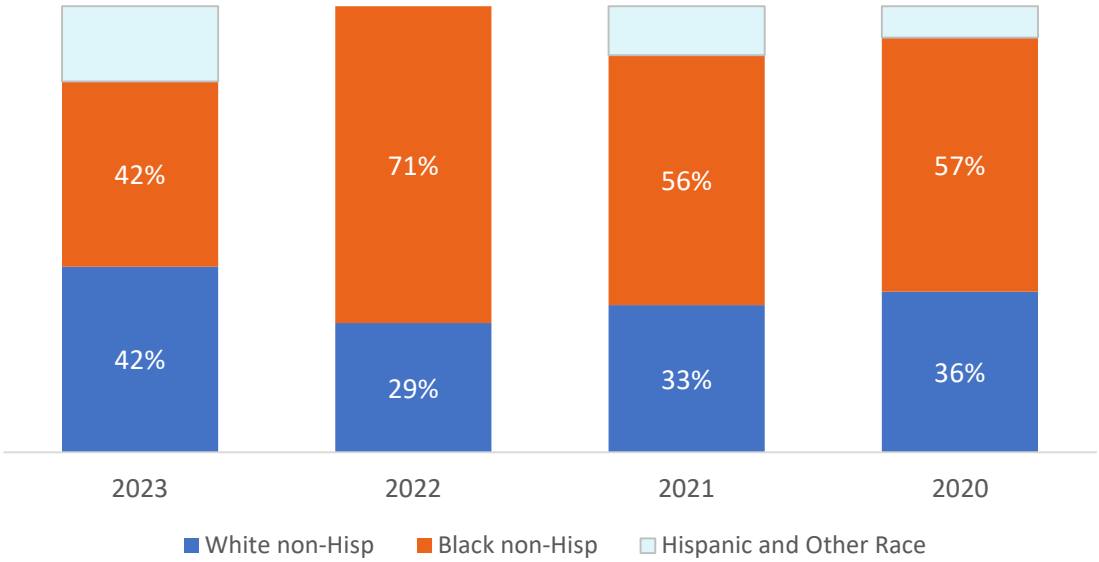
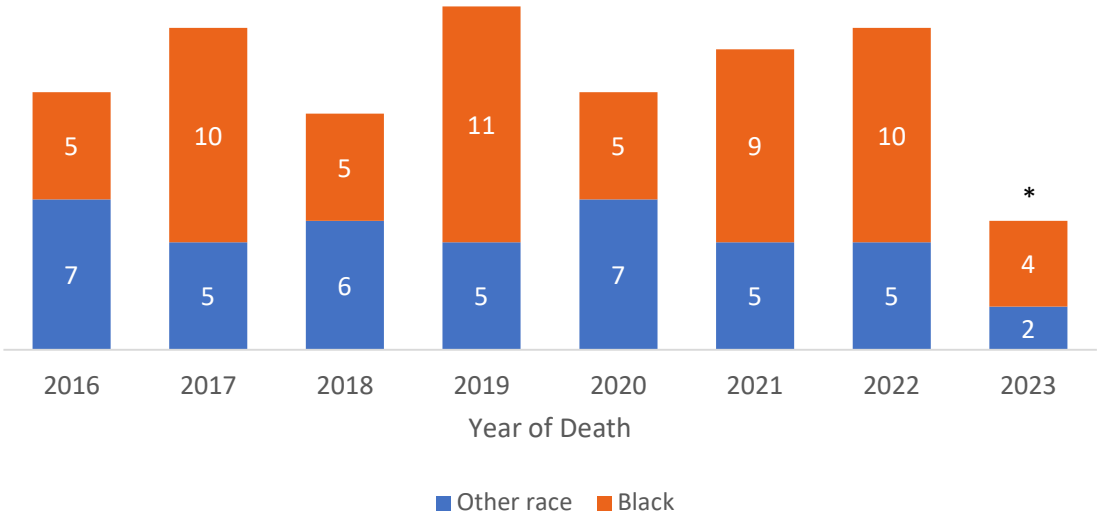


Figure 8: Number of Unsafe Sleep Related Deaths by Year of Death



*There are some 2023 cases pending review that cannot be attributed to unsafe sleep until finalized, so numbers may change and will be included in future reporting.

Unsafe sleep-related deaths, associated risk factors, by year of review

	2023 (n=12)	2022 (n=14)	2021 (n=9)	2020 infant only (n=10)	PRAMS 2020[1]
Not in a crib, bassinette, side sleeper, or baby box	75%	79%	78%	80%	10%[2]
Not sleeping on back	42%	43%	44%	40%	22%
Unsafe bedding or toys near infant	92%	79%	89%	70%	8%[3]
Sleeping with other people	50%	79%	56%	40%	23%[4]
Intrauterine drug exposure	44%*	36%*	17%*	30%	--
Tobacco use: mother	33%	45%*	38%*	25%	21%
Adult was alcohol or drug-impaired	33%	21%	11%	33%	--
Infant ever breastfed	67%	64%*	63%*	90%	89%[5]
Mother fell asleep while breastfeeding	0%	7%	0%	0%	--

[1]DPH. Delaware Pregnancy Risk Assessment Monitoring System (PRAMS) 2020 Analysis. Personal communication with G Yocher.

[2]Not usually in crib, bassinet or pack and play in the last 2 weeks

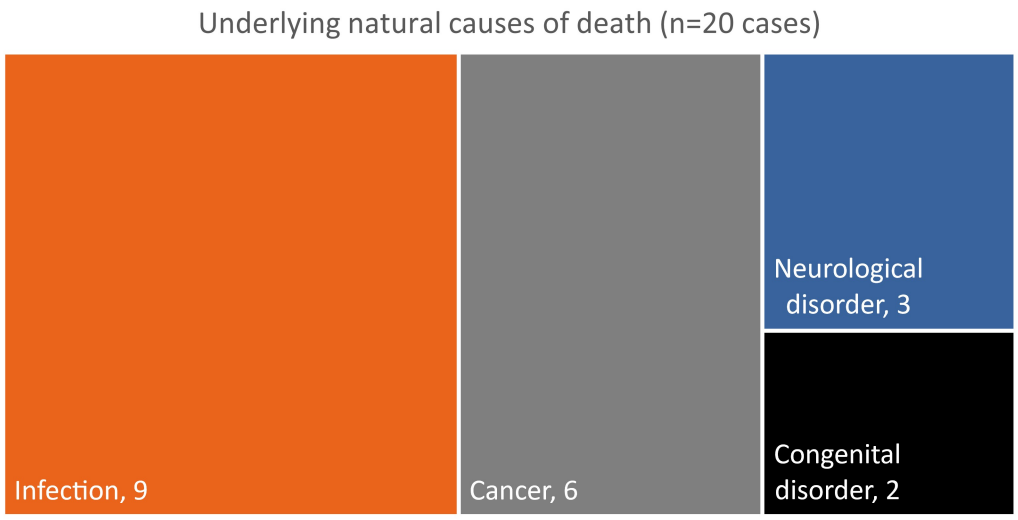
[3]Sleep with toys, cushions, or pillows

[4]Baby does not often or always sleeps alone in crib or bed

[5]PRAMS 2021

*Only infant unsafe sleep deaths included

Natural deaths n=20



- Eighty-five percent of children had chronic medical conditions.

CDR/SDY Tracking Issues

Adverse Family Experiences, by year of review[1]

	2023 Total (n=54)	2023 Infants (n=12)	2022 Total (n=57)	2022 Infants (n=17)	2021 Total (n=48)	2021 Infants (n=9)
DFS notified of death[2]	65%	100%	65%	94%	69%	100%
DFS rejected MDT response that should have been accepted, 0-3 year olds	0%	0%	0%	0%	13%	11%
Active with DFS at time of death	22%	50%	19%	35%	15%	22%
Active with DFS within 12 months of death	31%	58%	27%	53%	23%	50%
DFS history: parents as adults	58%	67%	57%	56%	64%	88%
DFS history: parents as children	40%	83%	41%	57%	28%	38%
Maternal substance abuse[3]	47%	73%	37%	60%	29%	63%
Paternal substance abuse[3]	47%	78%	31%	44%	33%	60%
Maternal criminal history	46%	67%	35%	40%	36%	67%
Paternal criminal history	57%	58%	57%	58%	46%	*
Maternal mental health issue[3]	*	100%	*	*	*	40%
Paternal mental health issue[3]	*	*	*	*	*	*
Maternal intimate partner violence[3]	39%	55%	43%	46%	50%	57%
Paternal intimate partner violence[3]	53%	70%	42%	46%	41%	40%
Maternal history of abuse	16%	33%	8%	0%	13%	13%
Paternal history of abuse	14%	25%	7%	8%	8%	20%
Maternal history of neglect	24%	50%	30%	40%	15%	25%
Paternal history of neglect	23%	50%	10%	0%	8%	40%

*More than 50% of values unknown, so not reported

[1]Denominator is applicable to cases with known information

[2]Denominator is cases specified by statute: Title 16, Chapter 9, Subsection 906(e)(3) for DFS investigation, children ages 0-3 years

[3]Current, history or suspected

Infant Tracking Issues, by year of review

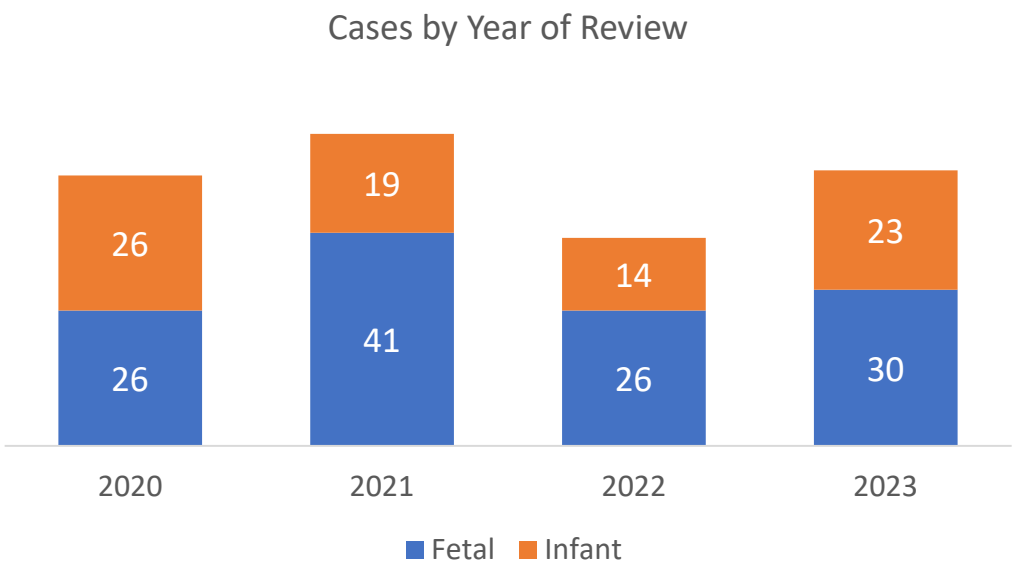
	2023 (n=12)	2022 (n=17)	2021 (n=9)	2020 (n=13)
No SUIDI reporting form[1]	10%[2]	8%	0%	18%
No scene investigation[1]	0%	0%	11%	15%
No scene photos[1]	0%	0%	11%	8%
No doll re-enactment[1]	10%[2]	15%[2]	22%	25%
Toxicology screen of alleged perpetrator	92%[2]	67%	67%	

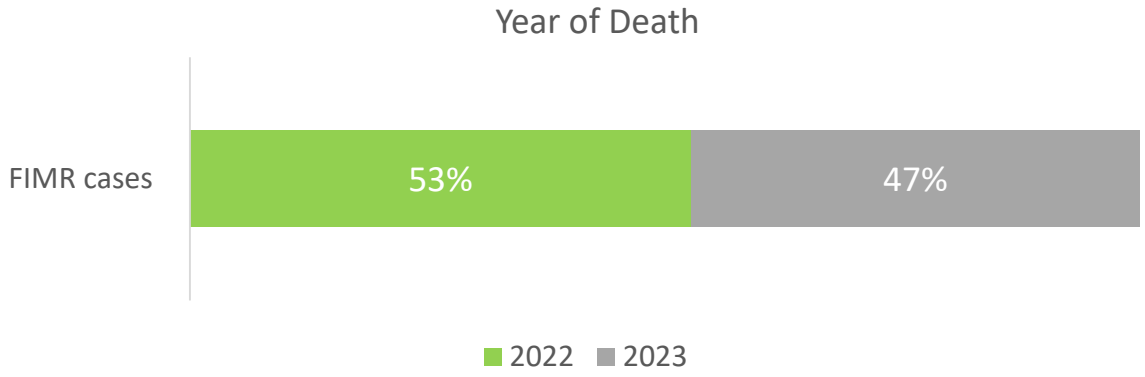
[1]denominator is infant deaths due to unsafe sleeping or undetermined manner
[2]One parent refused to cooperate

Fetal and Infant Mortality Review

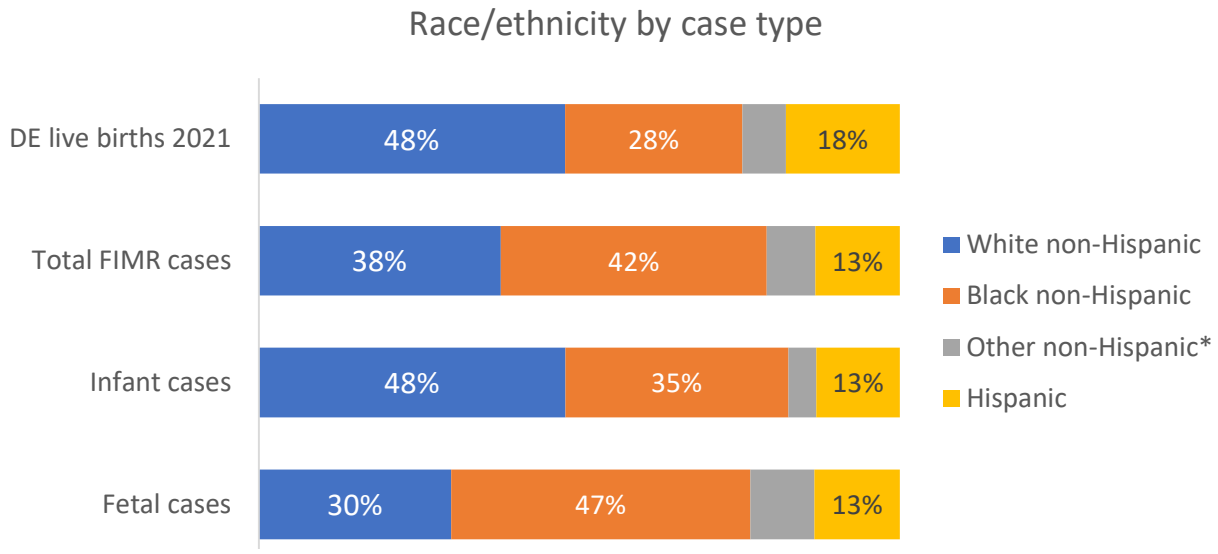
Overview of Cases

- 104 cases were referred to the MCDRC in 2023:
  - 25 cases were out of state residents
  - 33 cases were triaged out based on even or odd date of death
  - 46 cases were triaged into FIMR either because the mother accepted a maternal interview or the even/odd date of death random selection criteria
- FIMR CRTs reviewed 53 cases in 2023: 30 (57%) fetal deaths and 23 (43%) infant deaths, that is an average of 4 cases per meeting



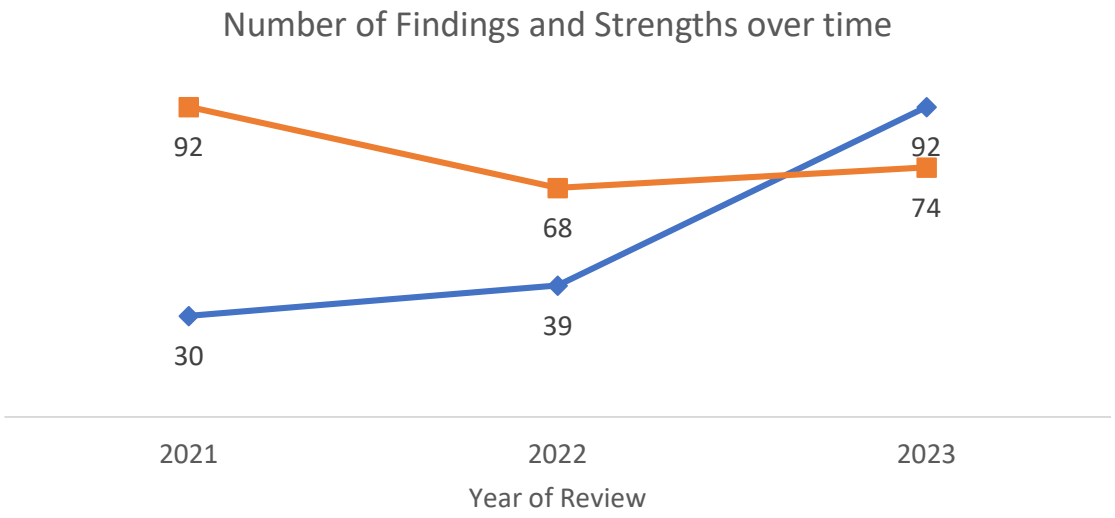


- Average time between the occurrence of a death and CRT review was 5.1 months, which is slightly lower than in 2022 when it was 5.5 months.



*Other race includes Asian and biracial

Source: FIMR data and Division of Public Health, Delaware Vital Statistics Annual Report 2021, "Reported Pregnancies". Accessed at: https://dhss.delaware.gov/dhss/dph/hp/2021.html on 1/22/2024.



Findings and Strengths in 2023 FIMR Cases (n=53)

Category	Findings (n=74 total)	Strengths (n=92 total)
Maternal Health & Morbidity	3	0
Infant Health	1	2
Continuity of Care	13	16
Mental Health	4	20
Substance Use Disorder (SUD)	6	5
Quality of Care	15	14
Respectful Maternity Care	5	8
Family Support	7	10
Social Determinants of Health	1	10
Family Planning	3	5
Fetal Kick Counts (FKC)	4	0
Vital Statistics	4	0
FIMR Process	8	2

1. Maternal Health & Morbidity

Overview: Maternal complications either due to medical conditions or obstetric complications are evaluated closely in FIMR cases. In 2023, there was a decrease in the prevalence of some comorbidities—chronic hypertension and preeclampsia—but the overall rate of severe maternal morbidity (SMM) was high in FIMR cases at 9%. Of note, more cases had serious complications, such as uterine rupture, but did not meet the SMM criteria. Two of the three findings relate to lack of appropriate follow up for elevated blood pressures in the postpartum period.

FIMR Issues Summary by year of review*

Medical: Mother	2023 (n=53 cases)	2022 (n=40 cases)	2021 (n=60 cases)	2020 (n=52 cases)	Comparison
Cord problem	19%	23%	10%	15%	
Placental abruption	15%	28%	30%	13%	
Chorioamnionitis	30%	28%	43%	27%	
Gestational diabetes	6%	3%	8%	6%	7.0%[4]
Cervical insufficiency	13%	5%	12%	23%	
Infection: bacterial vaginosis	6%	10%	5%	10%	6%[5]
Sexually transmitted infection	6%	8%	15%	17%	

[4] Hussaini, K. (2021). Severe Maternal Morbidity. https://www.census.gov/programs-surveys/popest/technical-

[5] Delaware Health and Social Services, Division of Public Health. Delaware Pregnancy Risk Assessment Monitoring System (PRAMS) 2020 Analysis. November 2022. PRAMS is a standardized data collection questionnaire administered by telephone and mail. It samples a proportion of women who give birth in Delaware to ascertain maternal attitudes and experiences before, during and shortly after pregnancy. PRAMS is conducted by the Delaware Division of Public Health and the Centers for Disease Control and Prevention (CDC).

Other infection	32%, including 19% with Covid	30%	17%	23%	
Multiple gestation	11%	10%	7%	8%	
Mother's weight BMI	70%	70%	62%	62%	62%[6]
Insufficient/ excess weight gain	4%	13%	12%	6%	
Pre-existing hypertension	4%	18%	22%	15%	3.5%[1]
Preeclampsia	8%	23%	25%	8%	
Preterm labor	15%	15%	17%	27%	13%[2]
PPROM (prolonged premature rupture of membranes)	17%	15%	13%	10%	
Oligo-/polyhydramnios	15%	23%	33%	15%	
Previous miscarriages	26%	38%	23%	31%	
Previous fetal loss	2%	5%	5%	6%	
Previous infant loss	2%	3%	2%	2%	
Previous low birthweight delivery	8%	10%	3%	4%	8%[2]
Previous preterm delivery	21%	18%	13%	8%	5.5%[1]
Previous C-section	19%	18%	23%	19%	
Assisted reproductive tech	6%	10%	7%	6%	

*either a P (present) or C (contributing) factor

Note: For brevity, some P/C factors have not been included if their prevalence is low or has not been changing over the last few years.

- Five cases of **severe maternal morbidity (SMM)** (9%) due to intensive care unit stay (4 cases) and obstetric hemorrhage (1 case). The 2020 SMM rate in Delaware is 68.3/10,000 deliveries =, that is 0.7% (not including blood transfusions.)[7]
- Three cases of uterine rupture occurred among the FIMR cohort.
- Three cases of obstetric hemorrhage occurred that did not meet SMM criteria.

FIMR Tracking Issues by year of review

	2023	2022	2021	2020
Antenatal steroids used when appropriate[1]	79%	50%	60%	63%
Vaginal progesterone offered when appropriate[2]	75%	45%	33%	48%
Low-dose aspirin counseling when appropriate[3]	90%	75%	78%	59%

[1]Infant cases only, viable and preterm

[2]History of prior spontaneous miscarriages or preterm delivery and single gestation in this index pregnancy

[3]History of hypertension, diabetes, preeclampsia, eclampsia or multiple gestation

[6] Percent BMI≥25 as reported in the PRAMS MCH indicators 2021 spreadsheet. Accessed at https://www.cdc.gov/prams/prams-data/selected-mch-indicators.html on 1/23/2024.

[7] Delaware's Title V State Action Plan Snapshot 2020-2025. National Performance Measures.

2. Infant Health

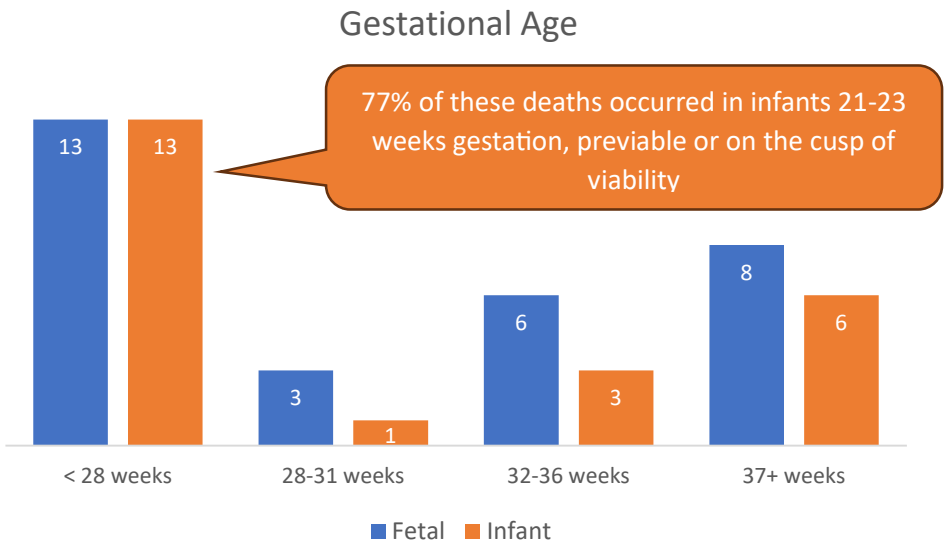
Overview: In 2023 there were many fewer FIMR cases with congenital anomalies as the underlying cause of death. Compared to last year when 50% of infant cases and 15% of fetal cases were attributed to a congenital anomaly, this year it was 22% and 0%, respectively. Among infant cases, prematurity and its sequelae returned as the #1 cause of death, reversing a trend seen in the preceding two years. Almost half of the total infant deaths (43%) were infants under 24 weeks gestation at birth. One finding and one strength relate to managing an extremely premature infant born at a Level 1 facility.

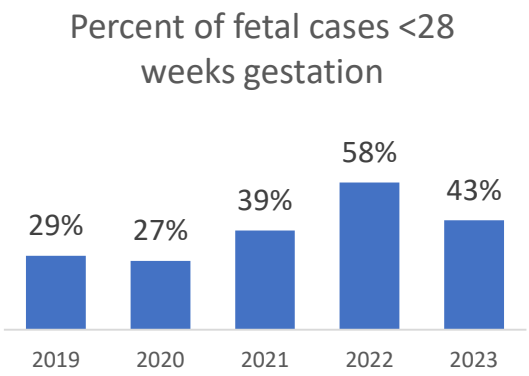
FIMR Issues Summary by year of review*

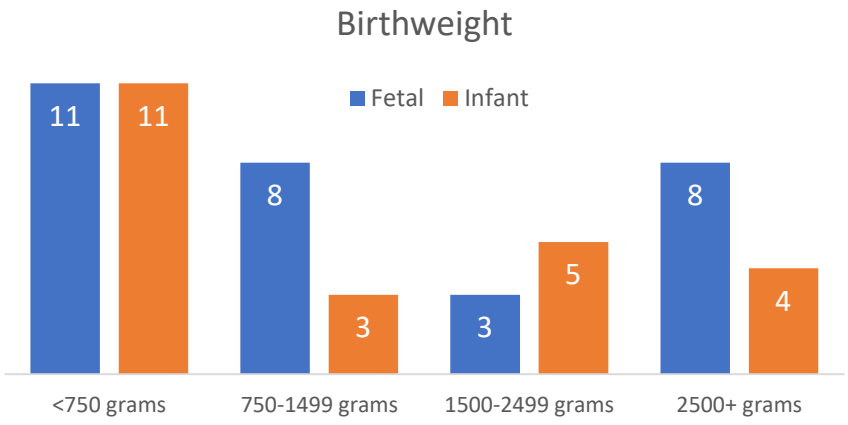
	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020** (n=52 cases)
Non-viable fetus	9% (infant)	14% (infant)	5% (infant)	50%
Intrauterine growth restriction	13%	23%	15%	15%
Congenital anomaly	9%	28%	23%	19%
Prematurity	32%	23%	20%	40%
Infection/ sepsis	4%	13%	12%	6%
Respiratory Distress Syndrome	25%	10%	18%	19%

*either a P (present) or C (contributing) factor

- Among infant cases, contributing issues included:
  - 22% had congenital anomalies
  - 74% had prematurity
  - 9% had infection/sepsis
- Among fetal cases, contributing issues included:
  - 0% had congenital anomalies




Percent of fetal cases <28 weeks gestation
29%
27%
39%
58%
43%
2019
2020
2021
2022
2023


Birthweight
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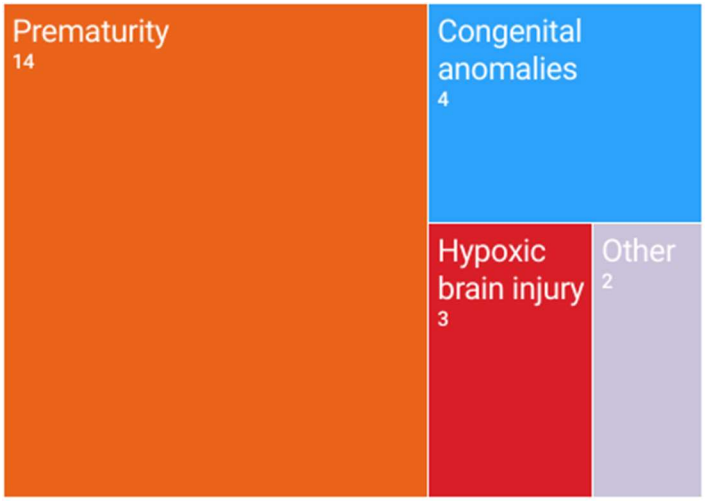
<750 grams
750-1499 grams
1500-2499 grams
2500+ grams



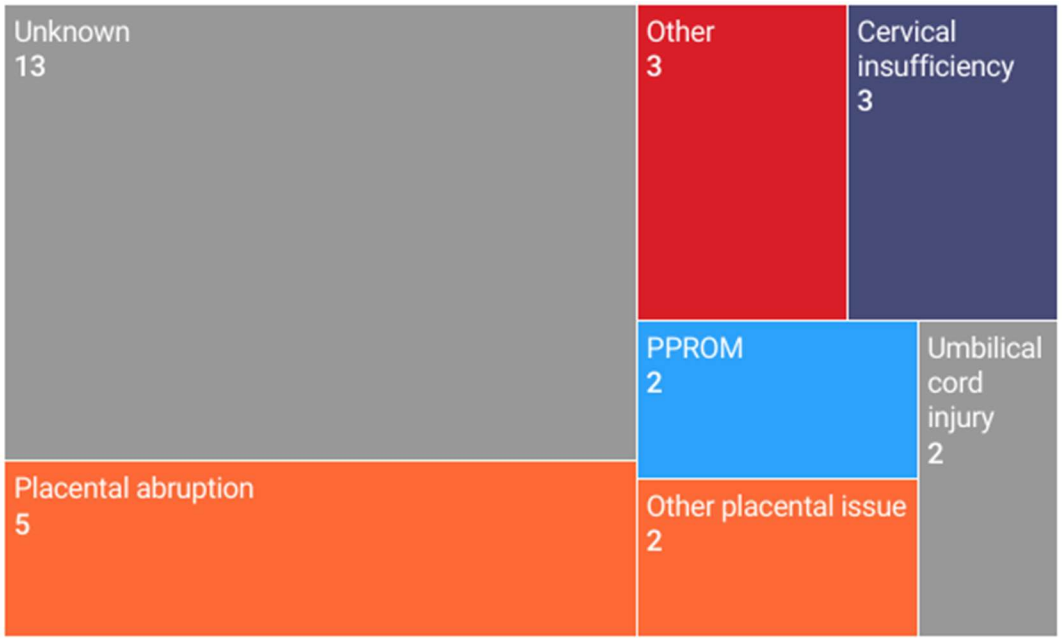
Underlying causes of infant deaths

Age at infant death

- 22% of infants died in their 1st day of life
- 13% of infants (n=3) survived beyond 28 days, dying in the post-neonatal period

Location of birth

- Three infants (13%) were born in a Level 1 hospital



Underlying causes of fetal deaths

3. Continuity of Care

Overview: FIMR cases demonstrate an overall lower prevalence of timely prenatal care compared to PRAMS data based on a sample of all women delivering in Delaware. Only 70% of FIMR cases had a documented postpartum visit, and 57% had a visit within 3 weeks of delivery as currently recommended by ACOG. Over one-third of cases (38%) had late or no prenatal care. Five findings made in FIMR 2023 cases relate to a delay in timely prenatal care. Nine of the 50 FIMR mothers (18%) in total experienced some form of delay in care as found at the time of review. In two cases the delay seems to be related to the mother's being unaware of her pregnancy. Findings and strengths show the flip sides of interconception care and provider to provider communication, demonstrating instances when they are done well and when they are not.

FIMR Issues Summary by year of review*

	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020** (n=52 cases)	**PRAMS 2021**[1]
Preconception care	19%	25%	13%	12%	27%[2]
Postpartum visit kept	70%	74%	61%	65%	87.7%
No prenatal care	13%	10%	10%	6%	2.3%[3]
Late entry to prenatal care	25%	18%	37%	17%	20.4%
Lack of referrals	0%	3%	5%	4%	
Missed appointments	17%	18%	27%	12%	
Multiple providers / sites	6%	8%	8%	19%	
Poor provider to provider communication	6%	3%	7%	6%	

*either a P (present) or C (contributing) factor

[1]PRAMS MCH indicators 2021 spreadsheet. Accessed at https://www.cdc.gov/prams/prams-data/selected-mch-indicators.html on 1/23/2024.

[2]PRAMS 2020. Did a healthcare worker talk the mother about preparing for pregnancy?

[3]Hussaini, K. (2021). Severe Maternal Morbidity. https://www.census.gov/programs-surveys/popest/technical-

4. Mental Health

Overview: For the second year in a row, strengths outnumbered findings in this category. Strengths reflect the use of a standardized screening tool, referral to counseling and/or medication. There were three cases with notable strengths of co-located behavioral health providers, a model that facilitated the mother's receiving mental health counseling and treatment. In the postpartum period, FIMR mothers were four times as likely to have depression or another mental health issue compared to self-reported PRAMS data of postpartum depression among all women delivering in Delaware. FIMR mothers are at higher risk for mental health issues because of their loss, and providers seem to be responding to their needs with screening, referral and support in many cases.

FIMR Issues Summary by year of review*

	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020** (n=52 cases)	**PRAMS 2021**
History of mental illness	40%	43%	33%	35%	
Depression/mental illness during pregnancy	11%	20%	20%	33%	16.2%[1]
Depression/mental illness postpartum period	38%	45%	29%	40%	9.7%[1]
Depression screen documented (tracking database)	92%	93%	93%	88%	88%[3]

*either a P (present) or C (contributing) factor

[1]Only depression, self-reported

[2]Since your baby was born, have you always or often felt down, depressed, or hopeless

[3]PRAMS 2020. Depression screening during prenatal care visit

Of those Mothers who were screened for depression in the peripartum period:

- 39% were screened on only one occasion, most often at the time of delivery or in the prenatal care setting.
- 27% of women were screened twice.
- 35% were screened on 3+ occasions.

5. Substance Use Disorder

Overview: Marijuana is the most common substance used among FIMR mothers with a positive drug test. However, only one case had documentation of education and counseling on marijuana in the prenatal period. With the 2023 legalization of recreational marijuana in Delaware, the prevalence of marijuana use may increase in the general population in the future. FIMR will continue to track this issue as a prenatal risk to the developing fetus.

FIMR Issues Summary by year of review*

	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020 (n=52 cases)**	**NSDUH 2019[1]**
Positive drug test	21%	28%	18%	25%	
No drug test	17%	10%	10%	15%	
Tobacco use: history	23%	10%	7%	19%	
Tobacco use: current	11%	25%	20%	19%	9.6%
Alcohol use: history	34%	15%	10%	10%	
Alcohol use: current	6%	8%	8%	4%	9.5%
Illicit drug use: history	26%	13%	10%	12%	
Illicit drug use: current	17%	20%	18%	19%	5.8%
Use of unprescribed meds	2%	0%	5%	0%	

Over the counter/ prescription meds	83%	90%	75%	77%	
In utero drug exposure[2]	23%	18%	15%	27%	
NAS diagnosis[1]	0%	0%	0%	0%	

*either a P (present) or C (contributing) factor

[1]"Past month substance use among pregnant women" as found in McCance-Katz, E. F., Secretary for Mental Health, A., Use, S., Abuse, S., & Health Services Administration, M. (2020). 2019 National Survey on Drug Use and Health: Women Substance Abuse and Mental Health Services Administration.

[2]FIMR tracking database

Ten mothers had a positive drug screen in the perinatal period, six of them for marijuana only and four for multiple substances.

6. Quality of Care

Overview: There were many findings and strengths relating to the provision of care in keeping with the highest standards or current evidence base. For example, there were findings and strengths related to the screening of women for their preeclampsia risk and prescribing low dose aspirin (ASA) based on the DPQC criteria. There were also examples of both using and not using translation services appropriately. Strengths in Quality of Care often relate to providers going above and beyond to care for patients. This category overlaps with Respectful Maternity Care as quality care also necessitates empathetic care.

FIMR Issues Summary by year of review

	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020 (n=52 cases)**
Obstetric standard of care not met	0%	8%	3%	2%
Inadequate assessment	2%	8%	3%	2%

7. Respectful Maternity Care

Overview: A recent systematic review summarized some key components of Respectful Maternity Care (RMC) to include: freedom from abuse/violence, consent, privacy, communication and shared decision making, dignity and respect, safety, and justice. (Cantor 2024) FIMR cases demonstrate both good and bad examples of these components and how they impact patients. Providers being aware of the patient's perspectives/experiences and providing care that is responsive to their needs and values is central to RMC. In many FIMR cases, we see instances of shared decision making and communicating medical information as our mothers often have medical or obstetric complications and end of life care decisions to make.

FIMR Issues Summary by year of review

	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020** (n=52 cases)
Language barriers	6%	5%	12%	4%
Beliefs re: pregnancy/health	4%	8%	13%	4%
Poor provider to patient communication	8%	15%	18%	14%
Client dissatisfaction	13%	23%	13%	12%
Dissatisfaction-support services	4%	0%	5%	0%

Eight mothers who participated in a maternal interview were asked if they felt they were treated differently or unfairly in getting services:

- Three mothers (38%) said yes
- One mother identified multiple, intersecting factors for her discrimination: race, culture, insurance status and ability to pay

8. Family Support

Overview: FIMR cases have findings and strengths relating to the provision of bereavement support and patient education in ways accessible for patients and their families. While two cases involved family or friends used as support people, there were no FIMR cases with the use of certified doulas. One finding and one strength relate to the provision, or lack thereof, of bereavement leave by employers. Just over half (56%) of mothers on Medicaid were not referred to home visiting programs even though they may have been eligible, a proportion that is slightly lower than in prior years.

FIMR Issues Summary by year of review

	2023 (n=53 cases)	**2022** (n=40 cases)	**2021** (n=60 cases)	**2020** (n=52 cases)
Bereavement referral made	74%	80%	63%	58%
Lack of grief support	2%	8%	0%	2%
Lack of home visiting (eligible)	56%	72%	67%	67%
Multiple stresses	42%	50%	55%	44%

*Out of mothers on Medicaid only

FIMR Tracking Issues

	2023
Referred to home visiting program	N=5[1]
Enrolled in home visiting program	N=0
Used doula services	4%[2]

[1]Two mothers were clinic patients and three were seen by private prenatal providers.

[2]Not a certified doula

9. Social Determinants of Health

Overview: Strengths far outnumber findings in the SDOH category and relate to extra supports or referrals made to families with an identified need or social risk. This past year there were two cases in which a documented SDOH screen was done. In 23% of cases, the CRTs documented a concern about money for the family.

FIMR Issues Summary by year of review*

	2023 (n=53 cases)	2022 (n=40 cases)	2021 (n=60 cases)	2020 (n=52 cases)	PRAMS 2020
Lack of family support	2%	10%	18%	15%	
Lack of neighbors/ community support	2%	0%	12%	2%	
Lack of partner support	15%	10%	22%	15%	
Single parent[1]	19%	18%	27%	64%	
Frequent/recent moves	19%	20%	25%	19%	28%
Living in shelter/homeless	0%	5%	2%	2%	4%
Mother incarcerated	4%	3%	7%	6%	
Father incarcerated	2%	10%	7%	14%	
Social chaos	11%	13%	12%	17%	
Concern about enough money	23%	8%	18%	17%	14%
Work/ employment problems	11%	8%	10%	8%	
Problems with family/ relatives	0%	0%	5%	6%	
Past intimate partner violence: Mom	4%	8%	15%	25%	
Current intimate partner violence: Mom	4%	5%	10%	6%	3%
CPS referrals	30%	50%	32%	35%	
Police reports	23%	43%	17%	27%	
Inadequate/ unreliable transportation	4%	3%	12%	2%	

*either a P (present) or C (contributing) factor

[1]Definition changed in 2021 to include child-bearing parent living alone without support of non-childbearing parent

FIMR Tracking Issues by year of review

	2023	2022	2021	2020	PRAMS 2020
Family adverse experiences					
Active with Division of Family Services (DFS)	6%	5%	7%	8%	
Any DFS history	58%[1]	52%	50%	54%	
Criminal history: mother	27%	25%	25%	15%	
Criminal history: father	23%	43%	39%	40%	
Intimate partner violence screening documented	72%[2]	90%	90%	65%	87%[3]
Intimate partner violence	6%	5%	10%	6%	

[1]Four mothers (8%) had lost custody of prior children.

[2]53% screened only on one occasion.

[2]Intimate partner violence screen during a prenatal care visit

Insurance type

- Private only 32%
- Medicaid only 53% --1 of 28 cases with emergency L&D Medicaid only
- Medicaid + Private 9%
- Medicaid + Medicare 2%
- Tricare 2%
- Uninsured 2%

10. Family Planning and Birth Spacing Education

Overview: There were two findings that represent a missed opportunity to provide family planning in the hospital postpartum. Overall, the proportion of cases receiving birth control counseling was slightly up from previous years. The acceptance of birth control, and of LARC in particular, is unchanged over the last several years of case review. Documented birth spacing counseling to wait at least 18 months between pregnancies has not changed in the last few years and remains low at 8%. Of note, four FIMR cases had evidence of the mother's being undecided about continuing the pregnancy. However, when she did present to care, she was too far along to be offered a termination.

FIMR Issues Summary by year of review*

	2023 (n=53 cases)	2022 (n=40 cases)	2021 (n=60 cases)	2020 (n=52 cases)	PRAMS 2020
Pregnancy planning/ birth control education	85%	70%	73%	79%	
Intended pregnancy	36%	43%	20%	25%	50%[1]
Unintended pregnancy	26%	25%	32%	17%	
Unwanted pregnancy	11%	0%	8%	4%	
Pregnancy < 18 mo apart	13%	23%	25%	14%	

*either a P (present) or C (contributing) factor

[1]Mother was trying to get pregnant

FIMR Tracking Issues by year of review

	2023	2022	2021	2020	PRAMS 2020
Counseled on birth spacing > 18 months	8%	5%	2%	6%	
Counseled on family planning postpartum	91%	74%	71%	80%	77%
Accepted family planning postpartum--any type	46%	42%	47%	49%	
Accepted LARC postpartum	8%	8%	16%	8%	

LARC = long-acting, reversible contraception

11. Fetal Kick Counts (FKC)

Overview: 2023 FIMR cases demonstrate a drop in the documentation of FKC instruction during prenatal visits among pregnancies that progressed beyond 23 weeks gestation. Just under half of such cases had documented FKC education. In three fetal cases, a finding was made relating to no documented FKC education.

FIMR Tracking Issues by year of review

FIMR Tracking Database	2023	2022	2021	2020	PRAMS 2020
FKC education after 23 weeks gestation	48%	65%	56%	67%	87%[1]

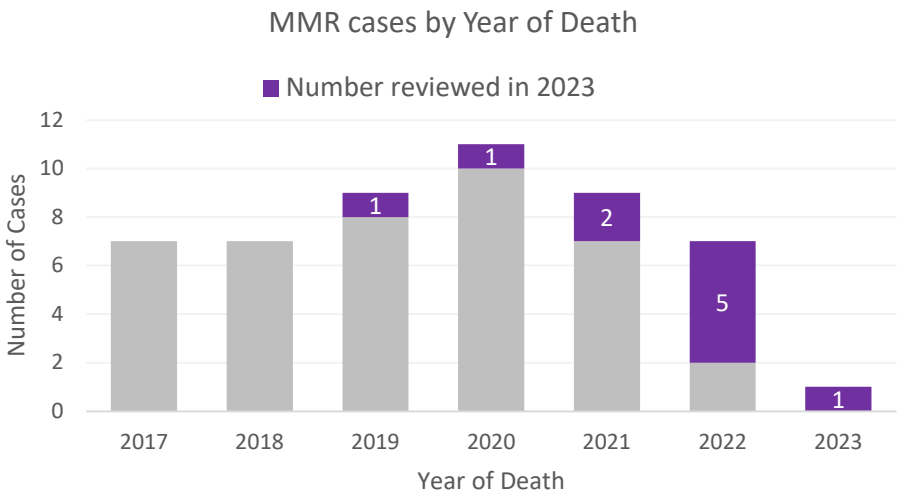
[1]At any time during prenatal care

- Of the 15 cases with a pregnancy of over 23 weeks and no documented FKC education in the setting of prenatal care, there were ten fetal deaths that occurred.

Maternal Mortality Review

Overview of Cases

- Ten cases reviewed, representing deaths ranging from 2019 to 2023

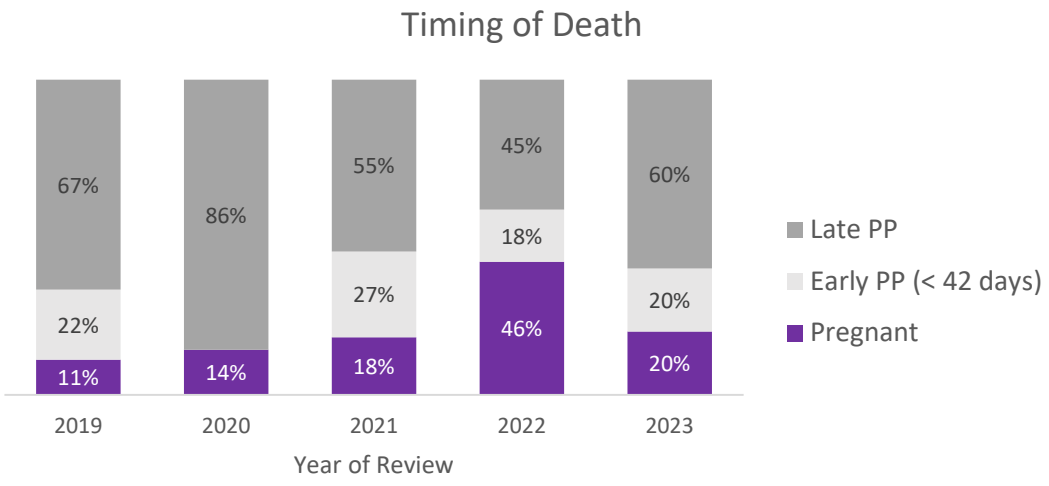


- Average time to review: 20.6 months, increased from 16 months in 2022
    - The cases from 2019 and 2020 were homicides and delayed because of prosecution
    - Average time to notification: 6.2 months (range 1 day-20 months), increased from 4.5 months in 2022. Notification time varied significantly by referral source:
        - Media or obituary: 1-2 days
        - DIA: 28-31 days
        - Death certification: 164 days
        - CDC import: 58 and 428 days
        - Vital statistics linkage: 273-588 days
    - Time from notification to review (not including the two homicide cases which were delayed due to pending prosecution) ranged from 5.4-13.2 months
- Pregnancy check box on death certificates:
    - One false positive case identified in 2023
    - One false negative case identified in 2023
    - Four cases had pregnancy check box marked as pregnant or postpartum within the past year
        - Only 1 out of the 4 were picked up by the monthly death certificate notifications
    - Four check box responses were “unknown”, and one case did not have any response
- Four family interviews conducted, representing two cases

Maternal demographics	MMR 2023 (n=10)	DE live births 2021 (n=10,389)[8]
Race/ethnicity		
White non-Hispanic	30%	48%
Black non-Hispanic	40%	28%
Other non-Hispanic	10%	7%
Any race Hispanic	20%	18%
Maternal Age		
< 20	0	4%
20-24	20%	18%
25-29	30%	28%
30-34	40%	31%
35+	10%	20%
County		
New Castle	50%	58%
Kent	30%	20%
Sussex	20%	22%
Insurance		
Private	20%	53%*
Medicaid	80%	41%*
Self-pay	0	2%*
Unknown	0	1%*

*2020 Delaware Live Births

- Timing of death: two deaths occurred during pregnancy; two deaths within 42 days postpartum; and six deaths in the late postpartum period



[8] Delaware Department of Health and Social Services, Division of Public Health, Delaware Health Statistics Center. Delaware Vital Statistics Annual Report 2021.

- Pregnancy outcome: one ectopic pregnancy, two fetal deaths, one neonatal death, and six live births
- #1 Cause of death: six acute overdoses
- 80% preventable overall
- 30% pregnancy related (PR) and 70% pregnancy associated but not related (PANR)

Contributing Factors and Draft Recommendations

- Sixty-nine contributing factors were identified in the 10 cases
- Three strengths were also identified in case review

Most Common Contributing Factors by Year of Review