State of Illinois
Illinois Department of Public Health

Illinois Maternal Mortality Data Report

November 2025

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The Illinois Department of Public Health dedicates this report to the 219 Illinois women who died while pregnant or within one year of their pregnancy during 2021-2022, and to their loved ones and families.

We hope our efforts to better understand the causes of maternal mortality will prevent other women and families from suffering a similar fate by supporting systemic changes that promote maternal health and health equity.

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The Illinois Department of Public Health (IDPH) is proud to present the latest edition of the Illinois Maternal Mortality Report, building on the vital work of two IDPH committees: the Maternal Mortality Review Committee (MMRC) and the Maternal Mortality Review Committee for Violent Deaths (MMRC-V).This report shares findings on maternal deaths that occurred in 2021 and 2022. Our three previous reports have provided critical insight and actionable recommendations that have led to meaningful momentum among healthcare providers, community leaders, policymakers, nonprofit organizations, and residents throughout Illinois to prevent maternal mortality. As a result, Illinois is now recognized as a national leader in maternal health.

However, our work is far from over, and while we have made important strides, the data in this report highlight the serious challenges we still face. Black women remain disproportionately impacted by maternal mortality. Substance use disorders remain the leading cause of pregnancy-related deaths, underscoring the ongoing toll of the opioid crisis, and this report illustrates the far-reaching effects that the COVID-19 pandemic has had on pregnant individuals and families in Illinois. Additionally, as in previous reports, we continue to see that fragmented and siloed healthcare systems remain a leading contributing factor to maternal deaths.

A unique aspect of this report is that the recommendations are aligned with the four transformative goals outlined in the new Illinois Birth Equity Blueprint: quality, access, care coordination and data-driven surveillance and solutions. The Birth Equity Blueprint was born out of the outpouring of engagement following the 2023 Maternal Morbidity and Mortality Report, and the realization that Illinois needs a comprehensive, cross sector, public-private strategic planning effort to identify the steps needed to reach systemic change. Without the foundational work of the MMRC's, and these reports, Illinois would not be positioned to bring so many partners together, united in a shared vision of maternal health equity.

All of this reminds us that achieving this vision—making Illinois the healthiest state in which to give birth—will require sustained, coordinated effort. At IDPH, we are deeply committed to advancing health equity and working in partnership with communities and systems across the state to improve maternal health outcomes. We will continue to support the MMRC and MMRC-V in their critical mission of reviewing maternal deaths and identifying the root causes of disparities. We are especially grateful to the dedicated volunteers who serve on these committees. Their expertise, compassion, and thousands of hours of service make this work possible, and we cannot thank them enough.

We invite you to explore this report and to join us, whether as a new ally or a continuing partner, in this important work. Creating a healthier future for every person in Illinois will take all of us, working together with shared purpose and resolve.

Yours in good health,

Sameer Vohra

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EXECUTIVE SUMMARY

Maternal mortality remains a pressing public health crisis in both Illinois and across the nation, reflecting deep-rooted disparities and systemic challenges in our healthcare systems. Each maternal death represents far more than a statistic: it is a profound and often preventable loss that leaves lasting emotional, social, and economic scars on families, communities, and society. Beyond the immediate tragedy, each loss signals a broader failure to provide equitable, comprehensive, and culturally competent maternal care. This failure undermines not only the health and well-being of mothers but also affects the development and stability of future generations, sustaining patterns of inequality that impact entire communities. Addressing maternal mortality requires urgent, coordinated action to ensure that all birthing people receive the care, respect, and resources they need to survive and thrive. In Illinois, significant disparities persist and women of different racial, socioeconomic, and geographic backgrounds continue to experience unequal maternal health outcomes. Ongoing research and monitoring are essential to better understand the underlying causes and contributing factors of this crisis, and to inform effective solutions.

The Illinois Department of Public Health (IDPH) utilizes multiple data sources to identify all deaths of individuals who were pregnant or within one year postpartum (pregnancy-associated deaths), regardless of the cause of death. Deaths are reviewed by two statewide maternal mortality review committees (MMRCs). The reviews aim to identify the cause of death, establish whether the death was pregnancy-related, determine whether the death was preventable, ascertain opportunities of prevention, and develop recommendations to prevent future deaths.

Key Findings

All findings are for 2021-2022 unless otherwise noted.

- On average, 110 women died while pregnant or within one year of pregnancy, with more women dying in 2021 (116 deaths) than in 2022 (103 deaths).
- Fewer than half, 43%, of pregnancy-associated deaths were due to pregnancy-related causes.
- Pregnancy-related mortality in Illinois was higher in 2021-2022 than in 2017-2018 and 2019-2020.
- Chicago and urban counties outside the Chicago area had the highest pregnancy-related mortality when compared with other geographic areas.
- The leading cause of pregnancy-related death was substance use disorder. The other most common causes of pregnancy-related death were thrombotic embolism, COVID-19, and hemorrhage.
- Black women were more than twice as likely to die from any pregnancy-related condition and three times as likely to die from pregnancy-related medical conditions than White women.
- About one third of pregnancy-related deaths occurred more than 60 days postpartum.
- The MMRCs determined that 91% of pregnancy-related deaths were potentially preventable.

Key Recommendation Highlights

The preventable pregnancy-related deaths during 2021-2022 are the basis of recommendations in this report.

- Providers should ensure that women with underlying medical conditions receive comprehensive, multi-disciplinary, coordinated care during pre-conception, pregnancy, and postpartum periods.
- Hospitals should employ a social worker or case manager who can conduct and document a psychosocial needs assessment prior to delivery hospital discharge to identify potential barriers to care and connect women to resources and postpartum case management.
- Health insurance plans, including Illinois Medicaid, should incentivize providers (OB-GYNs, doulas, midwives) to practice in rural areas and small hospitals outside of large metro areas.
- Community-based organizations should provide supportive family programs for parents with substance use disorder that includes a family-centered document to support the safety and well-being of both the child and their caregivers.

NOTES FOR THIS REPORT

Past Reports

This is the fourth Illinois report on maternal mortality. All four reports describe maternal deaths, including where they occurred, what contributed to them, and who was most affected. The reports specifically highlight the unacceptably high rates of pregnancy-related deaths among Black women. These reports serve as a foundation for informing ongoing efforts to eliminate preventable pregnancy-related mortality.

The past *Illinois Maternal Morbidity and Mortality Reports* served as powerful tools to monitor important maternal health indicators, build momentum in addressing maternal health, and solidify Illinois' commitment to reducing racial and social inequities in maternal health. This report continues the Illinois Department of Public Health's (IDPH) vital monitoring of maternal mortality. Maternal deaths represent the most severe outcome in a spectrum of maternal health issues and serve as a warning sign of how well the state is providing maternal and infant care. While all surveillance has limitations, studying maternal deaths helps identify prevention opportunities and ways to improve maternal care across Illinois.

This report uses two-year intervals to ensure greater consistency in time periods for comparison, a change from previous reports. The most recent report was delayed by the COVID-19 pandemic and covered three years of data. Moving forward, all reports will include data spanning two years to allow for easier, more consistent comparisons and more timely reporting.

Illinois Blueprint for Birth Equity

This report also coincides with the publication of the Illinois Blueprint for Birth Equity[1], a document developed in response to community and stakeholder engagement following the publication of the 2023 Maternal Morbidity and Mortality Report, and in recognition of the need for a coordinated, cross-sector, public-private strategy process. The Blueprint reflects a year-long strategic planning process and identifies four system based goals needed to advance birth equity in the State: optimizing access to health care, improved quality of services, better coordination across systems, and data-driven surveillance and solutions. In 2026, a cross-sector action planning process will deliver the State concrete steps needed to reach these goals. To promote alignment with the Blueprint, ***this 2025 Maternal Mortality Report will be formatted such that the recommendations presented correspond with the goals of the Blueprint.***

Maternal Morbidity

Previous reports have addressed chronic disease during pregnancy, mental health conditions, substance use disorders, and severe maternal morbidity. Updated data on these topics will soon be available on the IDPH website, as they come from separate sources that allow for more frequent updates. As such, this report focuses specifically on maternal mortality and findings from the MMRCs.

COVID-19 Pandemic

This report includes data on deaths that occurred between 2021 and 2022. During this period, Illinois experienced the highest number of pregnancy-associated deaths, largely due to the impact of the COVID-19 pandemic. It is important to note that widespread access to COVID-19 vaccines became available in late spring 2021.

Language Choices

This report uses the term "women" to describe the experiences and outcomes of pregnant and postpartum individuals. IDPH acknowledges that not all people who give birth identify as women. The term is used here to highlight gender-based inequities often experienced by those assigned female at birth, not to exclude or erase gender-diverse individuals. IDPH recognizes that terms such as Latino, Latina, and Latinx are used to describe the Hispanic population. However, a recent study found that "Hispanic" was the most preferred term among U.S. adults of Hispanic or Latino origin.[2]

[1]Illinois Blueprint for Birth Equity Retrieved from: https://dph.illinois.gov/content/dam/soi/en/web/idph/publications/idph/topics-and-services/life-stages-populations/maternal-child-family-health-services/maternal-health/blueprint-for-birth-equity-2025.pdf
[2] Gallup study retrieved from : https://news.gallup.com/poll/353000/no-preferred-racial-term-among-black-hispanic-adults.aspx

MATERNAL MORTALITY

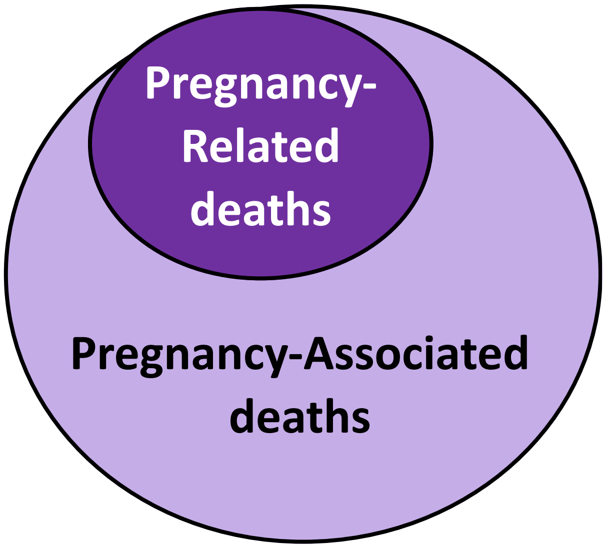
Maternal mortality is the death of a woman during or after pregnancy. Several definitions of maternal mortality exist to track and analyze deaths in different contexts. Illinois uses the following definitions from the Centers for Disease Control and Prevention (CDC):[3]

Term	Definition
Pregnancy-Associated Death	The death of a woman during pregnancy or within one year of the end of a pregnancy from any cause.
Pregnancy-Related Death	The death of a woman during pregnancy or within one year of the end of a pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy. These deaths are a subset of pregnancy-associated deaths (Figure 1).

Identifying all pregnancy-associated deaths is essential to tracking and understanding maternal mortality. Deaths are identified from a variety of public health data sources. Following identification, IDPH and the two MMRCs review the pregnancy-associated deaths to identify the cause of death and determine whether it was pregnancy-related. The review process then identifies opportunities for prevention and creates recommendations to prevent future deaths.
The process Illinois uses to identify pregnancy-associated deaths, collect information, and review cases was described in detail in the 2018 version of the *Illinois Maternal Morbidity and Mortality Report*.[4]

The *"pregnancy-related mortality ratio" (PRMR)* is reported throughout this report to compare how frequently pregnancy-related deaths occur. The PRMR is interpreted as the number of deaths that occurred for every 100,000 live births within a specific group of women. Because it standardizes the population size, the PRMR is the preferred way to compare likelihood of death for different groups (instead of using case counts).

Figure 1. Relationship Between Pregnancy-Associated and Pregnancy-Related Deaths.

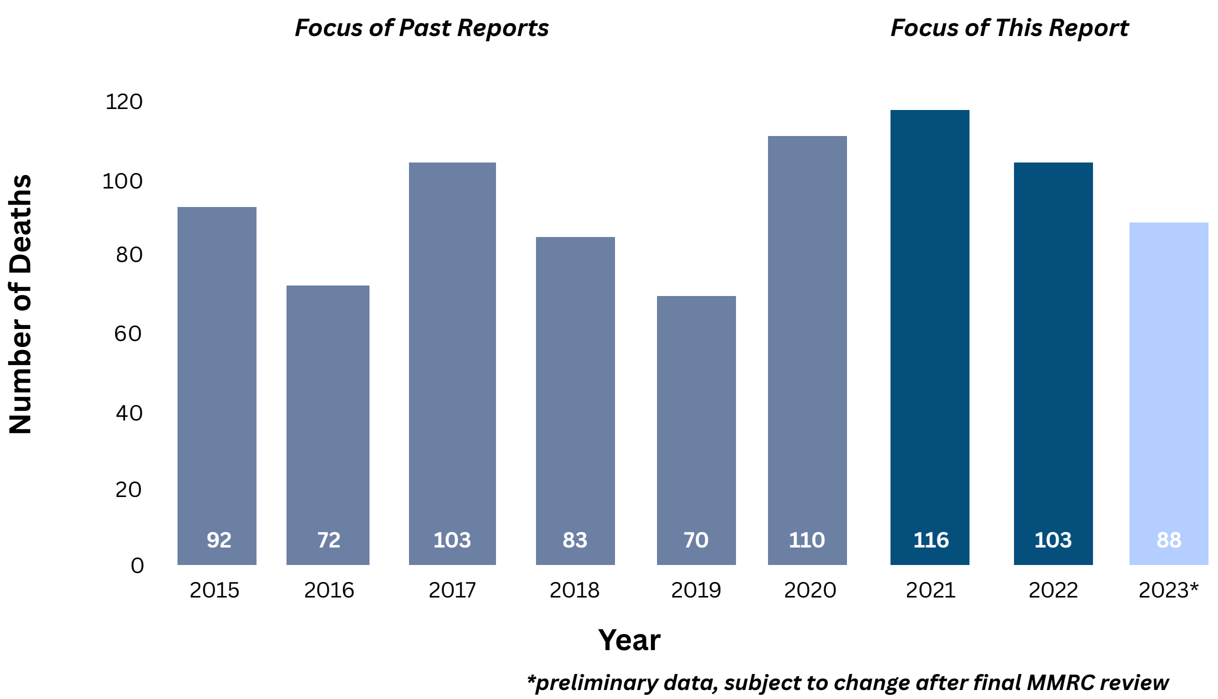


[3] Centers for Disease Control and Prevention (CDC). (2021, November). Maternal Mortality Review Committee Facilitation Guide. Retrieved from https://www.reviewtoaction.org/national-resource/maternal-mortality-review-committee-facilitation-guide
[4] Illinois Department of Public Health (IDPH). (2018, October). Illinois Maternal Morbidity and Mortality Report. Retrieved from https://dph.illinois.gov/topics-services/life-stages-populations/maternal-child-family-health-services/maternal-health/mmmr.html

PREGNANCY-ASSOCIATED DEATHS

During 2021-2022, the years included in the detailed data analyses for this report, 219 pregnancy-associated deaths occurred, an average of 110 pregnancy-associated deaths each year. 2021 marked the high point for recorded deaths since current identification was implemented in 2015. Figure 2 shows that since 2015, the annual number of pregnancy-associated deaths among women has ranged from 70 (in 2019) to 116 (in 2021).

Figure 2. Number of Pregnancy- Associated Deaths, Illinois 2015-2023.



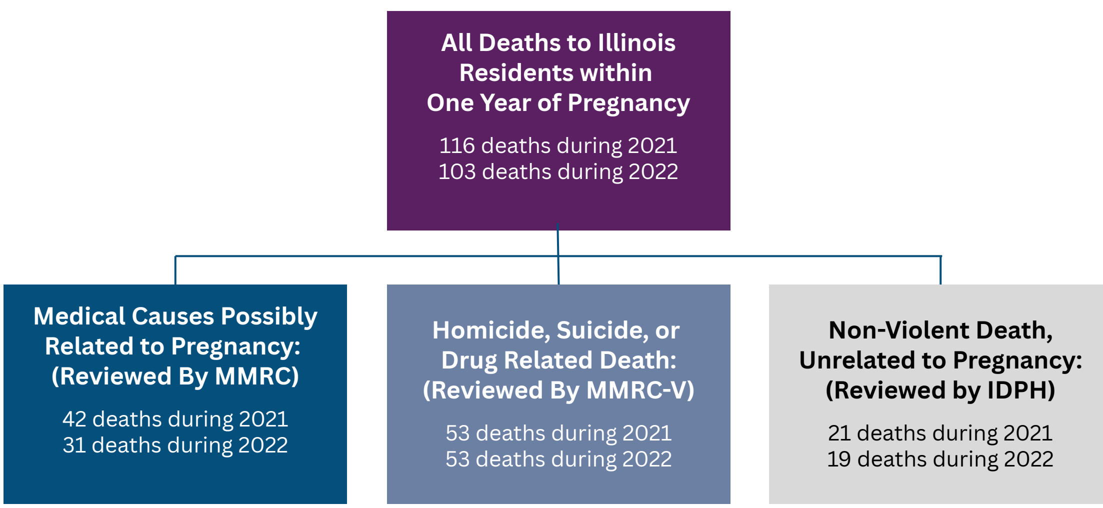
During the five years prior to the pandemic (2015-2019), there was an average of 84 pregnancy-associated deaths each year. Figure 2 shows that during 2020-2022, the number of pregnancy-associated deaths was well above this average, particularly for 2020 and 2021. Preliminary data also suggest that pregnancy-associated deaths in 2023 were lower than in 2021-2022, a positive sign that the overall number of deaths may decline as the effects of the pandemic wane.

REVIEWING AND ASSESSING MATERNAL DEATHS

The CDC recommends a review of pregnancy-associated deaths by a multidisciplinary committee to gather additional information about how the woman died, whether the death was pregnancy-related, whether the death was preventable, and how to prevent future deaths. Illinois has two statewide committees that review maternal deaths (MMRCs). To ensure consistency, both committees have the same purpose, vision, and chairperson. More information on how IDPH has implemented national best practices within the committees, including how cases are identified, data is collected, and how the case abstracts are created for review, is available in the 2021 and 2023 version of the *Illinois Maternal Morbidity and Mortality Report*.[5]

The Illinois MMRC and MMRC-V completed the reviews of the 2021-2022 pregnancy-associated deaths between October 2023 and June 2025. The MMRC reviews deaths from medical causes such as pulmonary embolism or COVID-19, while the MMRC-V reviews deaths resulting from homicide, suicide, or drug-related causes. Of the 219 pregnancy-associated deaths to Illinois residents during this time frame, 179 deaths were reviewed, 73 by the MMRC and 106 by the MMRC-V (Figure 3). The remaining 40 pregnancy-associated deaths were reviewed internally by IDPH because they were due to causes unrelated to pregnancy.

Figure 3. Pregnancy-Associated Deaths to Illinois Residents during 2021-2022, by Review Committee.



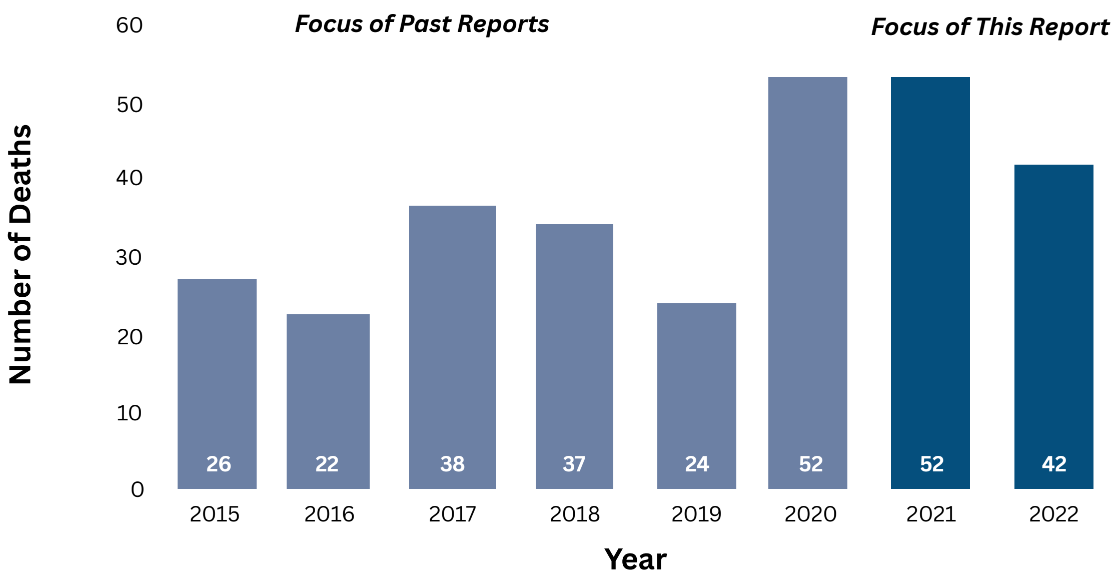
The next section of this report presents data from reviews for pregnancy-related deaths of women that occurred during 2021-2022. This builds upon the data presented in the first three state reports by presenting the most recent years of data. The multi-year combined estimates provide larger case counts and improve the reliability of the statistical analyses.

[5] Illinois Department of Public Health (IDPH). (2023, October). Illinois Maternal Morbidity and Mortality Report. Retrieved from https://dph.illinois.gov/topics-services/life-stages-populations/maternal-child-family-health-services/maternal-health/mmmr.html

PREGNANCY-RELATED DEATHS

Pregnancy-related deaths are deaths where the MMRCs determined that the cause of death was related to the pregnancy. The committee often asks whether the woman's death would have occurred if she had not been pregnant. The MMRCs have used the same standardized approach and definitions to review deaths since the 2015 death reviews, allowing this report to compare data back to 2015. Figure 4 shows the number of pregnancy-related deaths identified by the MMRCs each year from 2015-2022. The number of pregnancy-related deaths each year ranged from a low of 22 in 2016 to a high of 52 in 2020 and 2021.

Figure 4. Number of Pregnancy-Related Deaths, Illinois 2015-2022.



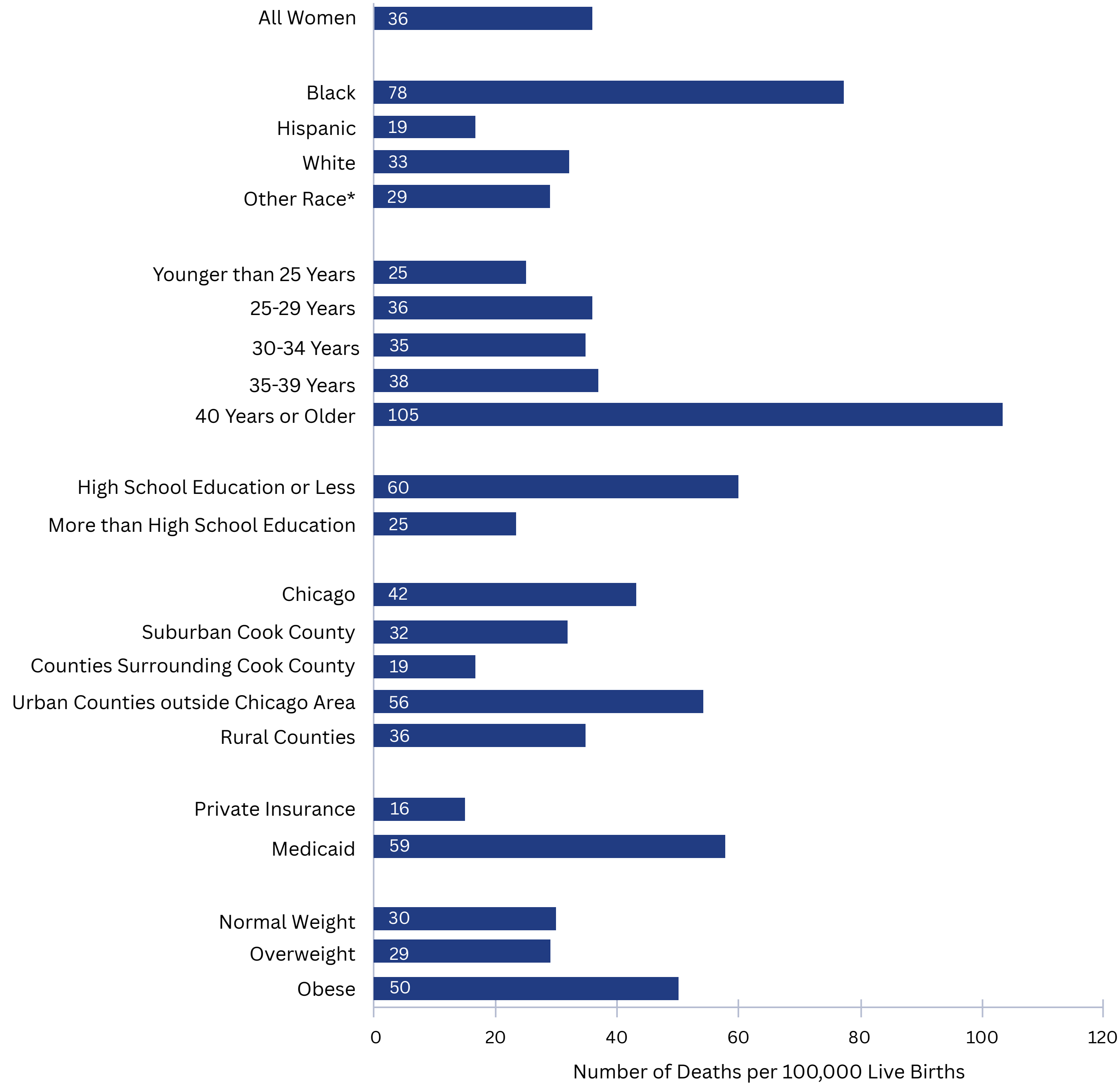
Pregnancy- Related Deaths During 2021-2022

Of all pregnancy-associated deaths during 2021-2022, 43% (or 94 deaths) were determined to be pregnancy-related. This translates to 36 pregnancy-related deaths for every 100,000 live births among Illinois residents.

Pregnancy-related mortality is not equally experienced by all groups of women. Figure 5 shows the pregnancy-related mortality ratios for residents during 2021-2022 according to different demographic characteristics. There were substantial differences in pregnancy-related mortality based on race/ethnicity, age, education level, location of residence, insurance type, and body mass index (BMI).

- Black women were more than twice as likely as White women to die from a pregnancy-related cause.
- Pregnancy-related mortality increased with age, with women 40 years old or older more than four times as likely to die from a pregnancy-related cause than women younger than 25 years old.
- Women with a high school education or less were more likely to die from a pregnancy-related cause than women with more than a high school education.
- Pregnancy-related mortality was lowest for counties surrounding Cook County (Lake, Kane, DuPage, and Will County) and the highest for residents of urban counties outside Chicago and for Chicago itself.
- Women on Medicaid during pregnancy were over three times as likely to die from a pregnancy-related cause as women with private insurance.
- Obese women had a higher pregnancy-related mortality than normal weight and overweight women.

Figure 5. Pregnancy-related mortality among Illinois residents during 2021-2022 is most common among Illinois women who are Black, age 40 years or older, have a high school education or less, have Medicaid insurance, and who are obese.



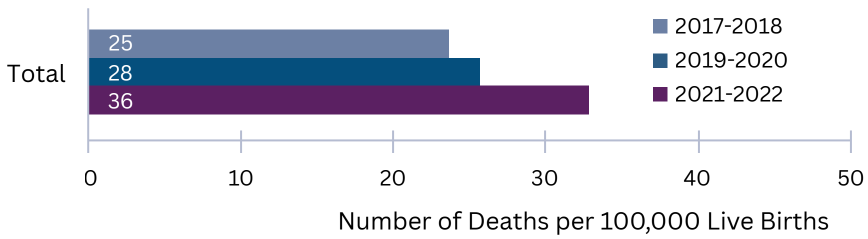
**Other races could not be reported separately due to small sample size (fewer than 5 deaths for group)*

****Data interpretation example:** The bar on the chart referring to Chicago women means that for every 100,000 births among Chicago residents, 42 Chicago women experienced a pregnancy-related death.*

CHANGES TO PREGNANCY-RELATED MORTALITY OVER TIME

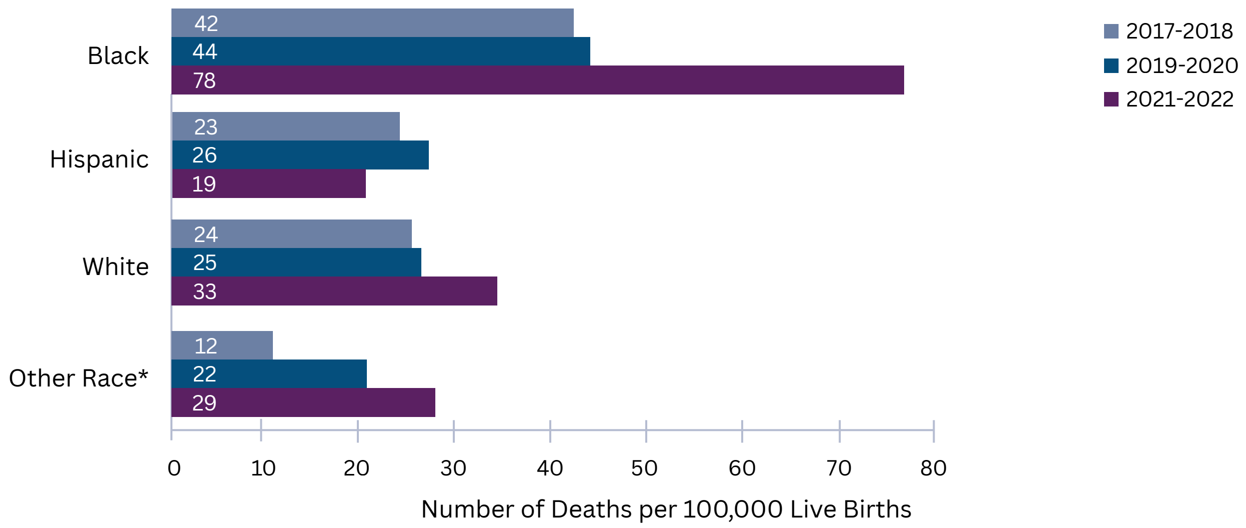
The most recent years of data (2021-2022) were compared to the two prior two-year periods (2017-2018 & 2019-2020) to identify how pregnancy-related mortality has changed over time. Pregnancy-related deaths increased from 25 per 100,000 live births in 2017-2018 to 36 deaths per 100,000 live births in 2021-2022 (Figure 6).

Figure 6. Pregnancy-related mortality in Illinois was higher in 2021-2022 than in 2017-2018 and 2019-2020.



Pregnancy-related mortality varies by race/ethnicity and trends over time have not been the same for all racial groups (Figure 7). In 2021-2022, Black women continued to have the highest pregnancy-related mortality ratio compared to all other racial/ethnic groups and saw an increase in pregnancy-related mortality compared to 2015-2017. Hispanic women had the lowest pregnancy-related mortality ratio and saw the only decrease in pregnancy-related mortality compared to 2015-2017.

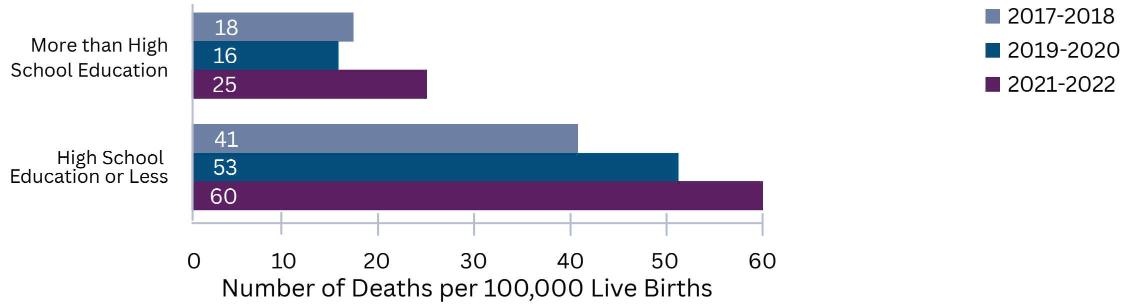
Figure 7. Pregnancy-related mortality in Illinois remains the highest for Black women.



**Other races could not be reported separately due to small sample size (fewer than 5 deaths for group)*

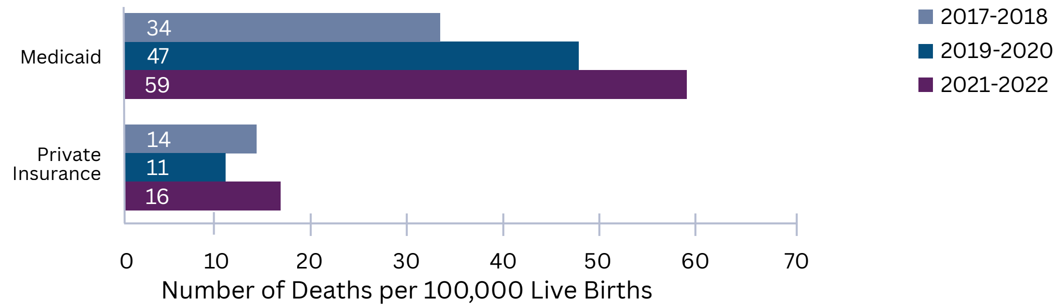
Women with a high school education or less experience a higher level of pregnancy-related death than women with more than a high school education (Figure 8). Pregnancy-related deaths for women with a high school education or less steadily increased through each time period.

Figure 8. Pregnancy-related mortality increased among women with all education levels.



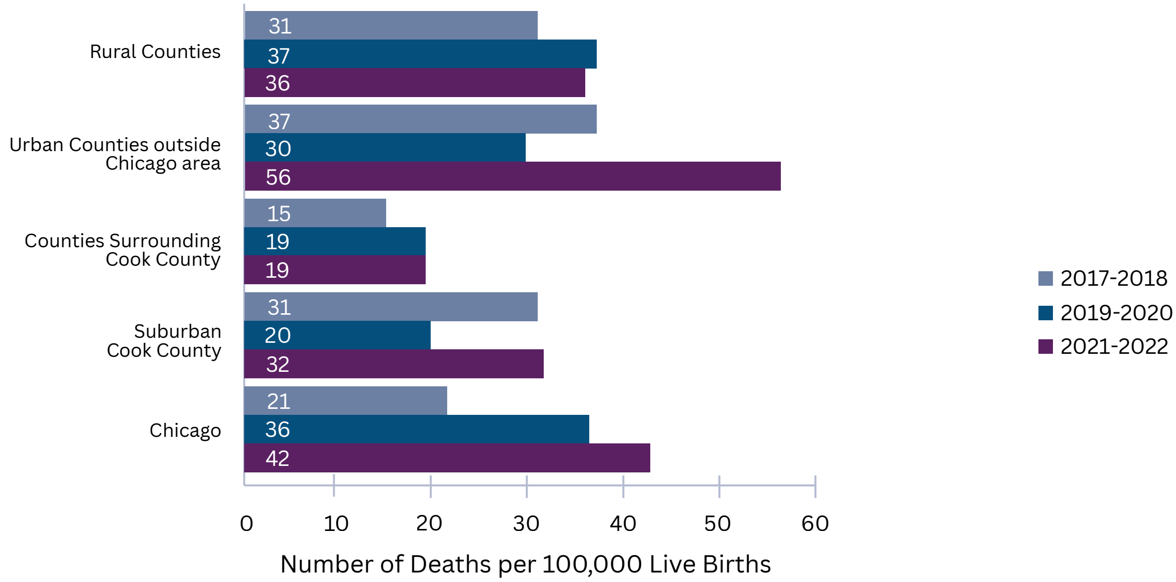
Women with Medicaid insurance experience a higher level of pregnancy-related death compared to women with private insurance (Figure 9). Pregnancy-related deaths for women with Medicaid insurance steadily increased through each time period, but there was little change for women with private insurance.

Figure 9. Pregnancy-related mortality increased among women on Medicaid.



Urban counties outside the Chicago area experience a higher level of pregnancy-related death compared women residing in other areas of Illinois (Figure 10). Pregnancy-related mortality increased in Chicago over the past three time periods. Because pregnancy-related death is a rare health outcome, individual county-level data cannot be reported and are instead reporting based on groups of counties. The categorization of Illinois counties can be found in the *"Methods Notes for Statistical Analysis"* section at the back of this report.

Figure 10. Pregnancy-related mortality increased in most geographic areas in Illinois.



CAUSES OF PREGNANCY-RELATED DEATHS

To better understand pregnancy-related deaths, the MMRC evaluates the underlying cause of death, defined as the event that started the chain of events leading to the death. More information about how categories of underlying cause were classified is available in previous reports.

Table 1 shows the top categories of the underlying causes of pregnancy-related death during 2021-2022. The most common underlying cause of pregnancy-related deaths was substance use disorder, which caused 29% of deaths over the two-year period. The next most common causes of pregnancy-related deaths over the two-year period were thrombotic embolism, COVID-19, and hemorrhage.

Substance use disorder remains the leading cause of death; however, other leading causes have shifted since the previous report. In the last report (2018-2020), thrombotic embolism accounted for 7% of all pregnancy-related deaths, but this has increased to 12% in the current report (2021-2022). Similarly, COVID-19-related deaths rose from 3% in the previous report to 11%. Deaths due to hemorrhage doubled, increasing from 5% to 10%.

Table 1. Substance use disorder was the leading cause of pregnancy-related death in Illinois, 2021-2022.

Cause of Death Category	Number of Pregnancy-Related Deaths	Percent of Pregnancy-Related Deaths
Substance Use Disorder	27	29%
Thrombotic Embolism *(blood clot)*	11	12%
COVID-19	10	11%
Hemorrhage *(postpartum bleeding)*	9	10%
Cardiac and Coronary Conditions	8	9%
Pre-existing Chronic Medical Condition*	6	6%
Mental Health Conditions resulting in Suicide**	5	5%
Infection & Sepsis *(blood stream infection)*	4	4%
Hypertensive Disorder of Pregnancy	4	4%
Amniotic Fluid Embolism	3	3%
Cardiomyopathy *(heart muscle disease)*	2	2%
Homicide	2	2%
Stroke	1	1%
Conditions Unique to Pregnancy	1	1%
Anesthesia Complications	1	1%

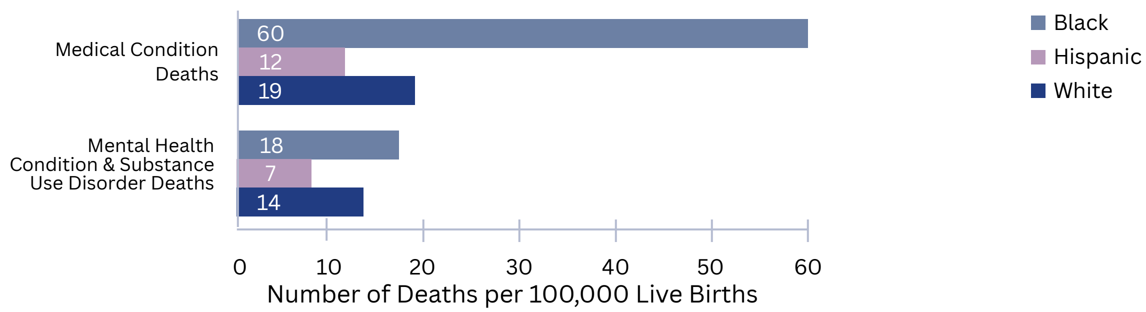
**** These deaths were related to health conditions that women were known to have prior to pregnancy, including autoimmune disease, sickle cell disease, diabetes, seizure disorder, lupus, and liver disease. These deaths are included as "non-cardiovascular deaths" by the CDC Pregnancy Mortality Surveillance System (PMSS).***
***** Includes deaths due to depression, schizophrenia, and bipolar disorder.***

TYPES OF DEATH BY RACE/ ETHNICITY

To compare the factors influencing different causes of death, deaths were combined into two groups: 1) mental health conditions and substance use disorders and 2) all medical conditions. Other injury deaths (homicides) are not included in the comparisons that follow because there were fewer than five during 2021-2022.
For all pregnancy-related deaths during 2021-2022, 64% were caused by medical conditions and 34% were caused by mental health conditions and substance use disorders. The pregnancy-related mortality ratio for medical conditions was 23 deaths per 100,000 births. The pregnancy-related mortality ratio for mental health conditions and substance use disorders was 12 deaths per 100,000 births.

When splitting pregnancy-related deaths by cause of death, the racial/ethnic disparities become more striking than the overall PRMR indicates (Figure 11). Pregnancy-related deaths due to medical conditions occur more frequently among Black women. Pregnancy-related deaths due to mental health conditions and substance use disorders are comparable between Black and White women, whereas Hispanic women exhibit the lowest ratios in both categories.

Figure 11. Black women have higher pregnancy-related deaths from medical conditions, while mental health–related deaths are similar for Black and White women and lowest among Hispanic women, 2021-2022.

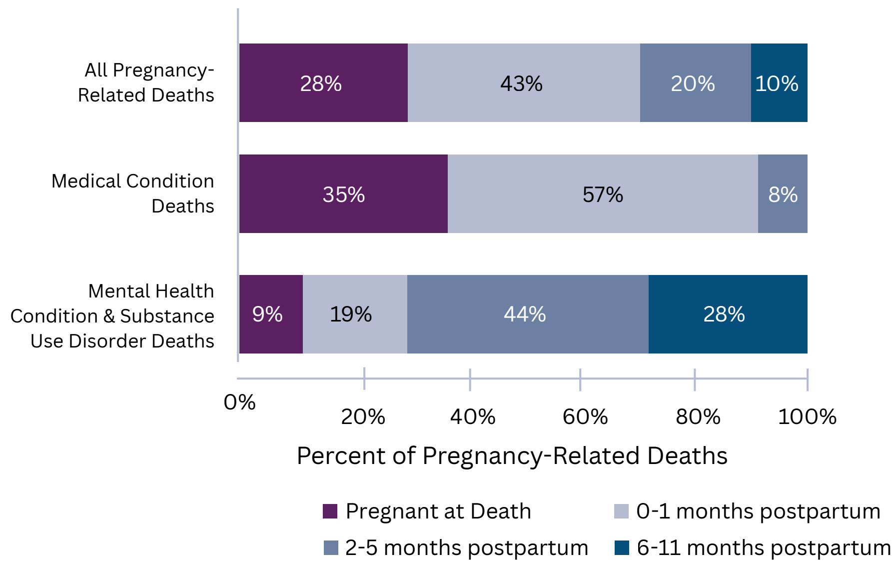


TIMING OF PREGNANCY-RELATED DEATHS

Of the 94 pregnancy-related deaths that occurred during 2021-2022, 28% occurred during pregnancy, 43% occurred 0-1 month postpartum, 20% occurred 2-5 months postpartum, and 10% occurred 6-11 months postpartum (Figure 12). These data demonstrate the value of tracking maternal deaths to one year postpartum, as approximately one-third of pregnancy-related deaths occurred two or more months after pregnancy.

Timing of death varies by type of pregnancy-related death (Figure 12). Pregnancy-related deaths from medical causes were most likely to occur during the 0-1 month postpartum while pregnancy-related deaths from mental health conditions and substance use disorders were most likely to occur two or more months postpartum. Of deaths due to medical conditions, 35% occurred while women were pregnant, 57% occurred 0-1 month postpartum, 8% occurred 2-5 months postpartum, and 0% occurred 6-11 months postpartum. Of deaths due to mental health conditions, including substance use disorder, 9% occurred to women while they were pregnant, 19% occurred 0-1 month postpartum, 44% occurred 2-5 months postpartum, and 28% occurred 6-11 months postpartum.

Figure 12. Timing of pregnancy-related deaths differs by cause of death, 2021-2022.



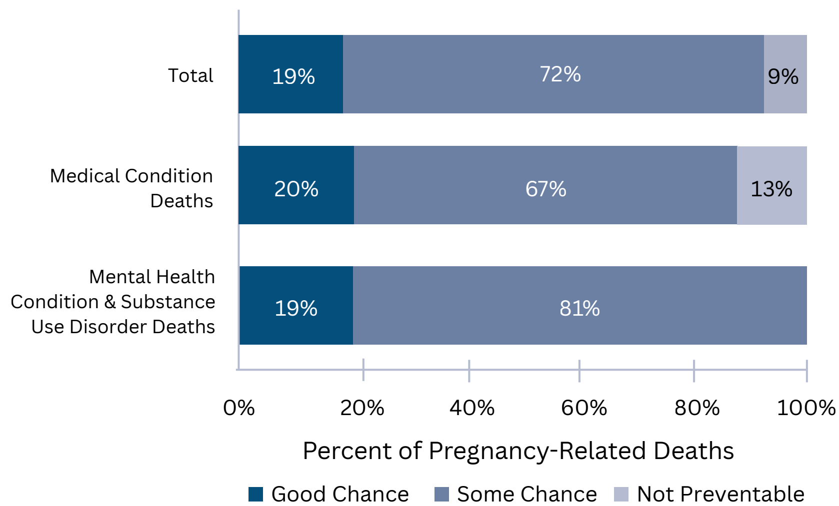
PREVENTABILITY OF PREGNANCY-RELATED DEATHS

After discussion of the cause of death for pregnancy-related deaths, the MMRCs determine whether the death was potentially preventable. Deaths are considered "preventable" if reasonable changes to any provider, facility, patient, community, or system factors may have helped prevent the death. The definition of preventability is not limited to clinical factors but also considers social and community factors that influence the death.

It is important to recognize that among these "preventable" deaths, the chance of preventing that death can range from a "very good chance" to "slight chance." The number and types of factors that contribute to each case greatly influence the chance of preventability.

For pregnancy-related deaths, the MMRCs determined there was at least "some chance" of the death being prevented for 72% of the deaths and "good chance" of being prevented for 19% of all pregnancy-related deaths (Figure 13). The preventability of pregnancy-related deaths differed across cause of death. For pregnancy-related deaths due to medical conditions, about 9 of 10 were potentially preventable, but only 2 of 10 had a "good chance" of being prevented. However, for pregnancy-related deaths due to mental health conditions and substance use disorders, all were potentially preventable, and 2 of 10 had a "good chance" of being prevented. Furthermore, of White pregnancy-related deaths, 87% were found to be at least somewhat preventable while among Black pregnancy-related deaths 97% were found to be at least somewhat preventable.

Figure 13. Most pregnancy-related deaths are potentially preventable, 2021-2022.



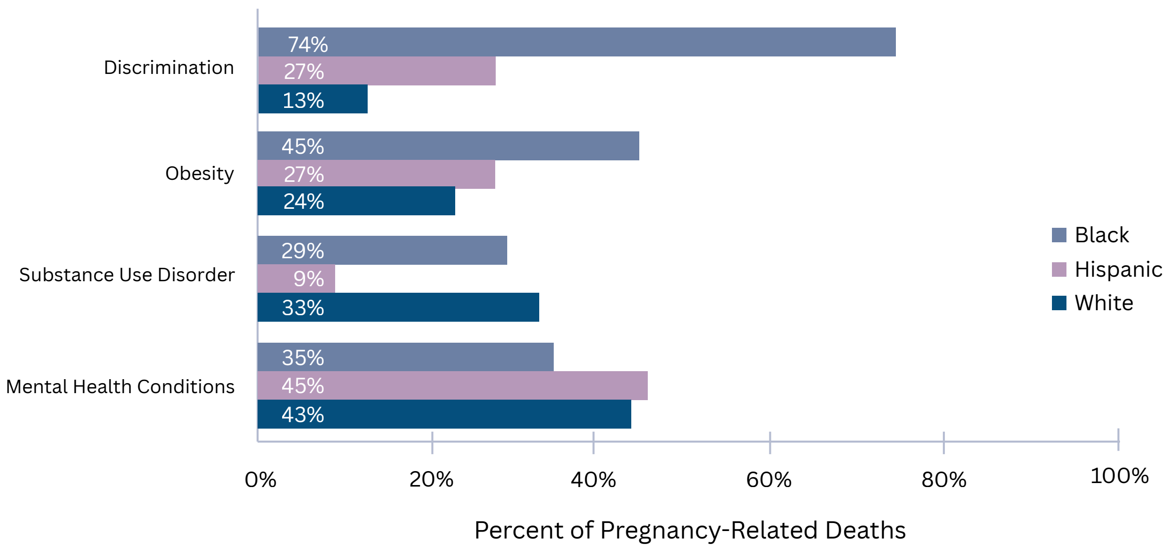
CONTRIBUTING FACTORS TO PREGNANCY-RELATED DEATHS

For every pregnancy-related death, the MMRCs discuss and determine whether discrimination, obesity, substance use disorder, and mental health conditions was a contributing factor. A contributing factor is an element that was present and contributed to the chain of events leading to a pregnancy-related death, though it may not have been the underlying cause of death, but it could for example in the case of substance use disorder.

Discrimination can be a contributing factor to poor maternal health outcomes, including pregnancy-related deaths, by creating barriers to health care and negatively influencing health status. Discrimination is defined as treating someone less or more favorably based on group, class or category; some examples from reviews include due to race/ ethnicity, weight status, substance use disorder status and insurance status. Understanding how discrimination influences a woman's ability to have a healthy pregnancy can promote equitable outcomes for all women. Obesity can contribute to poor maternal health by increasing the risk of complications such as gestational diabetes, hypertension, and difficulties during labor and delivery. Obesity was defined as a pre-pregnancy body mass index (BMI) of 30 or more. Substance use disorder can contribute to poor maternal health by increasing the risk of complications such as infections, poor nutrition, cardiovascular issues, and overdose. Mental health conditions may emerge or worsen due to the stress of pregnancy, contributing to poor maternal health outcomes. Substance use disorder and mental health conditions can often go hand in hand.

Among pregnancy-related deaths, Black women were more likely than Hispanic or White women to experience discrimination and obesity as contributing factors (Figure 14). Substance use disorder was more likely to contribute to deaths among Black and White women compared to Hispanic women. Mental health conditions contributed to pregnancy-related deaths at similar rates across all groups.

Figure 14. Discrimination and obesity were more likely to be contributing factors to pregnancy-related deaths among Black women than among other races while other contributing factors were similar among races, 2021-2022.



EXAMPLE OF MATERNAL DEATHS

The following section presents three real cases of Illinois women who died in 2021–2022 during pregnancy or within a year postpartum. While names have been changed and certain details omitted to protect the privacy of the women and their families, the summaries reflect the key events surrounding each death. Each case sparked meaningful discussion during the MMRCs' meetings and offered valuable insights. These examples highlight common themes identified across multiple maternal deaths and were chosen to illustrate a range of preventable factors that contribute to maternal mortality.

Jaclyn's Story

Jaclyn was a Black woman in her late 20s with a known history of asthma who entered prenatal care early and attended the recommended number of visits with a certified nurse midwife. Her delivery was complicated by gestational hypertension, gestational diabetes, and asthma, but she had a normal delivery. She and her baby were discharged home two days postpartum. Between six days and six weeks after delivery, Jaclyn sought emergency care at four different hospitals on three separate occasions for worsening respiratory symptoms. At just four days postpartum, she presented to the emergency department with severe asthma symptoms and was discharged with instructions to follow up with her primary care provider. Two days later, she was found unresponsive and taken to the hospital, where a urine drug screen was performed and care was focused on a possible overdose, despite no evidence of substance use. She was transferred to another hospital where eclampsia was considered, yet another drug screen was ordered instead of medical treatment and subsequently discharged again with instructions to follow up with a primary care provider. At six weeks postpartum, she called EMS due to shortness of breath. The hospital performed a urine drug screen and she was discharged with an inhaler. The following day, Jaclyn was found unresponsive at home by her mother and died from complications related to asthma.

What can we learn from Jaclyn's death?

Jaclyn's ongoing symptoms were repeatedly dismissed or misattributed, and the focus on drug screening rather than appropriate medical care reflects a troubling pattern of racial bias. Despite experiencing serious postpartum complications, her clinical needs were not adequately addressed. Instead, **she was subjected to repeated urine drug tests, despite no recent history of substance use, pointing to discriminatory assumptions that overshadowed her medical treatment.** Living in a segregated, high-stress community, Jaclyn faced systemic barriers that likely contributed to the inadequate and delayed care she received, ultimately leading to her potentially preventable death. Healthcare systems need to ensure clinical decisions are based on presenting symptoms and medical history, not assumptions.

Amy's Story

Amy was a white woman in her 30s who had a history of drug use and depression. She started seeing a doctor for her pregnancy early into her second trimester and had the recommended number of visits. She told her doctor about her past drug use, but there were no notes showing she was screened for drug use or depression during her pregnancy. No one talked to her about Narcan or other ways to stay safe. Her delivery went well, and both she and her baby were healthy. The day after giving birth, she had a high score on a screen for postpartum depression, but no social worker was available to talk to her prior to discharge. She also said her back pain was not being managed and that she was scared to take the pain medicine because of her history. At 7 months postpartum, Amy went to the emergency department for a possible overdose. She was given Narcan and sent home. The next day, her husband found her unresponsive, and she died of an accidental drug overdose.

What can we learn from Amy's death?

Amy's death reveals a series of systemic failures in care. Despite disclosing her drug use multiple times, **she was not linked to care,** offered social work support, or admitted for further treatment. Narcan was not provided, even as her postpartum depression and anxiety worsened. During pregnancy, despite frequent prenatal visits, there **was no consistent screening for substance use disorder or depression, and care was poorly coordinated**. The lack of a centralized referral system and trauma-informed care contributed to multiple missed opportunities for intervention, ultimately leading to her preventable death.

Sarah's Story

Sarah was a white woman in her 20s who was married and lived in a rural area. She started seeing a doctor early in her pregnancy. This was her fifth pregnancy, and in the past, she had heavy bleeding after birth that required surgical intervention. During the current pregnancy, she had gestational diabetes and bad headaches, possibly from preeclampsia. At 36 weeks gestation, she stayed in the hospital for four days due to headaches. One week later, she was admitted again because she felt very tired, had a headache, and was confused. Her doctors decided to induce labor, and she gave birth to a healthy baby. About an hour later, another doctor was called to check for possible problems, but by then Sarah's blood pressure was very low and she had lost a lot of blood. She was given a blood transfusion and taken to surgery, where doctors found large blood clots. She kept bleeding and was sent to a higher-level hospital for a possible hysterectomy, but died from blood loss (hemorrhage) 40 minutes later.

What can we learn from Sarah's death?

Sarah had already lost a significant amount of blood before surgical intervention was even considered, indicating a major delay in recognizing and treating her postpartum hemorrhage. By the time another doctor was called, her blood pressure was already dangerously low, showing that valuable time had been lost. In addition, when it became clear that she needed more advanced surgery, like a laparotomy or hysterectomy, there was no physician available to do the procedure—possibly because of the hospital's limited resources or its rural location and lack of access to specialized care. This combination of **delayed recognition and lack of surgical availability** severely limited the chances for effective treatment, directly contributing to her death.

OPPORTUNITIES FOR PREVENTION & RECOMMENDATIONS

As part of the maternal mortality review process, MMRCs assess whether a death was potentially preventable. For each death determined to be both pregnancy-related and preventable, the MMRCs identify the opportunities for prevention and develop targeted recommendations to address those issues and help prevent similar deaths in the future. Opportunities for prevention are modifiable elements that significantly influenced the woman’s health outcome, even if they were not the direct or sole cause of death.

These opportunities can exist at various levels, including the healthcare system, community, hospital, provider, or the patient and their family and are grouped according to a list from the CDC based on findings from MMRCs across the country. Recommendations and opportunities often overlap, meaning they may address multiple areas for improvement.

In previous reports, the leading opportunities for prevention were presented by actor (e.g., provider, health system, or state). However, as mentioned in the “Notes for This Report,” this report presents the leading recommendations and opportunities for prevention in alignment with the goals from the Illinois Blueprint for Birth Equity: quality, access, care coordination, and data integration. This approach enhances the strategic planning efforts of Illinois agencies and their partners moving forward.

As shown below, the leading opportunities for prevention identified through the MMRC committees coincide directly with the first three of the Blueprint’s four goals. The fourth goal, data-driven surveillance and solutions is not a direct recommendation for change in the maternal health service delivery system; thus, it is not included in the MMRC opportunities for prevention. This equally critical goal envisions how the State can hold itself accountable for maternal health by strengthening and modernizing its maternal health data systems to more effectively monitor population-level outcomes and identify disparities. The State will define and align a standardized set of core metrics across agencies and partners to ensure consistency in data collection and reporting, as well as consideration of the best measures of success for Illinois. By promoting transparency and shared accountability, Illinois seeks to foster collaboration among health systems, community organizations, and policymakers, driving measurable and equitable progress toward improved maternal and birth outcomes statewide.

The MMRCs and this report play a vital role in achieving this fourth goal. The MMRCs provide critical data and insights on the state’s performance in maternal health and help ensure consistency in data reporting through their systematic reviews and reports. Continued prioritization of a biannual Maternal Mortality Report will further advance this Blueprint’s objectives by supporting the creation of standardized metrics and strengthening statewide efforts to achieve birth equity and improve maternal health outcomes.

HEALTHCARE QUALITY OF CARE

Illinois Blueprint for Birth Equity Goal: Expand Investments in Healthcare Quality and Provider Support

Improving the quality of care for pregnant and postpartum women is essential to better health outcomes. Many maternal deaths are linked to delays in appropriate care, misdiagnosis, poor communication, and limited patient education. MMRC recommendations focus on enhancing care through clinical best practices, updated protocols, and system-wide improvements across providers, hospitals, and health systems.

Mental health and substance use care remain particularly inadequate. Pregnant and postpartum women often lack proper screening, access to treatment, and medication management. Missed opportunities for medication-assisted recovery and timely follow-ups are common. MMRCs call for expanded screening, provider training, and quality improvement initiatives to address these gaps.

Selected Recommendations from the MMRCs:

Providers should ensure that women with underlying medical conditions receive comprehensive, multi-disciplinary, coordinated care during pre-conception, pregnancy, and postpartum periods.

Hospitals should provide training on trauma-informed care, adverse childhood events and how a history of trauma affects patient interactions with healthcare systems.

Emergency departments should ask every person of possible reproductive age, "are you pregnant or have you been pregnant within the last year?" and commit to ongoing training in the care of pregnant and postpartum patients.

Housing support programs should prioritize pregnant and postpartum women, provide supportive housing, and work to accommodate individuals earlier in pregnancy.

How Illinois hopes to address moving forward: Illinois will expand on current initiatives to enhance maternity care quality by exploring effective ways to scale models that reduce care fragmentation and by reinforcing incentives and support systems that enable providers to deliver high-quality, patient-centered care.

ACCESS TO CARE

Illinois Blueprint for Birth Equity Goal: Promote Access to Birthing and Specialty Care Services

Availability and ease of access to services for pregnant and postpartum women is important for improving maternal health outcomes. Women with chronic conditions, including mental health conditions and substance use disorders, need ongoing and attentive care throughout their pregnancy to ensure a healthy outcome. Specifically, in rural areas, women face barriers to finding needed specialty care, especially for treatment of substance use disorders, mental health services, and other chronic conditions. These barriers include a lack of providers and a long distance to services. The ability to access health care services, such as specialists and substance use disorders treatment in timely and consistent manner, greatly affects the well-being of pregnant and postpartum women.

Selected Recommendations from the MMRCs:

Hospitals should follow systems in place for timely and appropriate patient transport to provide most expedited care based on patient status, including contacting the Administrative Perinatal Center to facilitate appropriate transports, even if needing to transport outside hospital systems or network.

Health insurance plans, including Illinois Medicaid, should incentivize providers (OBGYNs, Doulas, Midwives) to practice in rural areas and small hospitals outside of large metro areas.

Community-based organizations should provide supportive family programs for parents with substance use disorder that includes a family-centered document to support the safety and well-being of both the child and caregivers.

IDPH should develop emergency preparedness plans to ensure equitable access to vaccines across communities.

How Illinois hopes to address moving forward: Illinois will strengthen its maternal health infrastructure by investigating the root causes of obstetric unit closures, identifying sustainable solutions, exploring innovative alternative care models, and promoting a resilient maternal health workforce.

ASSESSMENT, REFERRAL, AND CARE COORDINATION

Illinois Blueprint for Birth Equity Goal: Establish Universal Risk Assessment, Referral, and Care Coordination

Effective care for pregnant and postpartum women depends on strong coordination across providers and systems. MMRCs found that many women were referred to specialists without proper risk assessment or support, faced disconnected care from multiple providers, and lacked help navigating a complex healthcare system. Referrals often placed the burden on patients to schedule and follow up, with limited outreach from providers, especially postpartum. MMRC recommendations emphasize improving care coordination through thorough assessment before referral, enhanced follow-up, better communication among providers, and increased use of support services like social work, case management, and community-based programs.

Selected Recommendations from the MMRCs:

Hospital-based maternal care providers and community-based providers, including midwives and doulas, should work together to promote clear communication and ensure that each patient receives care aligned with their specific risk level.

Hospitals should employ a social worker or case manager who can conduct and document a psychosocial needs assessment prior to delivery hospital discharge to identify potential barriers to care and connect women to resources and postpartum case management.

Health insurance plans, including Illinois Medicaid, should reimburse intensive outreach and home visiting services for pregnant and postpartum patients.

The State should help healthcare systems adopt programs that enable interoperability of electronic medical records and sharing of patient information across facilities to ensure coordinated care across systems.

How Illinois hopes to address moving forward: Illinois will strengthen its maternal health infrastructure by investigating the root causes of obstetric unit closures, identifying sustainable solutions, exploring innovative alternative care models, and promoting a resilient maternal health workforce.

INFORMATION ABOUT MATERNAL HEALTH FOR PREGNANT AND POSTPARTUM WOMEN AND THEIR FAMILIES

The MMRCs also work to identify educational opportunities that support pregnant and postpartum women and their families. These efforts aim to increase awareness of warning signs, promote healthy behaviors, and improve access to care during and after pregnancy. The following resources are provided to help patients and families achieve a healthy pregnancy, delivery, and postpartum period.

Pre-Pregnancy Health Matters.

Annual check-up visits with primary care providers can help identify and manage any chronic conditions, including obesity, to keep women as healthy as possible before or between pregnancies.

Postpartum Health Matters.

Early (< 3 weeks) and routine (6-12 weeks) postpartum care visits are important to stay healthy after the baby is born. After pregnancy, it is also important to connect with a regular primary care doctor for continued medical care beyond the postpartum visit.

Tell Providers About Pregnancy.

When discussing concerns with any provider, it is important for them to know about a current pregnancy or a pregnancy in the last year, even if you do not think it is relevant. This information helps them look for things that might be more dangerous or only happen during or after pregnancy.

Speak Up and Ask Questions.

During and after pregnancy, it is important to discuss any concerns with healthcare providers, whether physical symptoms or feelings like sadness, anxiety, or exhaustion that affect daily care. Learn more about urgent maternal warning signs.

Help is Available.

Mental health and substance use challenges are ongoing medical conditions, and support is available.
These services can help women get the care they need.
-National Maternal Mental Health Hotline 1-833-TLC-MAMA (1-833-852-6262)
-Illinois Perinatal Depression Line 1-866-364-MOMS (1-866-364-6667)
-Illinois Helpline / MARNow 1-833-234-6343 or text “HELP” to 833234
-988 Suicide and Crisis Lifeline

There Are Ways to Reduce Risk of Overdose.

Fentanyl test strips detect fentanyl in drugs, and naloxone reverses opioid overdoses. Both are life-saving tools anyone can access and learn to use—no prescription needed.

MEDICAL TERMINOLOGY

Body Mass Index

Body mass index (BMI) is a measure to look at body weight proportional to body size. BMI equals weight (in kilograms) divided by height (in meters) squared. A BMI of 18.5-24.9 is considered normal weight, a BMI of 25.0-29.9 is considered overweight, and a BMI of 30.0 or higher is considered obese.

Cardiomyopathy

Cardiomyopathy is a condition in which the chambers of the heart can no longer pump blood like they normally do, leading to heart failure. Peripartum related cardiomyopathy is defined as heart failure occurring towards the end of pregnancy or within five months following delivery. The cause is currently unknown, but risk factors include age greater than 30 years, pregnancy with multiple fetuses, African descent, and maternal cocaine use.

Coronavirus Disease 2019 (COVID-19)

COVID-19 is an infectious disease caused by the SARS-CoV-2 virus. The virus usually causes mild-to-moderate respiratory illness. Most people with COVID-19 do not need special treatment, but some will become seriously ill and require medical attention. Anyone can get sick with COVID-19 and become seriously ill or die at any age, but older people and those with underlying medical conditions are more likely to develop serious illness.

Maternal Mortality

A maternal mortality is the death of a woman during pregnancy or close in time to pregnancy.

Substance Use Disorder

Substance use disorder (SUD) is a condition in which there is a pattern of uncontrolled use of a substance despite poorly affecting the person's ability to function in day-to-day life, including a failure to fulfill major obligations at school, work, or home. The most severe SUDs are sometimes called addictions.

Postpartum Mental Health

Because of hormonal changes during and around the time of pregnancy, it is normal for women to feel “down” or sad after delivery, sometimes called the postpartum blues. These may last up to four weeks postpartum. However, when certain symptoms, such as sleep disturbance, lack of interest, feelings of guilt, low energy, poor concentration, or altered appetite, persist after four weeks, a woman may be diagnosed with postpartum depression. Some women with postpartum depression may also have feelings of wanting to hurt themselves (self-harm) or wanting to die (suicidal ideation). Rarely, a condition called postpartum psychosis develops in which a woman may develop delusions, hallucinations they see or hear, and rapid mood swings.

Pregnancy-Associated Death

The death of a woman during pregnancy or within one year of the end of pregnancy, regardless of the cause.

Pregnancy-Related Death

The death of a woman during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy.

Preventable Death

A death is considered preventable if the MMRCs determine that there was at least some chance of the death being averted by one or more reasonable changes to patient, family, provider, facility, system and/or community factors.

METHODS NOTES FOR STATISTICAL ANALYSES

Detailed descriptions of the data sources, analytic methods, and statistical procedures used in this report are available in prior Illinois Maternal Morbidity and Mortality Reports. These previous reports provide comprehensive explanations of methodologies applied for case identification, data collection, coding, and statistical analysis.

Demographic Definitions

Race/Ethnicity
In each of the data sources used in this report, race and ethnicity are collected as two separate fields, in alignment with the U.S. Census. Women were hierarchically classified into one of four racial/ethnic groups: American Indian/Alaska Native (including those who were Hispanic or multiple races), Hispanic, non-Hispanic Black, non-Hispanic Asian, non-Hispanic Native Hawaiian or Other Pacific Islander, non-Hispanic White, and non-Hispanic Other race (includes multi-racial women who were not American Indian). The shorthand of "American Indian," "Hispanic," "Black," "Asian," "Pacific Islander," "White," and "Other Race" is used throughout this report. For the maternal mortality data, there were zero or very few deaths to women who were American Indian, Asian, Pacific Islander, or Other races, therefore these subgroups cannot be reported separately and are combined into one "other race" group for that analysis.

Location of Residence
A woman's location of residence was used to group women into 1 of 5 geographic categories:

- **Chicago:** Residential ZIP code within Chicago boundary
- **Suburban Cook County:** Residence in Cook County, but ZIP code not within Chicago boundary
- **Counties Surrounding Cook County:** Residence in DuPage, Kane, Lake, McHenry, or Will counties
- **Urban Counties Outside Chicago Area:** Residence in Champaign, DeKalb, Kankakee, Kendall, McLean, Macon, Madison, Peoria, Rock Island, Sangamon, St. Clair, Tazewell, or Winnebago counties
- **Rural Counties:** Residence in all other counties not referenced above (93 counties)

Insurance Status
Insurance status was classified based on the payer for during pregnancy or delivery.

Body Mass Index
Pre-pregnancy body mass index (BMI) was classified based on the pre-pregnancy height and weight using the formula weight (kg) / height^2 (m). BMI is categorized into the following categories: underweight (<18.5), normal (18.5-24.9), overweight (25.0-29.9), obesity (30.0-39.9), and severe obesity (40.0 or higher). For some analyses, obesity and severe obesity are combined.

Adequacy of Prenatal Care
Adequacy of prenatal care was classified using the Adequacy of Prenatal Care Utilization Index,[6] which measures prenatal care received into four categories (inadequate, intermediate, adequate, and adequate plus) by combining information about the timing of prenatal care, the number of visits, and the infant's gestational age.

[6] Kotelchuck, M. (1994). An Evaluation of the Kessner Adequacy of Prenatal Care Index and a Proposed Adequacy of Prenatal Care Utilization Index. American Journal of Public Health, 84(9), 1414-1420.

PREGNANCY-ASSOCIATED AND PREGNANCY-RELATED MORTALITY METHODS

The data presented throughout this section come from multiple sources, including death certificates, birth certificates, fetal death certificates, medical records, autopsy reports, coroner reports, police reports, and MMRC decision forms.

In this report, two years of mortality data are presented together to improve the reliability of the statistics. Because maternal mortality is a relatively rare event, case counts from a single year may be too small to draw meaningful conclusions, especially if the data are broken down into specific subgroups. Because of the small case counts, there may be random fluctuation from year to year; interpretation is improved when multiple years are combined.

Pregnancy-Related Mortality

The "pregnancy-related mortality ratio" (PRMR) is displayed to allow for comparisons of the likelihood of mortality for different groups. The PRMR is calculated by dividing the number of pregnancy-related deaths by the number of live births and then multiplying by 100,000. The PRMR is interpreted as the number of pregnancy-related deaths that occurred for every 100,000 live births within a specific group of women. Because they standardize the population size, the PRMR is more meaningful than case counts for comparing the likelihood of death for different groups. To better understand how maternal mortality impacts different subgroups of Illinois women, pregnancy-related mortality ratios were calculated separately by various demographic and maternal health characteristics for 2021-2022 combined.

- **Race/ethnicity, education level and geography/county of residence** were determined from the birth certificate, but if missing on the birth record, then determined from other medical records. Only information on women who were Illinois residents at the time of death are presented in this report.
- **Age and insurance type** were determined from the birth certificate. If the insurance information was not available from the birth certificate, medical records were used to identify insurance during pregnancy.
- **Body mass index (BMI)** was calculated from the live birth or fetal death certificate for the most recent pregnancy. If the height and weight information were not available on the birth or fetal death certificate, medical records were used to identify the pre-pregnancy height and weight. If pre-pregnancy height and weight were not available in medical records, height and weight from the earliest known point in pregnancy were used.

The underlying cause of death was first classified as either injury, mental health conditions, or one of 10 medical conditions defined by the CDC's Pregnancy Mortality Surveillance System (PMSS): hemorrhage, infection, amniotic fluid embolism, thrombotic pulmonary embolism, hypertensive disorders of pregnancy, anesthesia complications, cerebrovascular accident, cardiomyopathy, other cardiovascular conditions, and other non-cardiovascular conditions. Next, further "mental health conditions" were divided into two sub-categories for analysis: one for deaths related to substance use disorder and one for other mental health conditions. The PMSS category "other non-cardiovascular deaths" was further divided into two sub-categories for analysis: one for deaths related to pre-existing chronic medical conditions and one for other conditions in pregnancy. The PMSS category "infection" was further divided into two sub-categories for analysis: one for deaths related to COVID-19 and one for other infections.