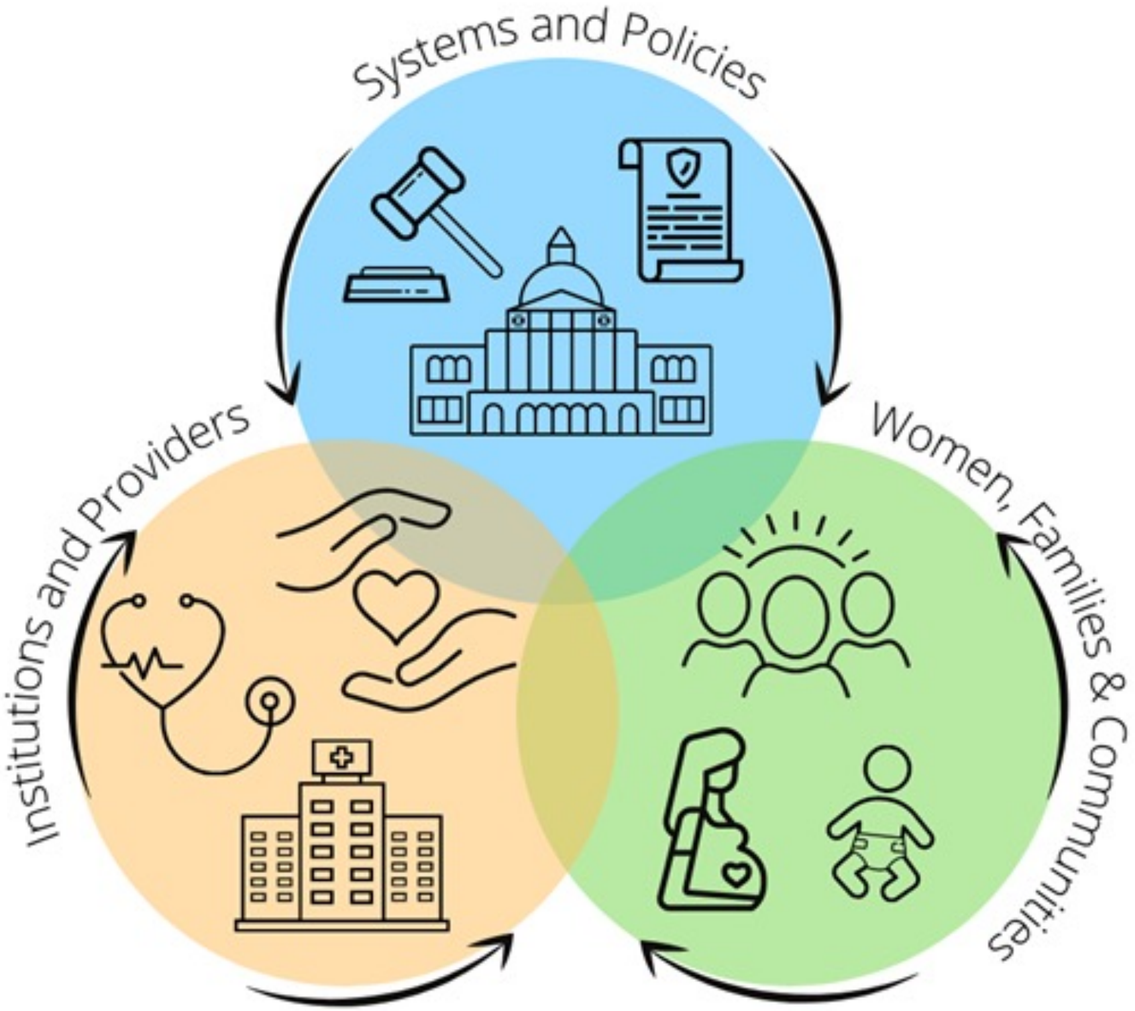

Maternal Infant Health Initiatives

2023 Report
2017-2021 Data

ST. JOSEPH COUNTY
DEPARTMENT OF HEALTH
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Fetal Infant Mortality Review
Birth Equity & Justice SJC
Maternal, Infant, & Preconception Health
Safe Sleep-Give Your Baby Room to Breathe

Table of Contents

Section 1: Dedication

ST. JOSEPH COUNTY
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Maternal Infant Health Initiatives at the St. Joseph County Department of Health dedicates this report to the 226 mothers and families who experienced an infant loss or stillbirth from 2017 to 2021. We express our deepest sympathy to these families. It is a privilege to learn from the study of their stories, how to make our community a healthier place for mothers and babies, a more supportive place for mothers and families, and to create a community where everyone can access the quality, respectful care they deserve and the support and resources they need for their families.

We would like to thank everyone who shared their time, expertise, and stories with us during the Fetal Infant Mortality Review (FIMR) Process.

Sally Dixon, RN, Coordinator, Maternal Infant Health Initiatives
Robin Vida, MPH, Director of HOPE

Never underestimate the healing power of holding space for someone's grief and loss. That kind of quiet seeing is transformational for the griever and the one bearing witness.

Lisa Keefauver, @LAURELBOX

Section 2: Acknowledgements

This report is made possible through the dedication of the Fetal Infant Mortality Review (FIMR) Case Review Team, Community Action Workgroup volunteers, grantors, and donors whose organizations make it a priority for maternal infant health professionals to participate in the FIMR Process as part of their work responsibilities and by community members and organizations who are committed to improving birth outcomes in St. Joseph County.

The organizations, on the next page, contributed to the work of Maternal Infant Health Initiatives in some capacity over the last 5 years and most continue to do so. Individual workgroup and Case Review Team members are included on the subsequent pages. This report and the Birth Equity Assessment report, described later, will be utilized to create a strategic plan and direction for Maternal Infant Health Initiatives as we apply for the next FIMR Safety PIN grant in the summer of 2023.

Maternal Infant Health Initiatives at the SJCDoH is funded by an Indiana Department of Health (IDoH) Safety PIN grant. The current funding cycle began on October 1, 2021, and ends in September 2023. Additional funding for projects by community partners and foundations will be acknowledged throughout the report.

Community Partners and Funders, 2017 - 2021

In May of 2022, the Case Review Team returned to in person meetings and maintained a Zoom option to allow our clinical and IDoH team members to attend when in person isn't possible due to schedules.

Thanks to the excellent "OWL" and screen system at the Center for Hospice Care, this formatting is working well for the FIMR program. With the return of in person meetings we also thank Olive Garden for donating their jumbo salads and breadsticks for our lunchtime meeting.

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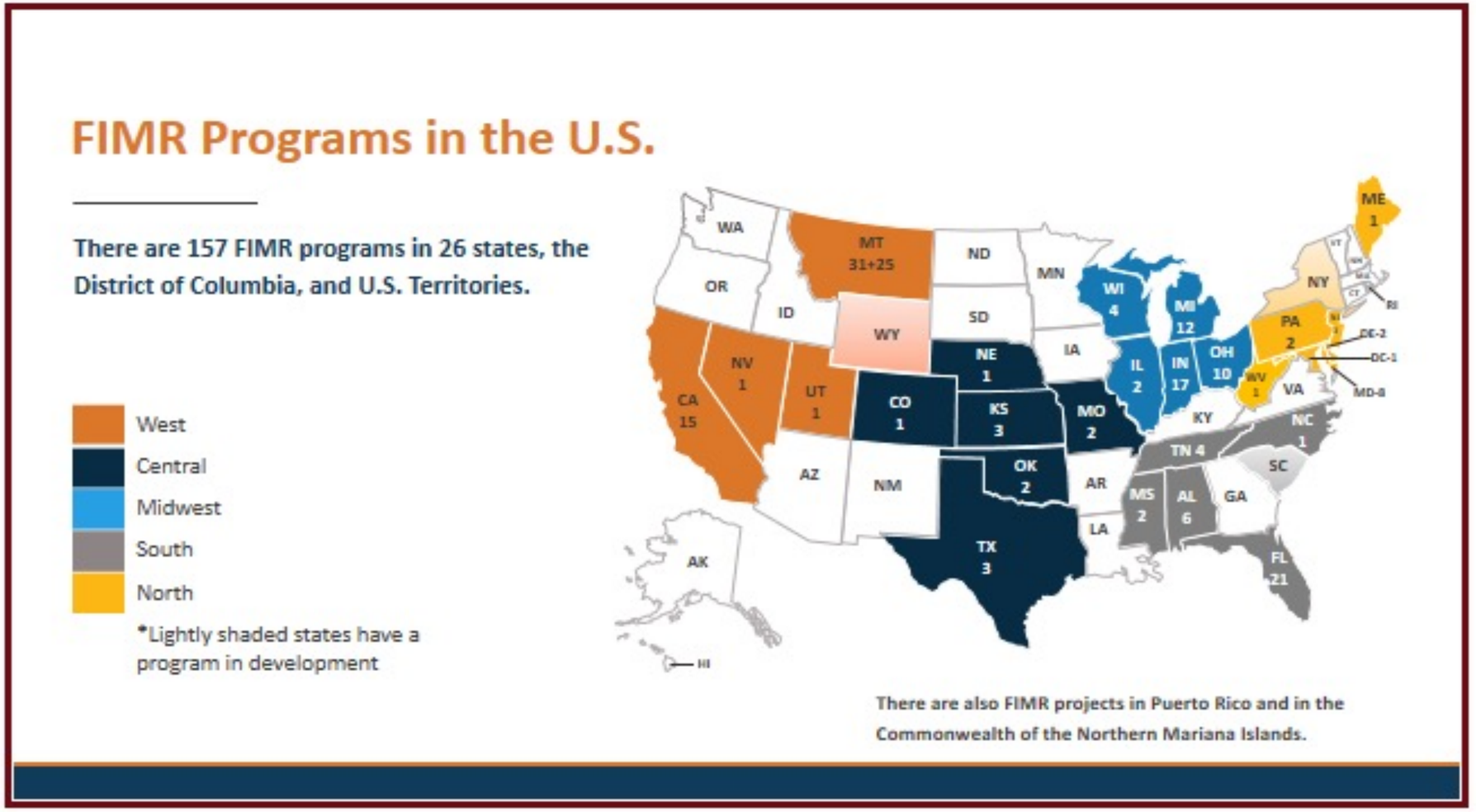
Section 3: Introduction

The FIMR Program in St. Joseph County began in 2016 and is one of 157 FIMR Programs in the United States. Indiana has 17 FIMR teams and in 2023, the SJCDoH Maternal Infant Health Initiatives Coordinator became co-chair of the Midwest FIMR Quarterly Meeting.



The study of infant and fetal loss using the Fetal Infant Mortality Review (FIMR)

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The infant mortality rate for a community, state, or country is regarded as a highly sensitive measure of public health because of the association between the causes of infant death and factors that influence the health status of whole populations such as economic development, general living conditions, social well being, rate of illness, quality of access to medical care, public health practices, and quality of the environment.

Infant and fetal deaths are identified by the IDOH DRIVE system on a weekly basis so that the circumstances of the death can be reviewed. An infant death is defined by a death during the first year of life and includes live births from any gestational age. For example, a birth at 18 weeks, where there is a sign of life, is included as well as an infant born at term whose death occurs at 40 days of age. Reviewed fetal deaths include stillbirths that occur at 20 weeks gestation or later.

The purpose of FIMR is to conduct comprehensive multidisciplinary reviews of fetal and infant deaths to understand how a wide array of local, social, economic, public health, educational, environmental, and safety issues relate to the tragedy of fetal and infant loss. Additionally, FIMR teams use the findings to take action that can prevent future infant deaths and improve the systems of care and resources for women, infants, and families.

Cycle of Improvement

FIMR is Continuous Quality Improvement

Data Gathering

Information is collected from a variety of sources, including family/parental interview, medical records, prenatal care, home visits, WIC, and other social services.

Changes in Community Systems

As the physical, health care, and social environment for childbearing families improves, outcomes, over time, will be better.

Case Review

The multidisciplinary Case Review Team reviews the case to identify barriers to care and trends in service delivery and ideas to improve policies and services that affect families.

Community Action

The Community Action Team receives the recommendations from the review team and is charged with developing and implementing plans leading to positive change within the community.

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The FIMR Case Review Team meets every one to two months to review cases of infant and fetal loss using a decisions process, adapted from the CDC Maternal Mortality Review process, that is used by the state of Indiana.

At each meeting, the team studies each case to determine the opportunity for prevention. This report includes the data and recommendations for the time period of 2017 through 2021.

Community action activities include those that took place from January 2022 through May of 2023.

FIMR Process

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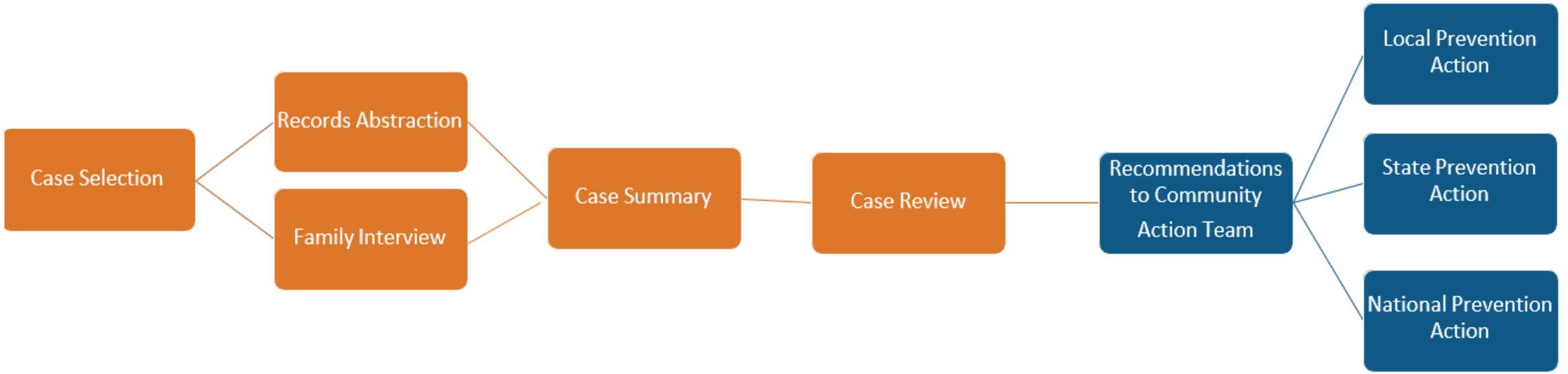
Best Practices in Reviews



In 2022 and 2023 , the funding of Maternal Infant Health Initiatives at the St. Joseph County Department of Health included grants from:

Indiana Department of Health

Safety PIN

Maternal Infant Health Initiatives
Fetal Infant Mortality Review

October 2021 to September 2023

BEACON COMMUNITY IMPACT

Safety PIN

Achieving Birth Equity Conference, 2022
Maternal Mental Health Program, 2023

2021 -2023

COMMUNITY FOUNDATION OF ST. JOSEPH COUNTY

Birth Equity Assessment

Assessment conducted by the National Birth Equity Collaborative

2021 - 2023

IMHC

Birth Equity Assessment

Assessment conducted by the National Birth Equity Collaborative

2021 - 2023

Section 4:

Infant and Fetal Mortality Data
St. Joseph County, 2017-2021

The Infant Mortality Rate (IMR) measures the number of infant deaths (up to one year of age) per 1,000 live births

Because of our community's relatively small population, our IMR fluctuates a great deal from year to year, so annual rates must be interpreted with caution.

To get a more stable view of the infant mortality rate in our community, we look at 5-year increments of time and disaggregate, or separate, the combined IMR by maternal race and ethnicity.

For example, in 2020, St. Joseph County had its lowest infant mortality rate in at least 10 years. In 2021, the higher number of deaths combined with a lower number of births resulted in an increase in the infant mortality rate. The number of deaths with the opportunity for prevention is also assessed each year and will be explained later in this report.

Table 1.0 Year	St. Joseph County Infant Mortality Rate
2021	9.9
2020	5.9
2019	8.7
2018	6.9
2017	10.3

Source: Indiana Dept. of Health

Infant Mortality by Maternal Race and Ethnicity 2020 and 2021

The infant mortality rate by race and ethnicity more than doubled for Black and White infants in 2021 compared to 2020, further reinforcing that 2020 was the outlier compared to most other years in St. Joseph County. As mentioned in last year's report, the reasons for the significant drop in 2020 are unclear but likely related to circumstances of the Covid pandemic shutdowns relaxed eligibility requirements for benefits, and increased material resource support.

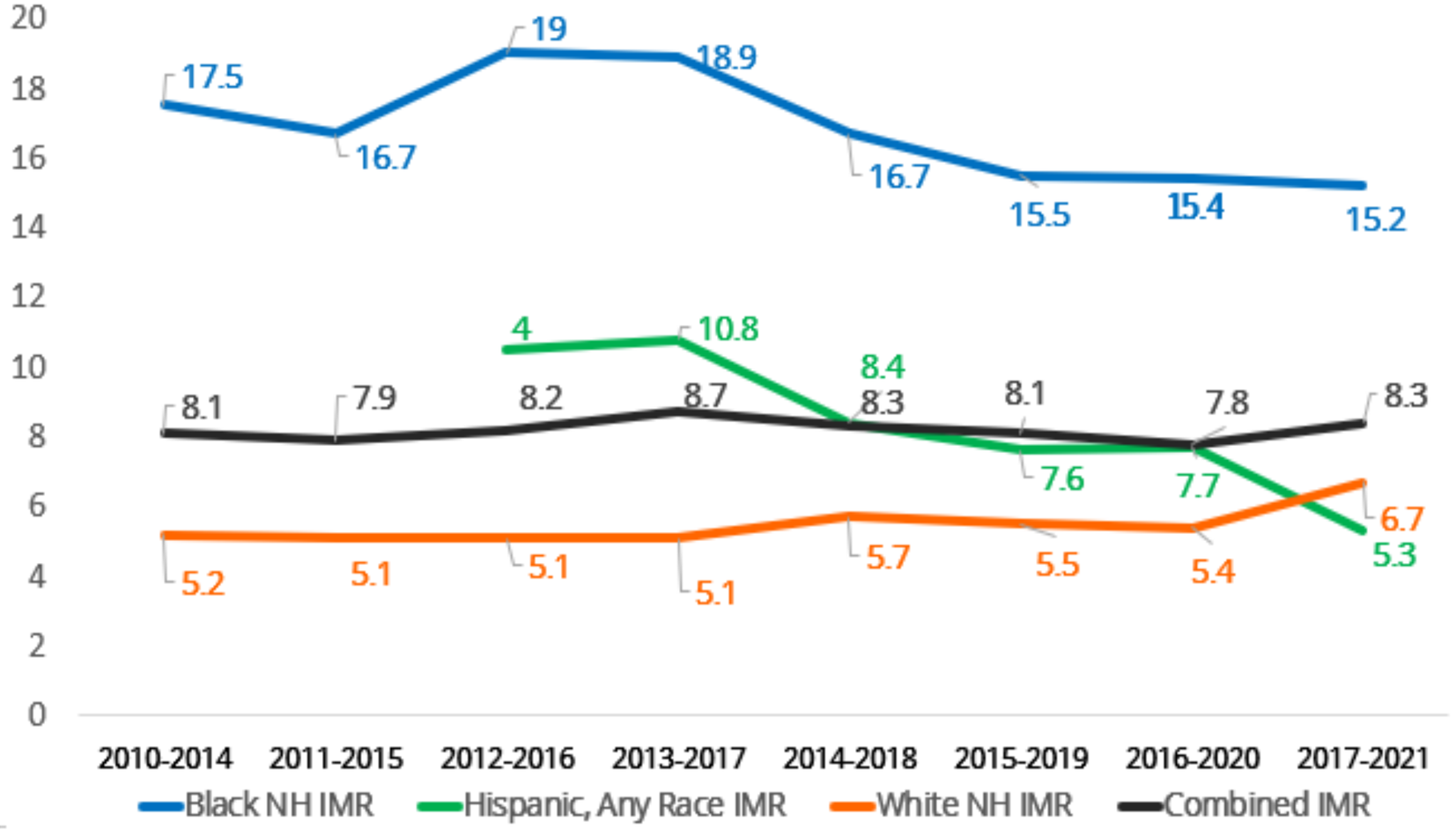
The next page shows the IMR by race and ethnicity in 5-year increments over the last 12 years. As of this writing, the preliminary numbers for 2022 reflect a similar number of deaths as 2021 though an official rate will not be available until early 2024 from the IDoH.

Table 2.0 Year	IMR 2020	IMR 2021	IMR 2016-2020	IMR 2017-2021
All SJC infants	5.9	9.9	7.9	8.4
Black NH	8.6*	19.2*	15.4	15.2
White NH	3.8*	8.1*	5.4	6.7
Hispanic, any race	**	**	7.7	5.3*

**Rates based on counts <5 are suppressed
*Rates based on counts <20 should be interpreted with caution.
Source: Indiana Dept. of Health

The 5-year IMR for White infants increased by over 1 point which will be discussed in later slides in respect to the opportunity for prevention.

Infant Mortality by Maternal Race and Ethnicity, 2010 -2021



Source: Indiana Dept. of Health Stats Explorer

The White infant mortality rate trended up for the time period of 2017-2021, the Black infant mortality rate had a slight decrease, and the more significant decrease in the Hispanic, any race, category must be viewed with caution because it is based on a total count of <20.

The chart on the following page provides some clues about why 2017-2021 saw an increase in the White IMR.

Comparison of number of infant deaths by Maternal Race/Ethnicity 2016 to 2021 by IDOH and SJC FIMR data

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	2016		2017		2018		2019		2020		2021		2022*
	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	SJC FIMR only
Black NH	14	10	15	11	9	6	12	10	5	5	13	10	15
White NH	5	10	16	13	12	12	16	16	11	9	16	17	9

Source: Indiana Dept. of Health Stats Explorer and SJC FIMR Case Review

The SJC FIMR Program began reviewing cases of infant mortality in 2016. While no year compares exactly in terms of total cases reviewed and categorized by race and ethnicity with the deaths recorded by IDOH, the difference in the number of infant deaths in 2016 for White infants is one half of those reviewed by SJC. Because IDOH calculates the IMR, this number of infant deaths would have lowered the IMR for the time periods that included 2016.

***Preliminary data for 2022** from the SJC FIMR Case Review reflects a decrease in the number of White infant deaths compared to 2021. This chart reflects the need for caution in interpreting variations in the infant mortality rate from year to year. IDOH and SJC FIMR work closely to improve the consistency of our data.

NOTE: The total number of deaths and IMR for Hispanic infants of any race are not included in these charts because the total numbers are <5 for each year.

Comparison of number of infant deaths recorded by IDOH and SJC FIMR Maternal Race/Ethnicity & Births, 2016 to 2021

The significant increases in the IMR for White infants from 2020 to 2021 is also related to the decrease in number of births. Because the IMR is determined by the # deaths divided by the # of births multiplied by 1000, the combination of increased deaths and decreased births affected the rates significantly.

While measuring infant and fetal and mortality rates are essential to surveilling birth outcomes, the opportunity for prevention is also an important part of the story and critical to creating solutions and community action to decrease adverse birth outcomes. A discussion surrounding prevention begins on page 34.

	2016		2017		2018		2019		2020		2021	
	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR	IDOH	SJC FIMR
Black NH infant deaths	14	10	15	11	9	6	12	10	5	5	13	10
Total # Black NH Births	736		746		718		728		673		678	
White NH infant deaths	5	10	16	13	12	12	16	16	11	9	16	17
Total # White NH Births	2369		2231		2211		2135		2034		1976	
Total # Hispanic, Any Race Births	387		413		463		452		437		493	

Source: Indiana Dept. of Health Stats Explorer and SJC FIMR Case Review

Causes of Infant Mortality, 2017-2021

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Complications of Prematurity	Complications from premature deliveries due to Premature Rupture of Membranes, preterm labor, placental abruption, cervical insufficiency, maternal pregnancy complications that require delivery including infection, Preeclampsia, or hemorrhage, and others.
Sleep Related Sudden Unexpected Infant Death (SUID)	Includes accidental asphyxia or suffocation, Sudden Infant Death Syndrome (SIDS), or undetermined cause. Undetermined cause is the finding in most deaths because of the presence of unsafe sleep factors and no medical cause.
Other	Infant medical complications that occur after birth that are not related to prematurity or maternal complications not included in the prematurity category. (Examples include infections, illnesses, or labor hypoxia.
Assault/Homicide	Death of an infant due to assault.

Causes of Infant Mortality, 2017-2021 (n=125,

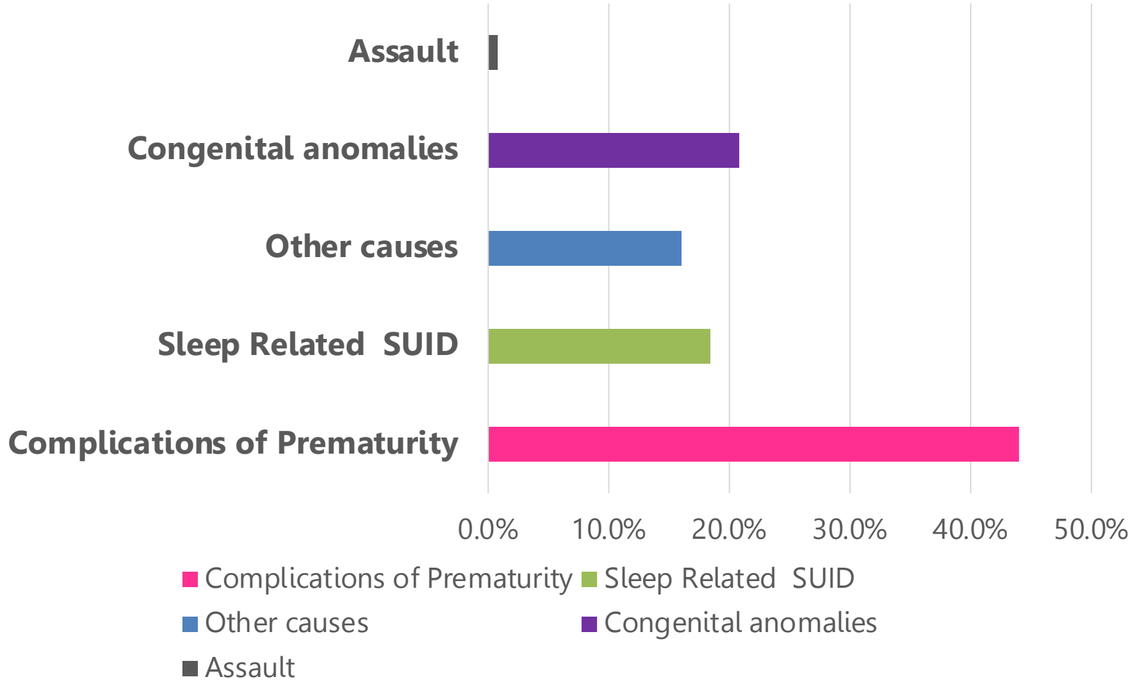
Reviewed Cases where cause of death was available)

In cases reviewed by the SJC FIMR Team for the 5 years spanning 2017-2021:

- Complications of prematurity were down 4.3 from 2016-2020.*
- Sleep related deaths down .1% from 2016-2020
- Other causes of infant death were up .4% from 2016-2020
- Deaths due to congenital abnormalities were up 3.2% from 2016-2020*
- There was 1 infant death (2017) due to homicide during the 5-year period.

Source: SJC FIMR Case Review

Percentage of Infant Deaths by Cause, SJC 2017-2021



*It is likely the decrease in deaths due to prematurity and increase due to congenital anomalies is because of better systems to identify infant deaths that occur at Level 4 care hospitals, where mothers with pregnancies complicated congenital anomalies are often delivered or infants with complex medical needs are transferred for a higher level of care and/or surgery.

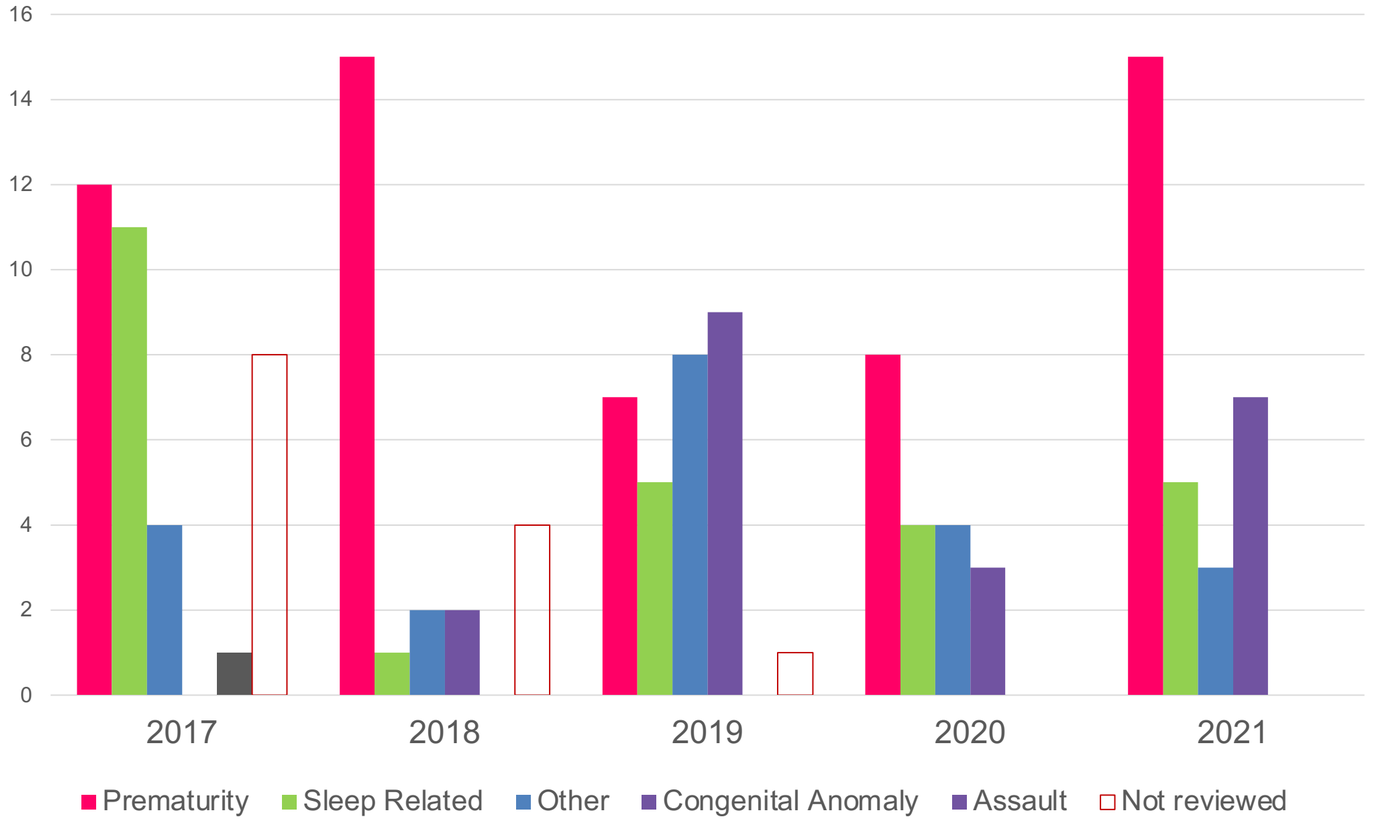
Comparison of Causes by Year for Reviewed Infant Deaths 2017 -2021

(n=125)

The causes of death fluctuate from year to year, requiring attention to strategies to prevent each type of infant loss in an ongoing manner.

The new IDoH Vital Records Drive system provides the FIMR Program greater access to all SJC resident infant deaths, decreasing the number of cases that go unreviewed.

The number of infant deaths due to complications of prematurity nearly doubled in 2021 compared to 2020. According to the March of Dimes 2022 Report Card, the US Preterm Birth rate hit a 15-year high in 2021.



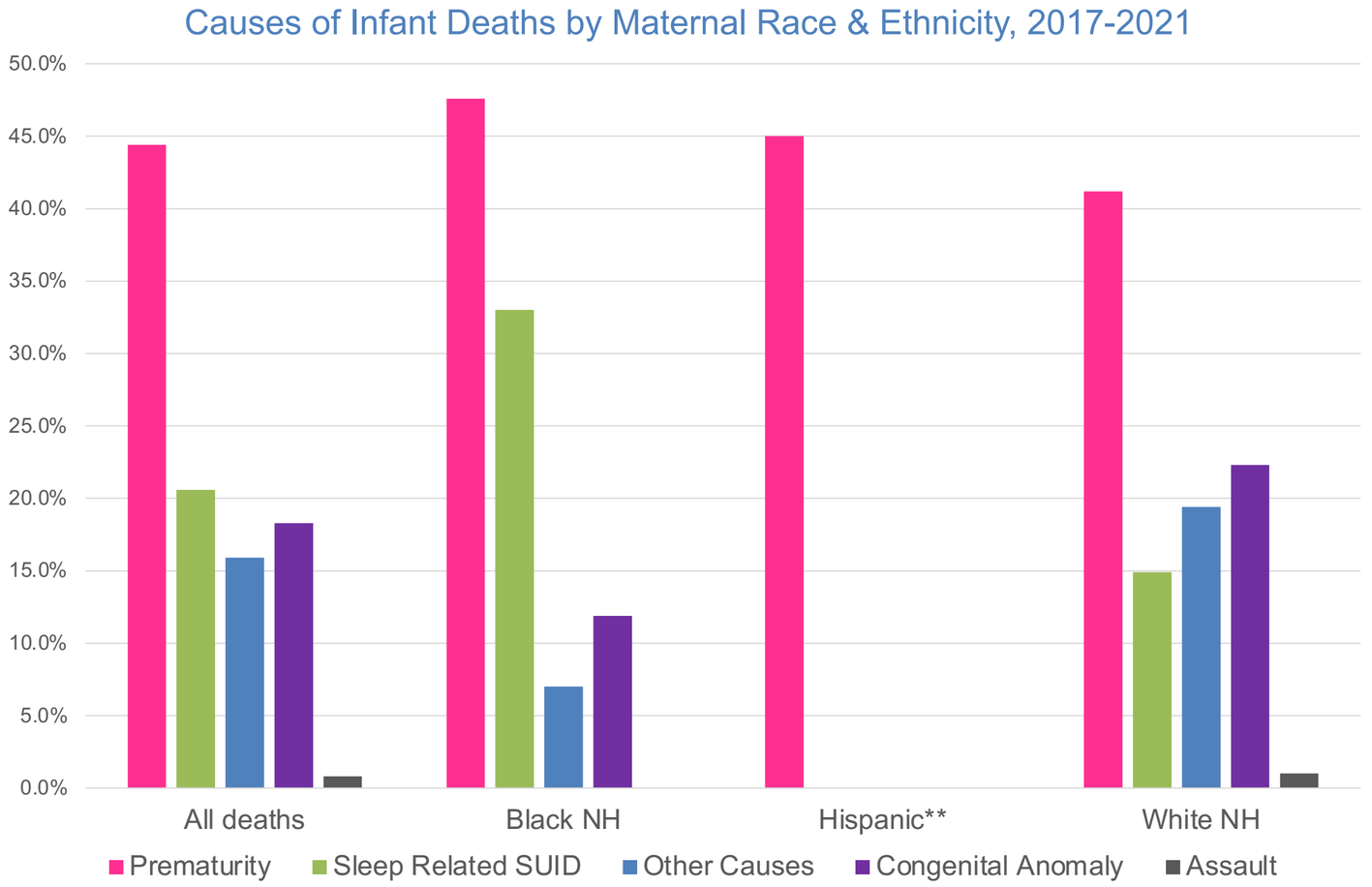
Source: Indiana Dept. of Health and SJC FIMR Case Review

Comparison of Causes by Maternal Race & Ethnicity for Reviewed Infant Deaths 2017 -2021 (Percentage)

Across all groups, complications of prematurity are the leading cause of infant deaths in St. Joseph County.

For Black mothers, sleep related Sudden Unexpected Infant Death is the second most frequent cause, while for White mothers it is congenital anomalies.

**For Hispanic mothers, other causes were not reported due to total counts being <5 for all causes except for complications of prematurity.



Source: SJC FIMR Case Review

Reviewed Cases of Fetal Mortality in SJC by Maternal Race and Ethnicity, 2017-2021

A fetal death, or stillbirth, is the death of a fetus prior to delivery, at 20 or later weeks of pregnancy. Fetal mortality is measured by the number of fetal deaths per 1000 births. With the completion of reviews of 2021 cases, the FIMR Program has 5 years of data for stillbirth in SJC.

The IDoH does not calculate fetal death rates at this time, so only the total counts are included here, based on stillbirths reviewed by the SJC Case Review Team.

Table 2.0 Year	Total Number of deaths
All Fetal deaths	100
Black NH	30
White NH	59
Hispanic, any race	9
Other	**

Source: SJCDoH FIMR Case Review

Causes of Fetal Mortality, 2017-2021

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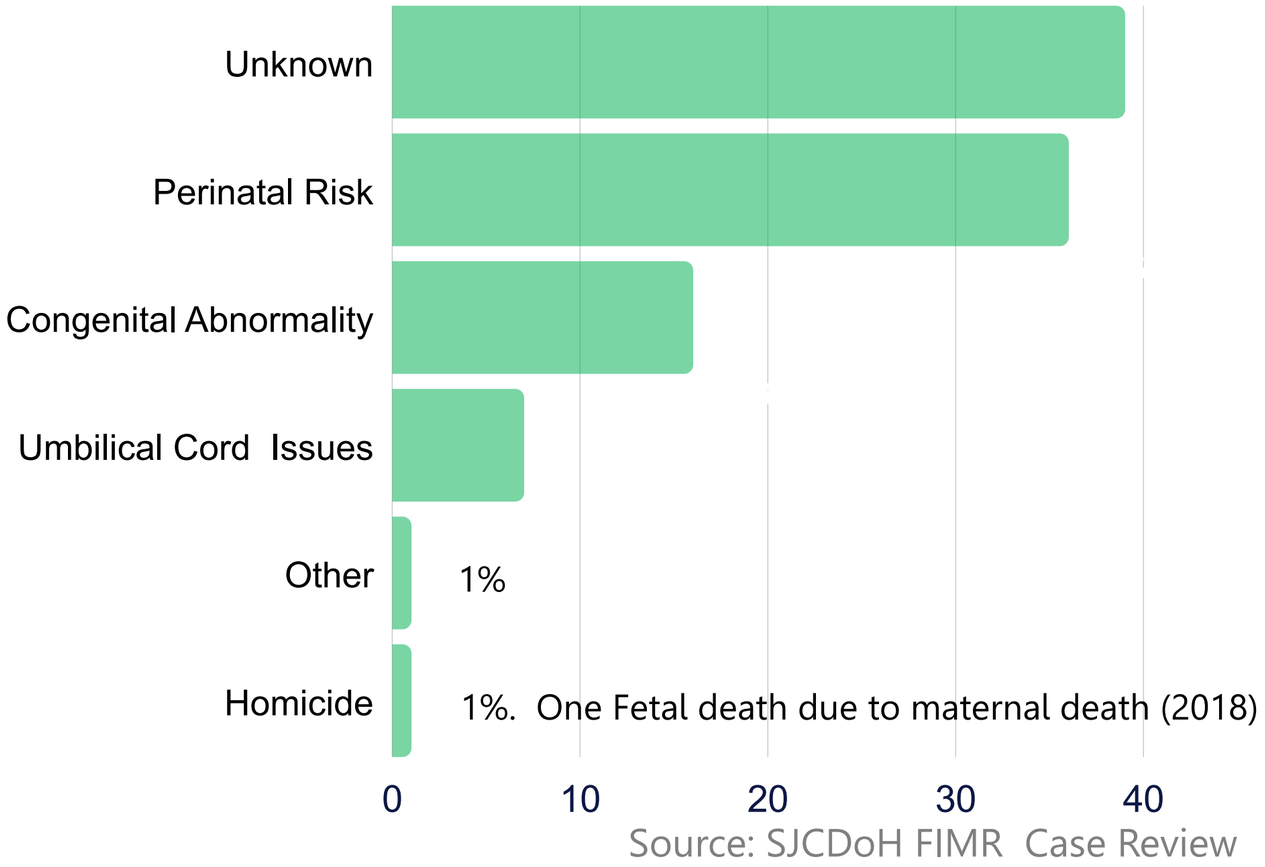
Unknown	Undetermined cause, however, these deaths often include pregnancy complications including placental insufficiency, growth restriction, or other maternal medical complications.
Perinatal Risk	Complications during pregnancy including preterm delivery, chorioamnionitis, and placental abruption; fetal complications that occur prior to delivery, and maternal pregnancy complications that require delivery including infection, Preeclampsia, or hemorrhage.
Cord accident or Cord abnormality	Includes a true knot in the cord, strictures, or other abnormalities.
Assault	Death of a fetus due to maternal death from an assault. (1 instance, 2018)

Causes of Fetal Mortality, 2017-2021

(n=100) Percentages



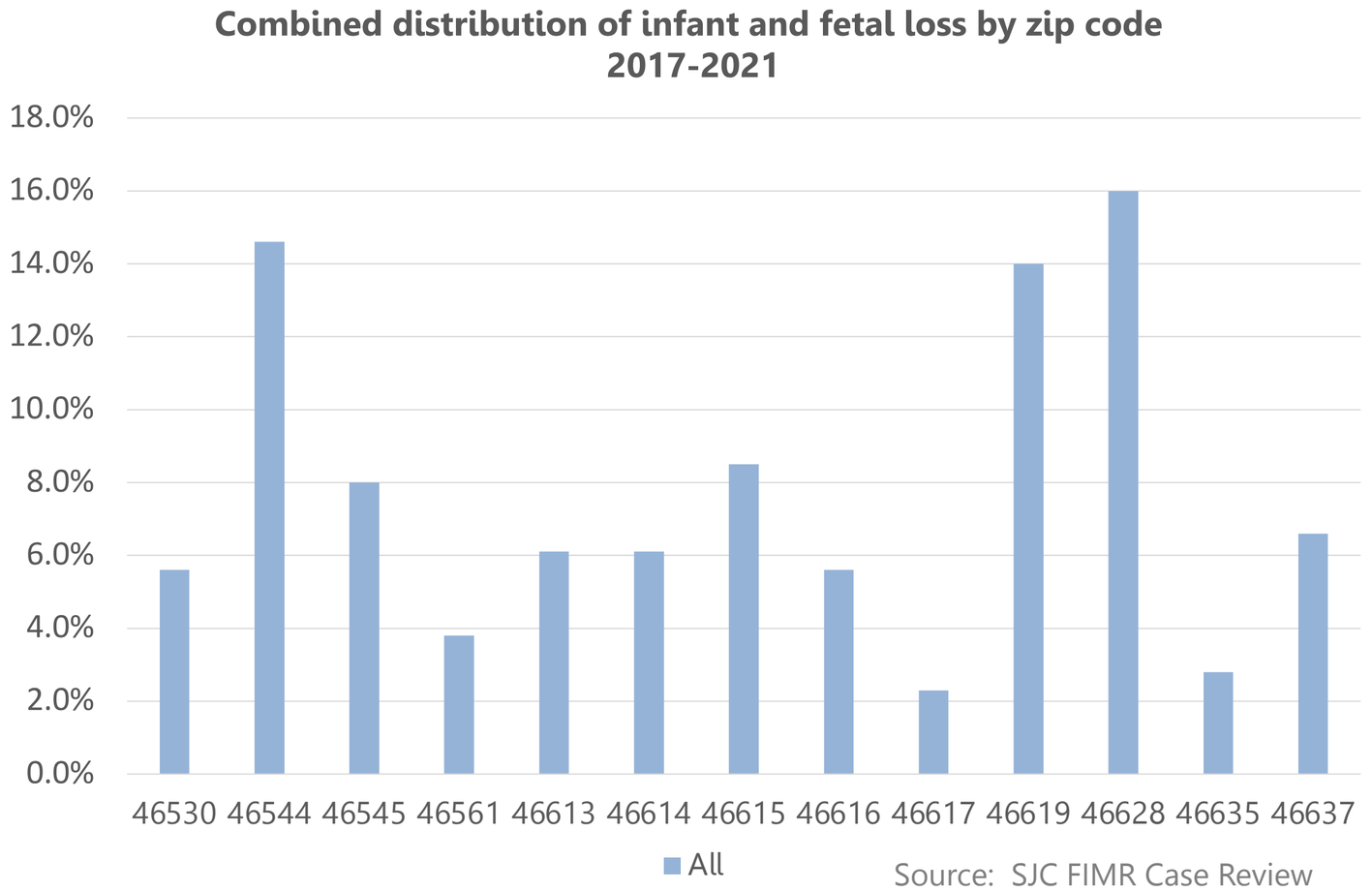
Source: SJCDoH FIMR Case Review

When the cause of a fetal death or stillbirth is documented as unknown, it means that they were not able to determine the exact medical reason that led to the death. However, for fetal deaths due to an unknown cause, many have other risk factors present such as growth restriction, abnormal placenta, or other maternal pregnancy factors.

Combined Infant and Fetal Loss by Zip Code 2017 -2021 (n-213)

Zip code information was available for 213 cases of infant and fetal loss in St. Joseph County from 2017-2021.

Percentages should be interpreted with caution due to varying population sizes within each zip code.



The impact of Covid 19, Maternal, Fetal, and Infant Mortality 2020-2022

A growing body of research describes the impact of maternal Covid 19 infections on maternal, fetal, and infant health and the increased danger an infection poses during pregnancy. One study, published in 2023, includes an "individual patient data meta-analysis of unpublished and published data from a dozen studies and includes more than 13,000 pregnant women. This review shows that COVID-19 during pregnancy increases the risk of maternal mortality, intensive care unit admission, receiving mechanical ventilation, receiving any critical care, or being diagnosed with pneumonia or thromboembolic disease."

In St. Joseph County:

2020 No maternal Covid 19 infections were associated with an infant or fetal loss

2021 <5 cases of infant or fetal loss included a maternal Covid 19 infection.

2022 5 cases of infant or fetal loss included the presence of a Covid 19 infection either during the pregnancy or during the infant's life. In no case was the Covid 19 infection indicated as the cause of death.

The American College of Obstetricians and Gynecologist recommends that pregnant women receive the vaccine for Covid 19 during pregnancy. The SJC FIMR program did not have consistent vaccine information available for reviewed cases. No infant or fetal death was noted to be associated with the Covid 19 vaccine in St. Joseph County.

Source: SJC FIMR Case Review

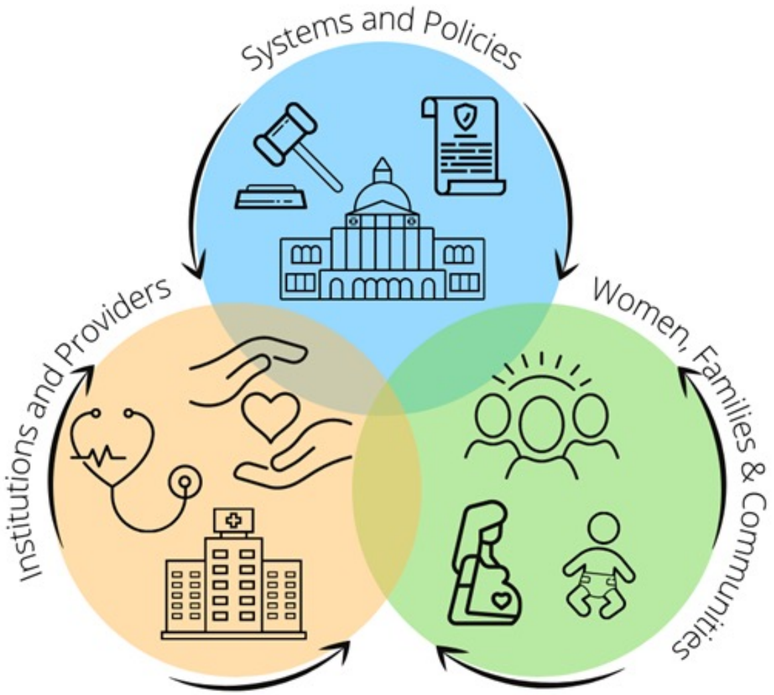
Section 5:

Opportunity for Prevention, St. Joseph County FIMR, 2017-2021

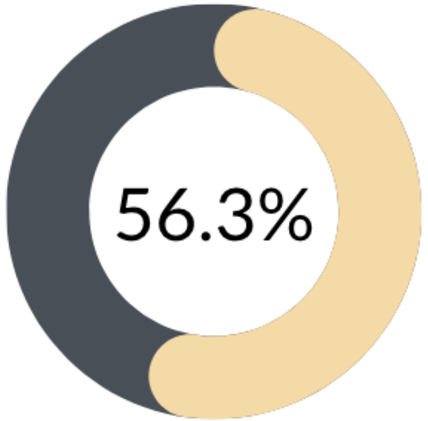
Prevention Recommendations

The SJC FIMR Case Review Team determines the opportunity for prevention for each reviewed case of infant and fetal death, based on a decisions process described in the 2022 report. Using the decisions process, the team then creates recommendations that have the potential to make a difference in birth outcomes in St. Joseph County.

The following tables reflect the percentage of cases with the opportunity prevention for cases reviewed from 2017 through 2021.



Infant Deaths with some to good chance of prevention. SJC, Reviewed Cases 2017-2021 by Cause of Death.



of Infant Deaths had some to good chance of prevention (n=126)

13%	of Infant Deaths due to congenital fetal anomaly (n=23)
42.9%	of Infant Deaths due to complications of prematurity (n=56)
85%	of Infant Deaths due to other causes (n=17)
100%	of infant Deaths due to sleep related Sudden Unexpected Infant Death (n=26)
100%	of Infant Deaths due to homicide (n=1)

Source: SJCDoH FIMR Case Review

Infant Deaths with some to good chance of prevention.
SJC Reviewed Cases
2017-2021 by Maternal Race & Ethnicity.

66.6%	of Infant Deaths for Black Non-Hispanic Mothers (n=42)
54.5%	of Infant Deaths for Hispanic Mothers of any race. (n=11)
50.7%	of Infant Deaths for White Non-Hispanic Mothers (n=67)
*	Percentages for mothers of other races are suppressed due to total counts of less than 5.

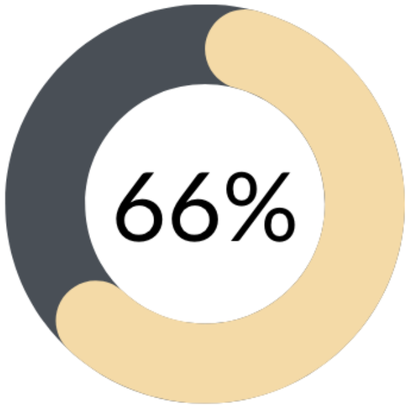
Source: SJCDoH FIMR Case Review

Infant Deaths with some to good chance of prevention. Reviewed Cases 2017-2021 by Type of Health Insurance.

73.8%	of Infant deaths for mothers with Medicaid insurance. (n=65)
87.5%	of Infant deaths for mothers with no insurance. (n=8)
31.9%	of Infant deaths for mothers with private/commercial insurance. (n=47)
*	Percentages for mothers of other races are suppressed due to total counts of less than 5.

Source: SJCDoH FIMR Case Review

Fetal Deaths with some to good chance of prevention. Reviewed Cases 2017-2021 by Cause of Death.



of Fetal Deaths had some to good chance of prevention (n=100)

72.2%	of Fetal Deaths due to perinatal risk. (n=36)
43.8%	of Fetal Deaths due to congenital fetal anomalies. (n=16)
66.7%	of Fetal Deaths due to unknown causes. (n=39)
71.4%	of Fetal Deaths due to cord abnormalities. (n=7)
100%	of Infant Deaths due to homicide (n=1)

Source: SJCDoH FIMR Case Review

Fetal Deaths with some to good chance of prevention. Reviewed Cases 2017-2021 by Maternal Race & Ethnicity.

66.7%	of Fetal deaths for Black Non-Hispanic mothers. (n=30)
55.6%	of Fetal deaths for Hispanic mothers of any race. (n=9)
67.8%	of Fetal deaths for White mothers of any race. (n=59)
*	Percentages for mothers of other races are suppressed due to total counts of less than 5.

Source: SJCDoH FIMR Case Review

Fetal Deaths with some to good chance of prevention. Reviewed Cases 2017-2021 by Type of Health Insurance.

71.7%	of Fetal deaths for mothers with Medicaid insurance. (n=53)
42.8%	of Fetal deaths for mothers with no insurance. (n=7)
68.7%	of Fetal deaths for mothers with Private/Commercial insurance. (n=32)

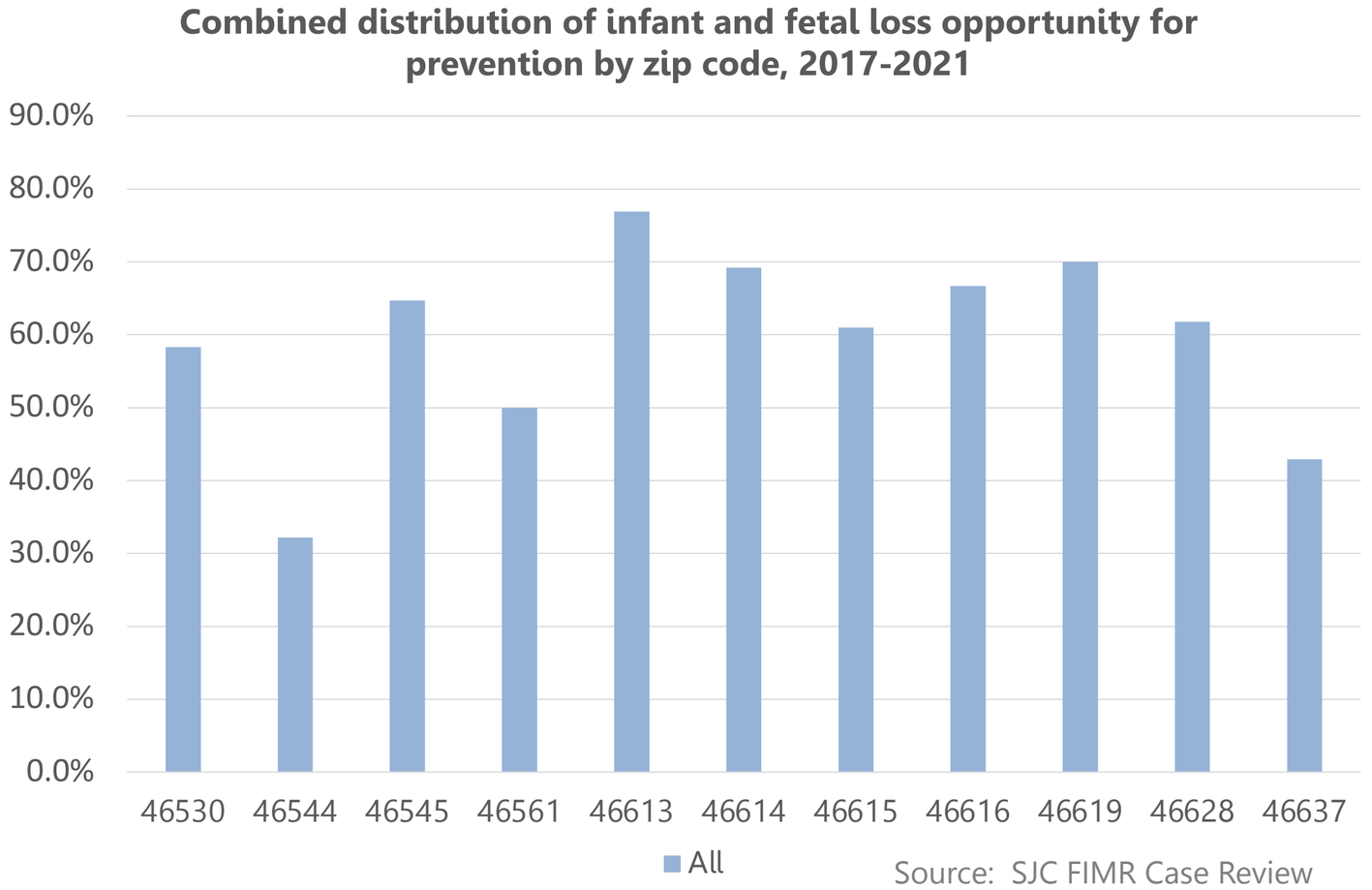
Source: SJCDoH FIMR Case Review

Opportunity for Prevention of Infant and Fetal Loss by Zip Code, 2017 -2021

This table reflects the percentage of cases of infant and fetal loss that had the potential for prevention in each zip code.

Factors that contribute to infant and fetal loss are complex and often interact. The next group of slides includes examples of the recommendations that are generated through the FIMR Case Review process.

Zip Codes with <5 cases with opportunity for prevention were excluded from this chart.



Source: SJC FIMR Case Review

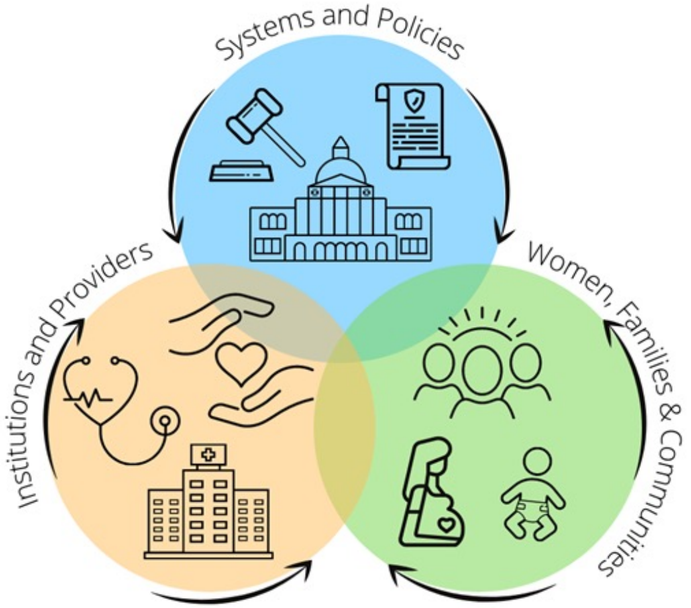
Categories of Prevention

St. Joseph County Department of Health (SJCDoH) Maternal Infant Health Initiatives are focused on community action built around three key areas that will lead to a reduction in infant mortality and the elimination of racial, ethnic, and socioeconomic disparities in infant and maternal health. These areas include:

- **Systems, Policy, and Legislation**: to address the structural and social determinants of health.

- **Healthcare Institutions and Maternal Child Health Professionals**: to improve quality, address implicit bias, facilitate collaboration with community-based care through relationship building and consultation with providers and hospital systems, education and information regarding topics related to improving maternal and infant outcomes.

- **Women, Infants, Fathers, Families, and Community**: to facilitate engagement to identify community needs, solutions, and participation in community led action, connection to information, and resources.



Systems, Policy, and Legislation Recommendations

One or more of the following recommendations were made in 53.7% cases of infant and fetal loss in St. Joseph County that had the opportunity for prevention. (n=123)

HOSPITALS and COMMUNITY AGENCIES

- Emergency departments and crisis pregnancy centers should establish a process to assist pregnant clients, without insurance or a medical provider, with direct connection to assistance rather than providing a list of care providers.
- Provide education for obstetric providers and community about how to prioritize connection to Substance Use Disorder care and support for women with a history or current use during pregnancy including Indiana Pregnancy Promise and/or peer recovery coaches.
- Hospital emergency departments should develop strong relationships for collaboration with their hospital system family medicine clinics to ensure mothers who present for complications during pregnancy or are later gestational age, receive follow up care and assistance with insurance and other resources.
- Hospital investment in social worker and psychiatric consult availability on holidays and weekends.

LEGISLATION

- Amend Indiana Code (IC 20-5-13) Instruction on human sexuality and sexually transmitted diseases, Sec 13, to include instruction about pregnancy health including:
  - The importance of Folic Acid prior to pregnancy and early in pregnancy to prevent 70% of neural tube birth defects.

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LEGISLATION CONTINUED

- What prenatal care is, who provides it, and how to get connected to care during pregnancy.
- Insurance literacy about coverage at 18 years and older to understand if they will be covered by parents, apply for health insurance through their employer, Indiana Health Care Plans (IHCP), or the Health.gov exchange.
- Specifically, how sexually transmitted infections can affect a pregnancy outcome if not treated - including pregnancy loss due to premature delivery or infant complications.

- Establish universal home visiting for women during pregnancy for complications and social support.
- Study the benefits of paid family and medical leave to support the need for time off for pregnancy complication, support of childbearing families following delivery, impact on infant and maternal health, and the benefits of paid family and medical leave programs to employers.
- Establish the ability for medical providers to prescribe medications for the treatment of Sexually Transmitted Infections to a person and their partner, to prevent re-infection.
- Increase access to maternal mental health care.
- Expand Medicaid postpartum coverage from 60 days to one year postpartum.
- Establish reasonable workplace accommodations during pregnancy.

HEALTH CARE PROVIDERS

- Encourage primary care providers, aware of a patient's pregnancy, to assist women with making a referral to an obstetric provider.

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HEALTH CARE PROVIDERS, CONTINUED

- Encourage obstetric provider offices to establish a process to follow up with mothers who miss appointments by connecting them to a doula, community health worker, or other community-based agency during pregnancy.
- Identify skilled nursing companies available to support families with the care of infants with complex medical needs.
- Increase evening and weekend availability of prenatal care appointments to accommodate women who work and/or require employers to permit absences for prenatal appointments without accruing “points” in their personnel record.
- Improve connections and collaboration between hospitals, Department of Children’s Services (DCS), community agencies, and families.

Health Care Institutions and Maternal Infant Health Professionals

One or more of the following recommendations were made in 89.4% cases of infant and fetal loss in St. Joseph County that had the opportunity for prevention. (n=123)

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HOSPITALS and PROVIDERS

- Provide education to mothers on how to establish a baseline for fetal movement in the third trimester and emphasize seeking care for decreased fetal movement.
- Provide postpartum referral to a specialist for a mother who has experienced recurrent pregnancy loss and/or pregnancy complications and encourage interconception health care prior to subsequent pregnancies.
- Follow standard of care for treatment of increased blood pressure during pregnancy and labor.
- Educate women of childbearing age about the importance of Folic Acid prior to and during pregnancy to prevent 70% of neural tube defects.
- Increase knowledge of psychiatric medications that are safe during pregnancy to treat maternal depression, anxiety, bipolar, and other mental health disorders during pregnancy and postpartum.
- Increase knowledge of availability of home-based support and community agencies to support patients' social needs and refer where appropriate.
- For pregnancy mothers with history of or current pregnancy complications, reinforce hospital level that is appropriate for required care.
- Prioritize connecting pregnant adolescents to additional support through connection to community programming.

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Health Care Institutions and Maternal Infant Health Professionals, continued

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- Follow standard of care to assess for preterm labor and cervical length.
- Listen to and act upon mothers' reports of signs and symptoms for herself or her infant with an office visit or hospital assessment.
- Primary Care Providers provide counsel at well woman visits about pregnancy intention and preparing for pregnancy in setting of chronic diseases, prescriptions, smoking, weight concerns, sexually transmitted infections, and history of pregnancy loss to facilitate pre-pregnancy health and early connection to prenatal care.
- Consider establishing a social needs assessment at OB intake to facilitate connection to a community health worker, doula, or other pregnancy/family-based community-based program.
- Personalize safe sleep education in context of family needs including risk factors, smoking, bed-sharing, propping, and use of blankets.
- Increase knowledge of support for Substance Use Disorder including Indiana Pregnancy Promise and peer recovery support.
- Implement implicit bias training to consider how bias may affect clinical care including the topics of race, class, gender, weight, mental health, substance use, age and other maternal characteristics during pregnancy and postpartum.

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Health Care Institutions and Maternal Infant Health Professionals, continued

ST. JOSEPH COUNTY
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COMMUNITY AGENCIES

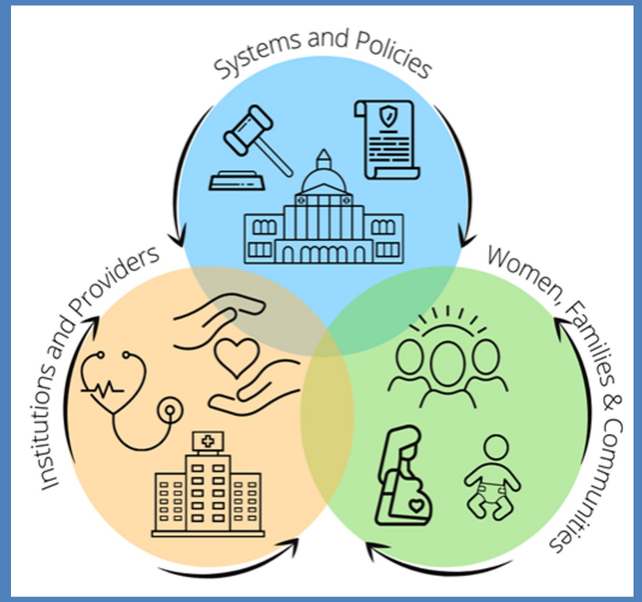
- Develop educational content about THC use during pregnancy.
- Expand safe sleep education to include the rationale for the ABC's of safe sleep.
- Educate women of childbearing age about the importance of Folic Acid prior to and during pregnancy to prevent 70% of neural tube defects.
- Increase knowledge of support for Substance Use Disorder including Indiana Pregnancy Promise and peer recovery support.
- Implement implicit bias training to consider how bias may affect clinical care including the topics of race, class, gender, weight, mental health, substance use, age and other maternal characteristics during pregnancy and postpartum.
- Personalize safe sleep education in context of family needs including risk factors, smoking, bed-sharing, propping, and use of blankets.
- Communicate with client's obstetric and pediatric providers, if possible, to increase coordination of care and education needs.

Women, Infants, Fathers, Families, and Community

One or more of the following recommendations were made in 78% cases of infant and fetal loss in St. Joseph County that had the opportunity for prevention. (n=123)

- Expand community knowledge of community-based agencies that offer support during pregnancy.
- Connect to education about health before and between pregnancies, referrals to primary care providers, and mental health care.
- Facilitate mothers' ability to advocate for their health during pregnancy, signs and symptoms, and preferred choices about childbirth.
- Strengthen mothers' ability to seek care immediately at a hospital when concerned that signs and symptoms signal pregnancy complications and to trust instincts.
- Engage mothers and families in practical conversations about infant sleep challenges and include details about why the ABC's are encouraged and risk factors for Sudden Unexpected Infant Death.
- Increase knowledge about benefits of pregnancy intention and planning prior to pregnancy to consider impact on chronic health conditions, if prescriptions are compatible with pregnancy, and other consideration.
- Education about how to establish baseline fetal movement pattern using Count the Kicks app and to report changes in fetal movement immediately.
- Establish paid family and medical leave for mothers and families.
- Establish reasonable workplace accommodations during pregnancy.
- Increase community knowledge of support after pregnancy or infant loss.

Section 6:
Community Action, 2022-2023



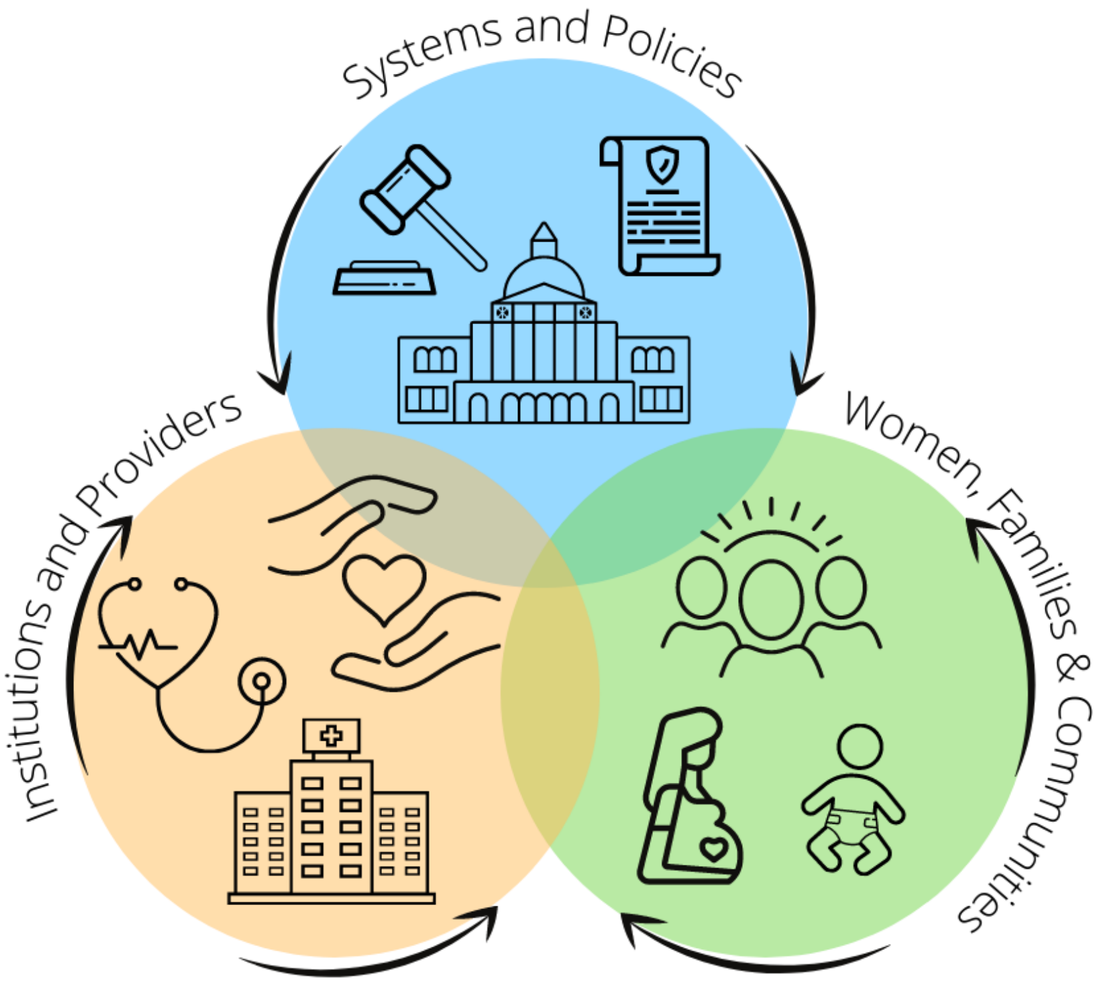
Maternal Infant Health Initiatives Community Action 2022-2023

Community action projects and collaborations at Maternal Infant Health Initiatives are determined by the data and recommendations from the Fetal Infant Mortality Review Process. This section of the report lists the recommendation categories, describes the data used to create the recommendations, the community action taken in 2022 and 2023, and future priorities.

Data comes from the study of infant and fetal mortality in St. Joseph County and statistics available from the Indiana Department of Health. The Indiana Department of Health collects data for all births (natality) in every Indiana county and publishes them on the Stats Explorer website.

St Joseph County FIMR
Recommendations for Community Action

Connect mothers to first trimester prenatal care & integrate clinical care & community-based organizations to better serve birthing families.



Prenatal Care
First Trimester Access (by 12 weeks gestational age)

Prenatal Care is healthcare provided during pregnancy. It includes early and ongoing risk assessment, medical history review, screening for diabetes and high blood pressure, fetal growth assessment, and time for education about normal changes during pregnancy. Clinicians who are qualified to provide prenatal care include obstetricians, family medicine physicians, nurse midwives, and women's health nurse practitioners. Regularly scheduled visits include a physical exam, vital signs, weight check, lab work, and a chance for a mother to ask questions about her health and pregnancy. Prenatal care is healthcare designed to ensure a woman goes through pregnancy in the best health so that the best outcome is achieved for the mother and her baby. During prenatal care, a woman may also be connected to specialists or other community resources.

The ideal time to begin prenatal care is during the first trimester, which includes the first 12 weeks of pregnancy because it gives clinicians the opportunity to learn about a mother's health history, address health needs that can impact a pregnancy, identify complications, and develop a trusting relationship throughout the months leading up to delivery.

First Trimester Prenatal Care Access in St. Joseph County
Maternal Race, Ethnicity, and Insurance Coverage
2017-2021

Through the Fetal Infant Mortality Review (FIMR) Program, we identified that in most cases, delayed entry to care is connected to barriers to health insurance and the ability to obtain an appointment during the first trimester.

The largest disparity, reflected below, is for Black and Hispanic mothers compared to White mothers as well as mothers covered by Medicaid versus Private insurance.

Percentage of mothers in SJC who began prenatal care during the first trimester of pregnancy. (by 12 weeks and 6 days)

	St. Joseph County	Black Non-Hispanic	Hispanic Any Race	White Non-Hispanic	Medicaid Insurance	Private Insurance
All SJC births (n=16,874)	65.2%	52.8%	58.5%	70.8%	Not available	Not available
Infant and Fetal Deaths with known prenatal care start (n=211)	64.5%	47%	60%	67.4%	53.3%	83.5%

Source: IDoH and SJCDoH FIMR Case Review

Medicaid Coverage in St. Joseph County
Maternal Race and Ethnicity, 2017-2021

Insurance type and lack of insurance at the start of pregnancy can significantly impact the timing of entry to care. A woman with private insurance can take a home pregnancy test and use these results to call a provider office and obtain an appointment. Women without insurance coverage and those with Medicaid coverage are required to have "notification of pregnancy" from an approved provider in order to receive pregnancy coverage through Medicaid. The SJC FIMR data suggests that at least one reason for delayed entry to prenatal care is the process through which to obtain Medicaid. Because a higher percentage of Black NH and Hispanic mothers have Medicaid insurance, the delay to prenatal care is also higher for these groups.

	St. Joseph County	Black Non-Hispanic	Hispanic Any Race	White Non-Hispanic
All Births Medicaid Coverage	50%	80.6%	70.7%	36.1%
Infant and Fetal Deaths Medicaid Coverage	54.3%	81.7%	72.2%	39%

Source: IDoH and SJCDoH FIMR Case Review

Insurance Coverage and Employment In FIMR Cases in St. Joseph County, 2017-2021

With the expansion of Medicaid in 2015, Indiana Health Care Plans grew to include Healthy Indiana Plan and Hoosier Healthwise, increasing the number of Hoosiers eligible for coverage who were employed, but either did not have employer sponsored insurance or could not afford marketplace plans.

Employment and insurance status was available for 191 mothers, at the time of delivery, who had an infant or fetal loss from 2017-2021. An employed mother was more likely to have private insurance coverage than mothers who were not employed, though the majority were also covered by Medicaid.

	Employed	Not employed/Stay at Home
Maternal Employment SJC FIMR cases 2017-2021 (n-191)	66.5%	33.5%

	Medicaid	Private Insurance	No insurance
Employed mothers SJC FIMR Cases 2017-2021 (n=127)	51.2%	45.7%	3.1%
Not employed/Stay at Home Mothers SJC FIMR Cases 2017-2021 (n=64)	59.4%	23.4%	17%

Source: SJCDoH FIMR Case Review

COMMUNITY ACTION: Improving Access to Early Prenatal Care

The Maternal Infant Health Initiatives 2021 Report, described the difference in timing of entry to prenatal care for mothers who entered the system* first through an emergency department or Women's Care Center compared to mothers who entered the system at an obstetric provider's office. At that time, the Coordinator of Maternal Infant Health Initiatives and Vice President of Programming at Women's Care Center started a study to determine how we could improve access to early prenatal care. This study was completed in 2021 and found that, together, we had the opportunity to assist mothers in overcoming system barriers to health insurance, prenatal care, and social needs by creating a project involving Maternal Infant Health Initiatives (Health Outreach, Promotion, and Education (HOPE) unit, the Health Equity, Epidemiology, and Data (HEED) unit at the SJCDoH, and Women's Care Center.

We applied for and were awarded a Safety PIN Grant from the Indiana Department of Health in 2021 to create a project that would embed perinatal Community Health Workers (CHW), employed by the SJCDoH, at Women's Care Center locations in St. Joseph County. The first CHW started at WCC in April of 2022 and by summer of 2022, both CHWs were working at four WCC locations. We would like to extend our thanks to Jenny Hunsberger, Vice President of Programs and Bev Horton at Women's Care Center for their partnership for this project.

SJCDoH staff involved with this project include Tracina Chism-Fikes, CHW; Cathrine Escobedo, CHW: Sally Dixon, RN, Coordinator of Maternal Infant Health Initiatives; Robin Vida, MPH, Director of HOPE; Cassy White, MPH, Director of HEED; Taylor Martin, LCSW, Assistant Director of HEED, Mary Wachira, HEED Research Analyst.

*System refers to anywhere a pregnant person presents to get connected to care during pregnancy. Examples are the emergency department, primary care provider, community agency, or obstetric provider.

Community Health Worker Project – Overcoming System Barriers
St. Joseph County Department of Health & Women's Care Center

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Women's Care Center

FY 2022 – FY 2023

Safety PIN

Innovative Approaches to Addressing Infant Mortality

2016-2019

FIMR Case Review identifies that women who access the system first at WCC or ER are later to prenatal care.

2019

FIMR legislation and invited WCC and other community agencies to Case Review

2020

WCC joined Case Review

Fall 2021

Awarded Safety PIN Grant

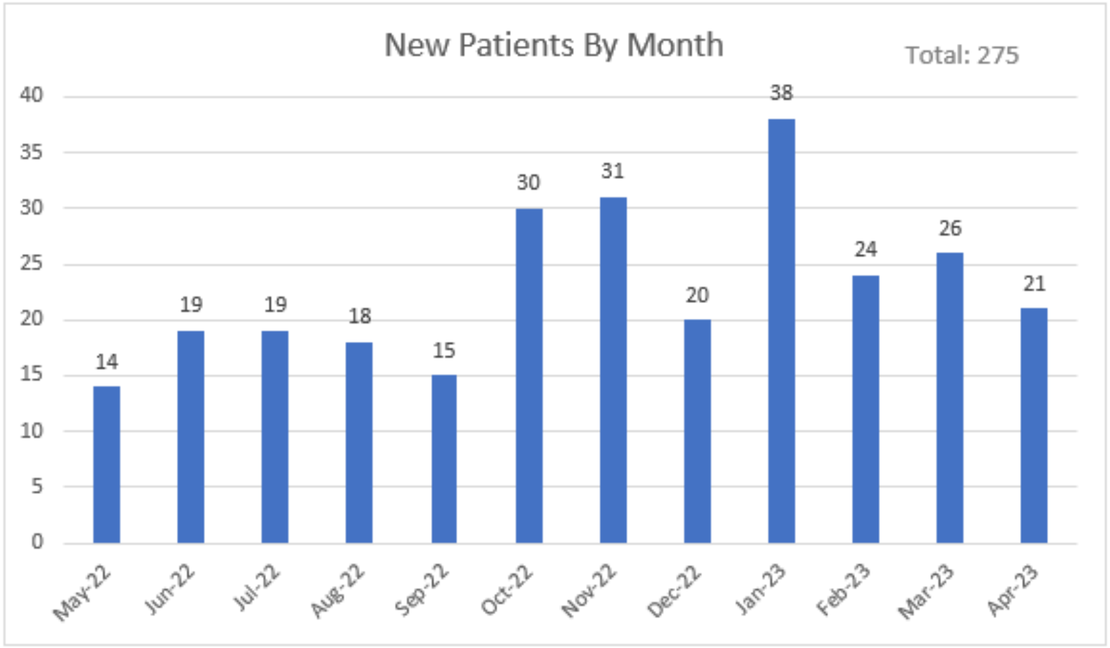
Spring 2022

CHW begins

COMMUNITY ACTION: Improving Access to Early Prenatal Care Project Results

- Women's Care Center reports that half of all pregnant women in St. Joseph County receive support services at one of their locations.
- St. Joseph County averages approximately 3,200 births per year which means the CHW program at WCC, in it's first year served approximately 17% of WCC clients and 8.6% of all pregnant women in St. Joseph County.
- This graph shows the number of referrals the CHWs receive from Women's Care Center counselors each month and the number of follow up contacts the CHWs have with their clients.

Total number of patients seen in the Women's Care Center under the Community Health Worker collaborative program: **275**



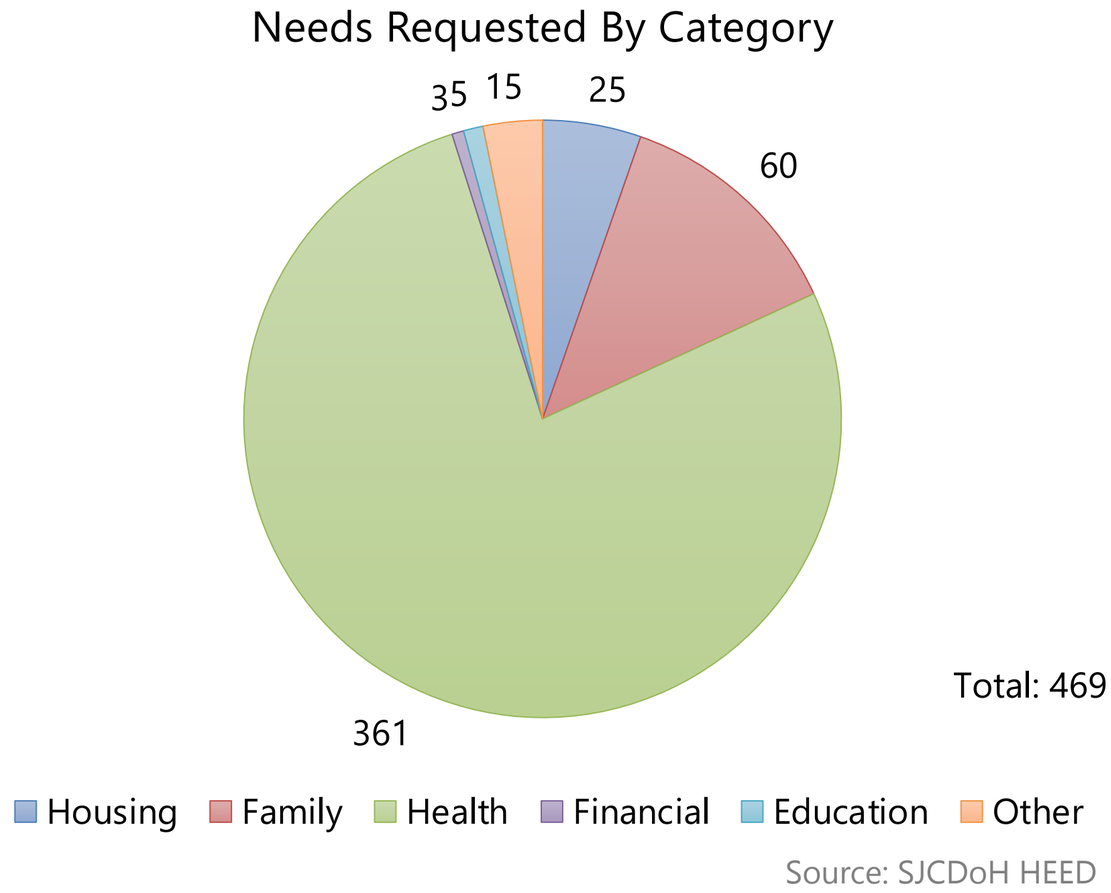
To date there have been 445 follow ups and 338 check-ins completed.

Source: SJCDoH HEED

COMMUNITY ACTION: Improving Access to Early Prenatal Care Project Results

- Out of the 275 patients served by the program to date, 17 patients indicated they had no social needs that required assistance.

- Of the 258 patients that did have social needs, they reported a total of 469 social needs. These needs are shown in the graph on the left.

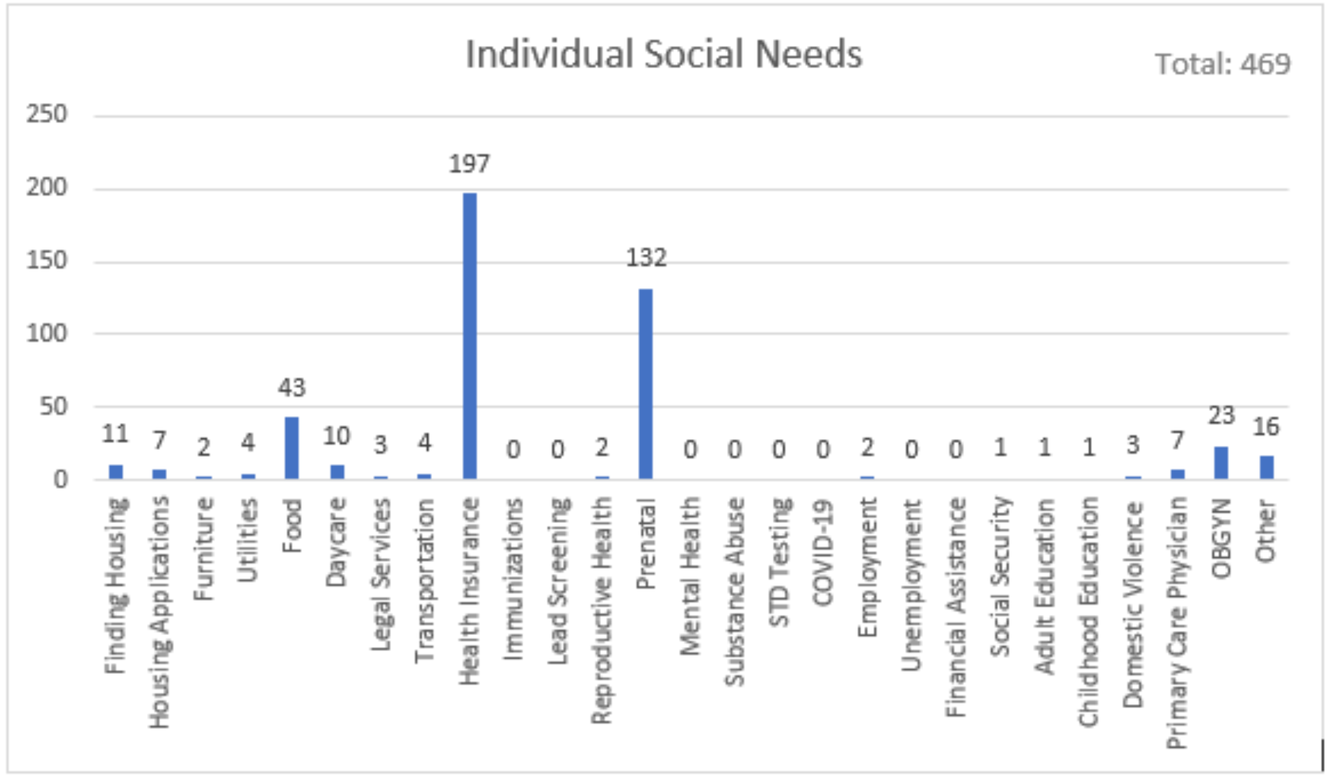


Source: SJCDoH HEED

COMMUNITY ACTION: Improving Access to Early Prenatal Care Project Results

- Connection to health insurance and prenatal care make up the majority of assistance requested by mothers served by the CHW program.

- Because of the success of this program, we anticipate adding a third CHW to serve more mothers when we apply for the next grant cycle, later in 2023.



To date there have been a total of 390 resources provided to these patients.

Source: SJCDoH HEED

Prenatal Care Access by Cause of Infant Death, St. Joseph County, 2017-2021

This table reflects that access to prenatal care also varies by cause of infant death. Mothers whose infant deaths were due to complications of prematurity and other causes accessed early prenatal care at higher percentages than all pregnancies in SJC (slide 55).

Mothers who experienced an infant death from sleep related SUID accessed early prenatal care at a significantly lower percentage than all other causes and may represent a missed opportunity for education, connection to resources, and support during pregnancy.

	Percentage of Maternal Access to First Trimester Prenatal Care
Complications of Prematurity (n=55)	71%
Sleep related SUID (n=26)	34.6%
Other causes. (n=20)	70%
Congenital Anomaly (n=22)	50%
Assault (n=1)	*

Source: SJCDoH FIMR Case Review

Other Maternal Infant Health Initiatives Community Action to Improve Prenatal Care Access, 2022-2023

Additional Community Action 2022

- Supported development of collaboration with Beacon Perinatal Care Coordination and Memorial Hospital Emergency Department to create process to connect mothers who present early in pregnancy to prenatal care and other resources.

Recommendations for Future Community Action 2023 and 2024

- Connect with Saint Joseph Health System to support development of collaboration between the emergency department and the hospital childbirth unit.
- Increase number of CHWs who serve clients at Women's Care Center.
- Increase community awareness of availability of CHWs at the SJCDoH to assist with insurance navigation, connection to care, and other resources during pregnancy.

Integrating Clinical Care & Community Based Organizations

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A common theme noted in FIMR case reviews is how connection to a home-based community program could improve pregnancy outcomes.

Mothers with pregnancy complications would benefit from additional education about high blood pressure in pregnancy, follow up after an emergency department visit, assistance with social needs, and support with breastfeeding or postpartum depression after delivery.

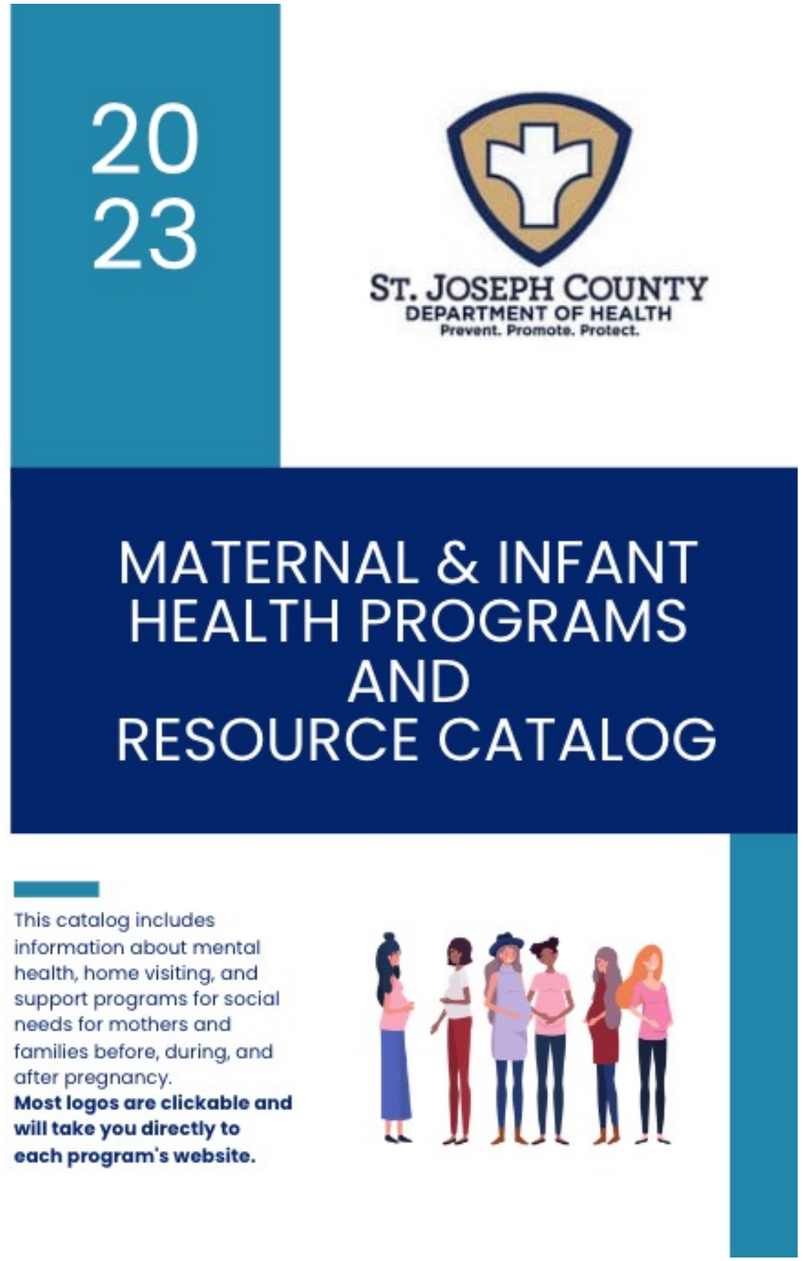
The challenge is, how do mothers, hospital childbirth units, obstetric and pediatric providers learn about the available options?

Ideally, someone from Maternal Infant Health Initiatives (MIHI) could make regular rounds to all obstetric and pediatric providers so that they always have the most up to date information. Unfortunately, MIHI does not have the capacity to accomplish this idea, yet.

In the meantime, MIHI created an online catalog of maternal infant health resources and programs and will be printing QR code cards, stickers, and magnets to promote the availability of these resources in St. Joseph County, beginning in August of 2023.

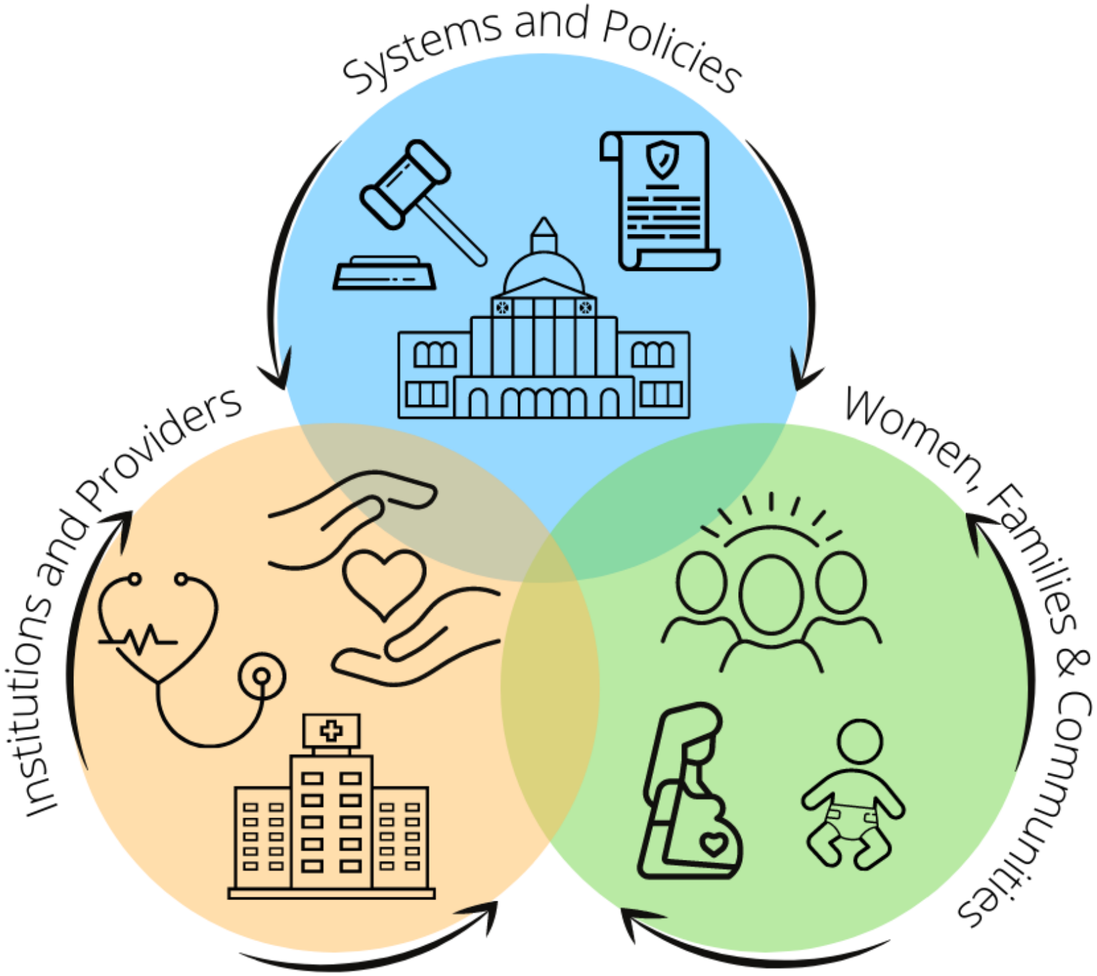
Maternal Infant Health Catalog

Use the QR Code, pictured here to access the Maternal Infant Health Resource and Program Catalog now.

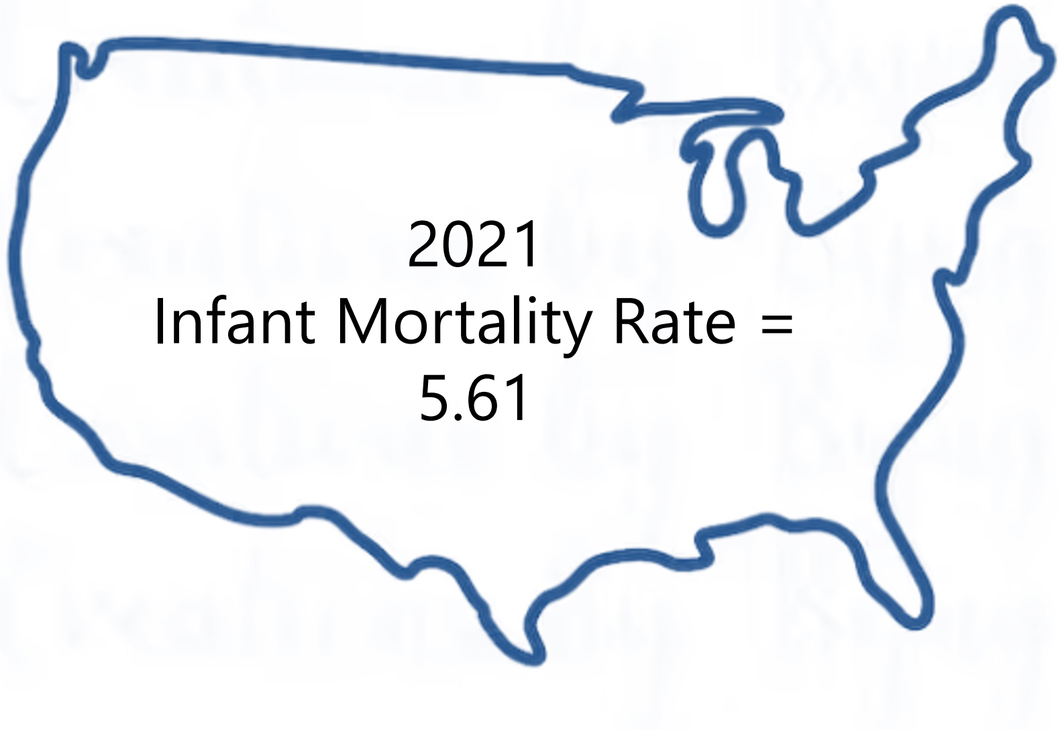


St Joseph County FIMR
Recommendations for Community Action

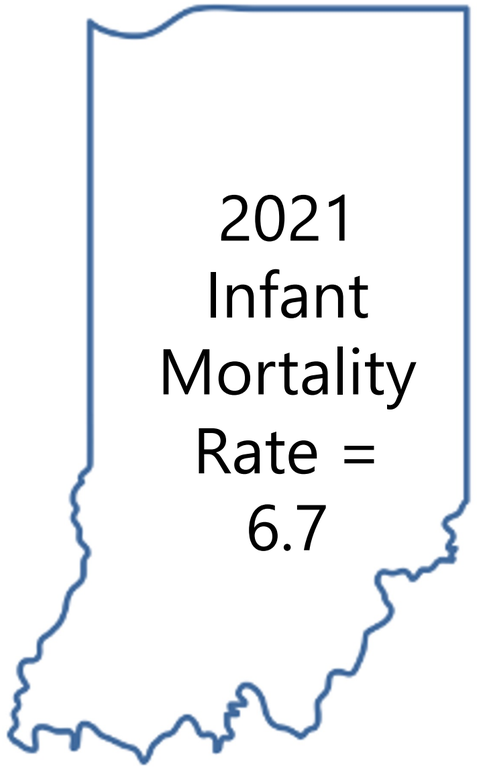
Eliminate racial, ethnic, and socioeconomic inequities in birth outcomes.



The Healthy People 2030 Goal for Infant Mortality for Everyone is 5 deaths/1000 births.



- These are the most recent infant mortality rates for the United States and Indiana.
- Indiana was among the worst 10 states for infant mortality until 2020. We are now ranked 38th.
- Currently, the only Midwestern states with an infant mortality rate of 5 or less are Minnesota and Iowa



The Healthy People 2030 Goal
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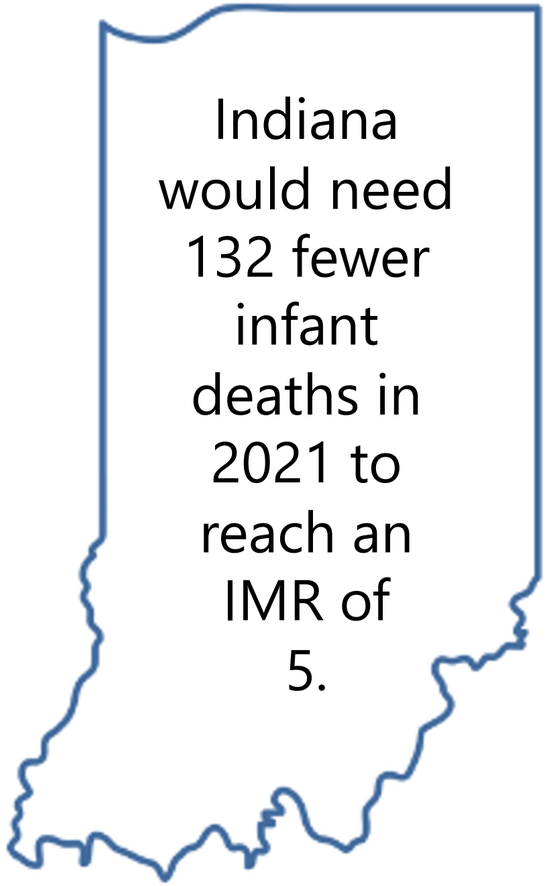
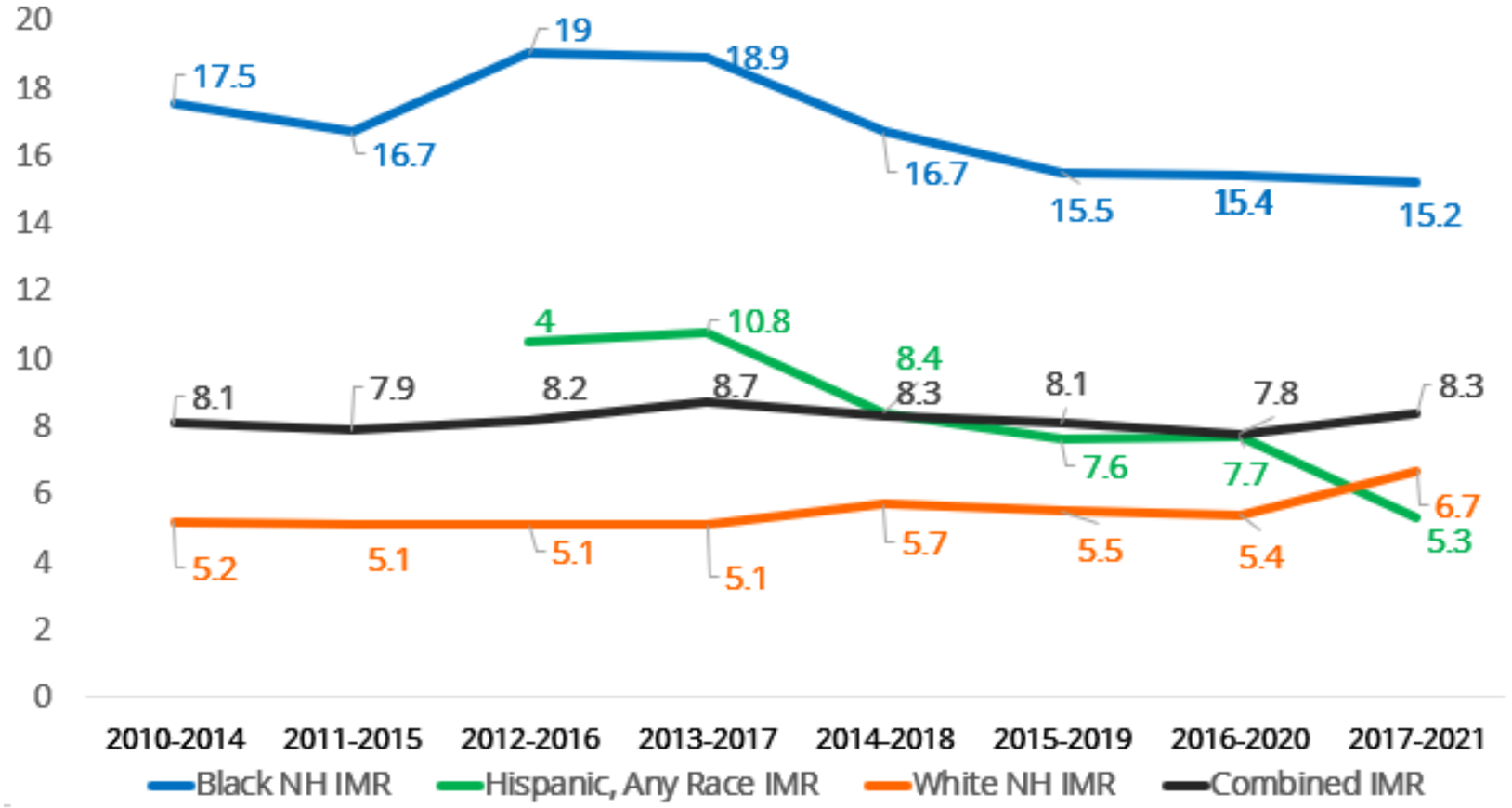


St. Joseph County
Infant Mortality by Maternal Race and Ethnicity, 2010 -2021



Source: Indiana Dept. of Health

The goal for 2030 in St. Joseph County is to have the infant mortality rate reach 5 deaths per 1000 births for each demographic group.

To accomplish this requires attention to all the factors that contribute to infant mortality and each recommendation of the FIMR Program.

What do we mean by disparities?

This graph compares the number of infant deaths by race and ethnicity to the number of births by race and ethnicity and each group's corresponding infant mortality rate.

Black infants make up 20.7% of total births in St. Joseph County for the time period of 2017 – 2021 but comprise 38.3% of the infant deaths for the same time period. While White infants make up 62.7% of total births and 49.6% of the infant deaths.

When the FIMR program began, in 2016, the disparity in the infant mortality rate for Black infants was 4 times the rate of White infants (2012-2016) and is now 2.3 times for the time period of 2017-2021.

Based on the preliminary infant mortality counts (slide 23) for 2022, we would expect the disparity to widen again for 2018 – 2022.

SJC 2017-2021, Number of infant deaths compared to total births by maternal race.

	All	Black NH	Hispanic any race	White NH
# of deaths	141	54	12*	70
# of births	16,874	3,486	2,258	10,587
Infant Mortality Rate	8.4	15.2	5.3	6.7

Source: IDoH Stat Explorer, 2017-2021
Other races and ethnicities are not included in this analysis because total counts are < 20
Calculations based on total deaths <20 should be interpreted with caution.

What would equity look like?

This table helps imagine what it would look like if we reached the 2030 Healthy People Goal, and every demographic had an infant mortality rate of 5.0.

We use the same number of births, from the previous slide and work the math backwards, which means, you divide the number 5 by 1,000 and then multiply by the total number of births for each category to determine the hypothetical decrease in infant deaths we would achieve if we reached the 2030 goal.

**All SJC infants includes other races and ethnicities that can not be analyzed individually due to total counts < 5

SJC 2017-2021, Hypothetical number of infant deaths and IMR if the Healthy People 2030 goal were achieved. .

2017-2021 data	All SJC infants**	Black NH	Hispanic, any race	White NH
# of deaths if the infant mortality rate was 5.	84	17	11	53
# of births	16,874	3486	2258	10587
Infant Mortality Rate	5	5	5	5
How many fewer infant deaths would there be?	57	37	1	17

Reaching the 2030 goals would mean 57 fewer infant deaths over 5 years in St. Joseph County.

We can do even better than the 2030 goal.

Based on the number of cases that were found to have some to good chance of prevention by the SJC FIMR Case Review, this table demonstrates that our community has the potential to achieve an even lower infant mortality rate than 5.

This table reflects what the potential infant mortality rate could be if the deaths with some to good chance of prevention did not occur.

SJC 2017-2021, Hypothetical number of infant deaths and IMR if deaths with some to good chance of prevention did not occur.

	All SJC	Black NH	Hispanic, any race	White NH
# of deaths(excluding those with some to good chance of prevention)	62	18	5	35
# of births	16,874	3486	2258	10,587
Potential Infant Mortality Rate without preventable deaths	3.7	5.2	2.2	3.3
Actual Infant Mortality Rate 2017-2021 with preventable deaths included	8.4	15.2	5.3	6.7

Source: IDoH Stat Explorer and SJC FIMR 2017-2021

Community Action: Eliminating racial, ethnic, and socioeconomic inequities in birth outcomes.

To focus on this recommendation of the FIMR Team, in January 2020, the workgroup, Birth Equity & Justice SJC met for the first time to discuss a framework and goals for this recommendation. The framework and goals included:

- Connect with women and communities directly to begin a conversation about disparities in birth outcomes.
- Acknowledge that it isn't normal and should not be accepted that this disparity exists.
- Disparities are not a result of personal failure.
- Through relationships build trust in communities so women are more likely to accept support (in the form that works for them) from community agencies that can help reduce stress and offer support throughout pregnancy, childbirth and postpartum
- Educate clinical providers and the wider community of the impact of implicit bias and institutional racism on practice and on the life course of patients.
- Facilitate the adoption of best practices to offer respectful, kind, culturally appropriate care.

Community Action: Eliminating racial, ethnic, and socioeconomic inequities in birth outcomes.

The group adopted the goal of achieving birth equity as defined by Dr. Joia Crear Perry, the founder of the National Birth Equity Collaborative

> *Birth Equity*
>
> *Assuring the conditions of optimal birth outcomes for all people with a willingness to address racial and social inequities in a sustained manner.*

Working on the complex interaction of systems and policies and how they impact providers of care and mothers helps everyone. The potential for prevention
In our community is enormous if we are successful at this work.

Community Action to Achieve Birth Equity in 2022 and 2023
April 2022 – Achieving Birth Equity Conference

Four years after the FIMR Program first brought attention to inequities in maternal and infant health, the Birth Equity & Justice SJC workgroup hosted a full day conference on the root causes of inequities that included 8 breakout sessions focused on strategies to improve care and outcomes including: community collaborations, preconception health/pregnancy intention, Grassroots MCH (including mothers' voices), Maternal Mortality, Maternal Mental Health, respectful care, Medicaid 101, & a screening of the film, Toxic.

This activity helped achieve the workgroup's goal to educate clinical providers and the wider community of the impact of implicit bias and institutional racism on practice and on the life course of patients combined with a full range of solutions to improving birth outcomes for all mothers, infants, and families.

A full report from the conference can be found here.

Community Action to Achieve Birth Equity in 2022 and 2023
Fall 2022 to February 2023
Sharing Pregnancy & Birth Story Health Cafes

ST. JOSEPH COUNTY
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One of the original goals of the Birth Equity & Justice SJC group was to engage mothers in conversations. We started this project in fall of 2022, using proceeds from the April 2022 "Achieving Birth Equity Conference," by local and state-wide organizations and businesses to support the goal of birth equity and for the specific purpose of engaging mothers, as was our goal in 2020.

SJCDoH CHWs led 7 cafes, with 42 mothers, prior to the funding not being renewed by the St. Joseph County Council in February of 2023.

The next group of slides are from a report about the initial themes and recommendations from the mothers who participated in the project. Their thoughts and ideas about how to improve pregnancy, birth, and parenting in St. Joseph County share similarities with some of the recommendations included in this report.

Birth Equity Health Cafés: **Themes & Lessons**

St. Joseph County Department of Health

Maternal Infant Health Initiatives, 2023.

Health Café Locations

- Charles Black Community Center
- Mishawaka-Penn-Harris Public Library
- Zoom

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Questions

- What is it like to **work** when you're pregnant?
- What was your **living situation** like when you were pregnant or a new parent?
- What was your experience with **prenatal** & **labor/delivery** providers?
- What was **postpartum care** like for you?
- Did you experience any **barriers** in getting to **appointments** while you were pregnant or a new parent?
- How can we make things **easier** when you're expecting a baby in our community?

Working During Pregnancy

Lack of policy

Workplaces do not have guidelines to support pregnant people

Physical demands

Many women reported difficulty with fatigue, physical strain

Supportive managers

Most women reported that their managers were supportive of their needs

Ability to provide for family

Many were grateful for their ability to work while pregnant

Working During Pregnancy

"When I had my first, **they didn't have a plan** for…women who were pregnant. So, I pretty much worked throughout my whole pregnancy."

"It was a **blessing** to be able to work."

"I happen to have an amazing employer…So, **they've been really supportive**. If I needed time off or if I had unexpected health concerns, they generally were **pretty protective of me** with different tasks that they gave me to do."

Challenges During Pregnancy

Establishing care with OB

Difficulty seeing OB as a new patient (no issues once established)

Lack of education

Lack of understanding about pregnancy & delivery process

Enrolling in Medicaid

Many experienced issues with staff at the Medicaid office

Lack of child care

Unable to bring children to prenatal appointments

Challenges During Pregnancy

“I had no prenatal care. So when I got to the hospital, they were like, ‘You're getting ready to deliver.’ And I was like, ‘**Deliver what?**’”

“It's interesting how doctors **just expect us to know as women…what our bodies are going to do**. Even if it's your first pregnancy and you're 30 years old, you should just know. Doesn't matter. **It's frustrating to me.**”

“It was so stressful to me because **the people who I was trying to go to for help were really rude to me**. And so that made it way [harder] to navigate.”

“I didn't expect **how much harder** a pregnancy would be to plan and schedule out and figure out **after you already have one kid**.”

Challenges with Delivery

Systems-Level

Changes to birth plan

Women's wishes sometimes not followed during delivery

Discharge process

Women felt rushed into being discharged from the hospital

Provider-Level

Provider availability

Regular OB unavailable; women uncomfortable with new provider

Ability to ask questions

Women felt unable to ask questions during delivery

Challenges with Delivery

"I felt like by the time I was delivered, my care changed. My clinical care changed. **I didn't get the options that me and my doctor talked about** at the hospital."

"They know what I want, but then you [alternate OB] come in, well, and because you're on call, I have to follow what you want because we're in the hospital and you're going to be like, '**No, we're going to do it this way**.'"

"**I felt rush[ed]** in a way, with the last two. Now they want to come as soon as you have the baby, they want to come and, 'Okay, I need you to sign this. Here's this, here's this. Do you want to breastfeed? Do you want to do this?'

I'm like, 'Well, wait a minute.' **Because, usually you do have these conversations with the doctor, right?**"

Postpartum Health Care Challenges

Lack of sufficient postpartum care

Some report that the 6 week follow-up was the only postpartum care they received

Time gap between giving birth & first follow-up

Most did not have their first follow-up appointment until 6 weeks after giving birth

Lack of information about postpartum health issues

Women did not know what to expect/look for (i.e. complications from C-section)

Positive: Supportive nurses in NICU

Postpartum Health Care Challenges

"[I] **learned more about postpartum care on TikTok** than I did from my doctor."

I feel like I should have probably gone in and been seen sooner…I had [a] C-section. **I felt like it was kind of weird to wait 6 weeks to see me having had a major surgery like that.**"

"What about the fact that they send us home with all this stuff for baby and then they forget about mom. **Mom just kind of gets forgotten about** because now there's this whole baby, **but mom has to be whole for baby to be taken care of.**"

Support After Giving Birth

Lack of awareness of existing resources

Women report not knowing about existing services to support new moms in the community

Lack of support from partner &/or family

Feelings of isolation, being overwhelmed after giving birth

Positive: No one reported housing issues

Support After Giving Birth

“If you don't know about those programs and if people aren't giving you those resources, how are you supposed to know? And so I guess my thing is **nobody's offering you those resources**.”

“I was a single parent, so it was just me. My mom took a week off, but she wasn't really there with me at night times. **So I was doing everything by myself. But it was hard**.”

Recommendations from Mothers

Enhanced prenatal care

Increase frequency & length of appointments

Enhanced postpartum care

Initiate more quickly, increase frequency

Parental paid leave policy

Current lack of policy is a significant issue for most women & their families

Educational programs

Need/desire for more information on pregnancy, delivery, & postpartum health

Recommendations from Mothers

Mental health check-in

Follow-up shortly after giving birth; mothers were willing to discuss if asked

Support group

Foster connections with other mothers in the community

Reducing stigma

Ensure that women do not feel shame when asking for help

Connection with existing resources

Need for increased awareness of available community resources

(Suggestion of a pregnancy expo)

Maternal Infant Health Initiatives at the SJC Dept of Health.

Community Action to Achieve Birth Equity
2020-2023
Birth Equity Assessment with National Birth Equity Collaborative

In January 2020, we established a Birth Equity Workgroup to establish a connection to the community. COVID interfered with this effort, and while we offered ZOOM presentations on the topic of birth disparities, we primarily attracted more health professionals instead of the broader community.

As our work developed through the Birth Equity & Justice workgroup, we realized we needed help to ensure we were approaching this work in a sensitive manner.

Including racism in systems and bias in care as factors contributing to disparities in maternal and infant health outcomes is difficult and uncomfortable for many people, but we were and are committed to doing so.

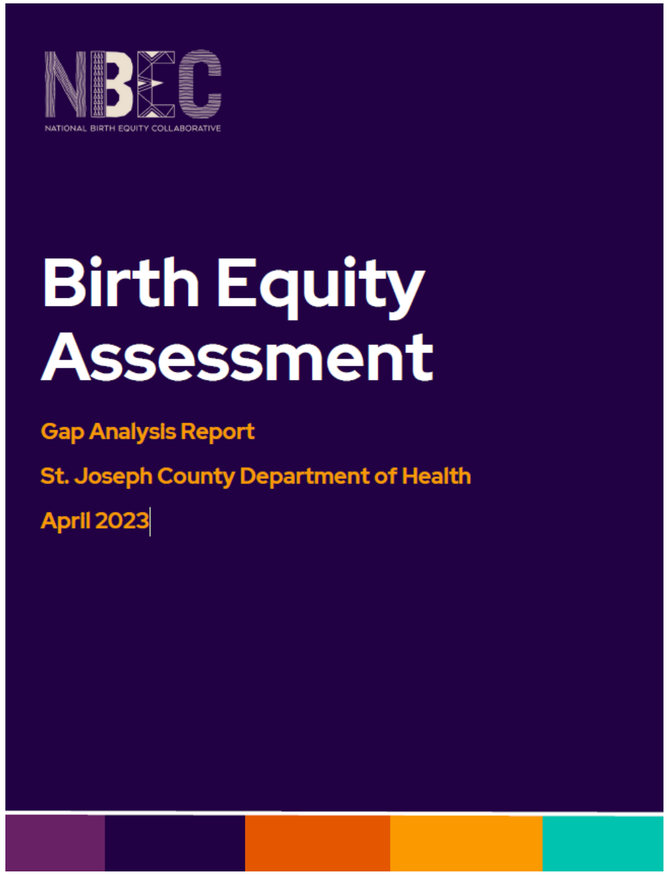
Community Action to Achieve Birth Equity
2020-2023
Birth Equity Assessment with National Birth Equity Collaborative

We recognized that our workgroup lacks the expertise to facilitate the necessary conversations with community partners about this project and that to achieve racial reconciliation and birth equity, we must get this project right.

To help assess the SJC FIMR Programs' progress towards achieving birth equity and gain input from community partners, we obtained funding from the Community Foundation of St. Joseph County and the Indiana Minority Health Coalition to fund a Birth Equity Assessment through the National Birth Equity Collaborative.

This Birth Equity Assessment is part of Maternal Infant Health Initiatives overall plan to achieve the Healthy People 2030 goal of an infant mortality rate of five or less and to decrease gaps in care during the first trimester of pregnancy for all birthing people in St. Joseph County.

Community Action to Achieve Birth Equity
Birth Equity Assessment with National Birth Equity Collaborative

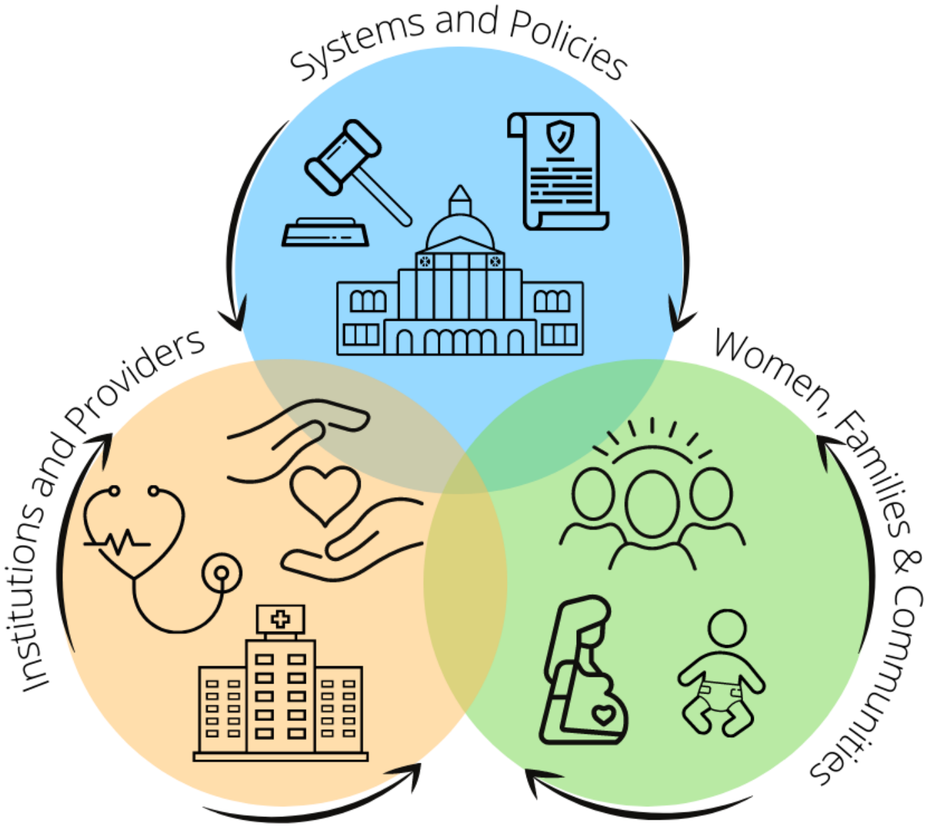


The completed Birth Equity Assessment was received by Maternal Infant Health Initiatives in April of 2023 and shared with community partners in May of 2023.

The Birth Equity Assessment is available, here, and includes the existing strengths of the SJC FIMR Program and community partners', a variety of views about progress towards achieving birth equity so far, and recommendations for future activities in ensure the optimal conditions for all birth outcomes.

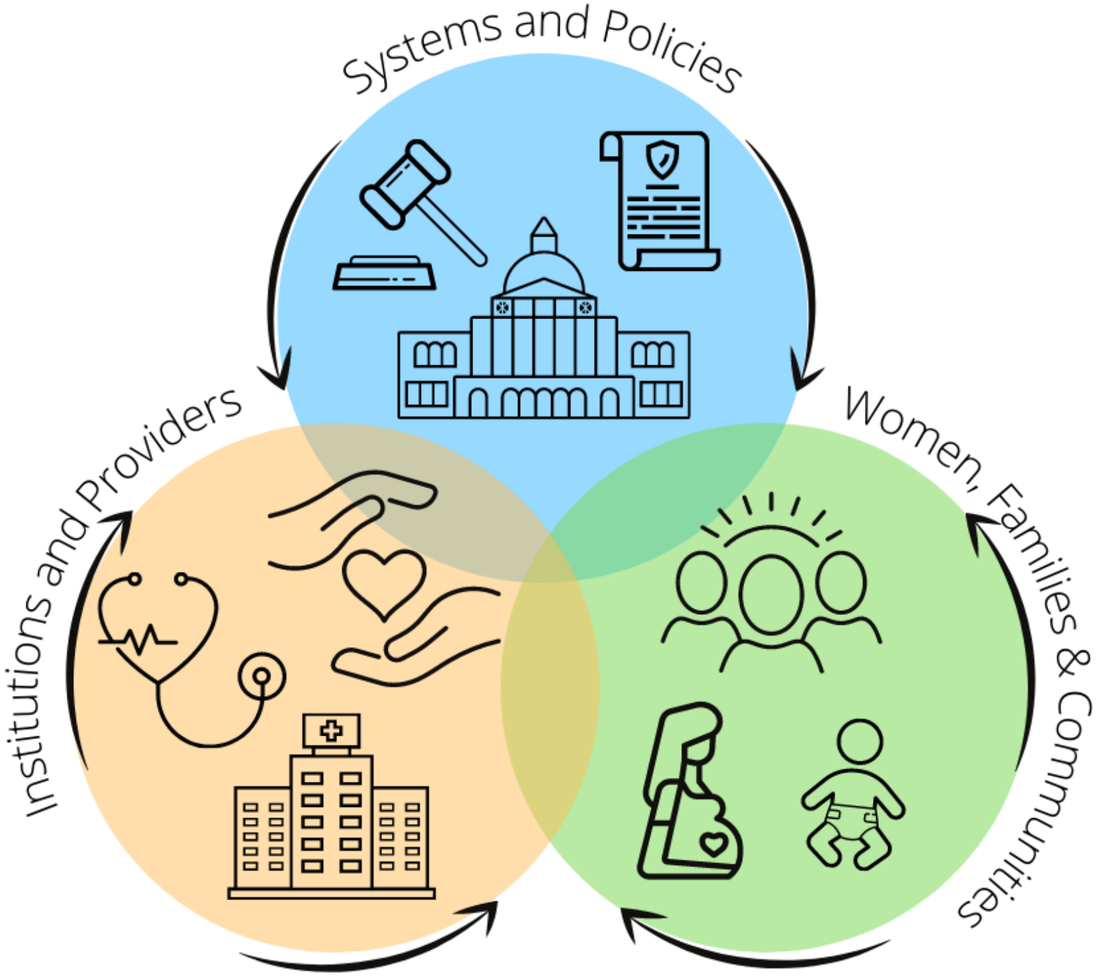
Community Action to Achieve Birth Equity in 2022 and 2023
2021 to 2023
Legislation and Policy

Improving birth outcomes and eliminating disparities requires action through legislation and policy. See page 125 for the legislation passed in 2022 and 2023 that will contribute to improving birth outcomes.



St Joseph County FIMR
Recommendations for Community Action

Improve women's pregnancy health through access to information and affordable quality health care before, during, and after pregnancy.



Improve women's pregnancy health and well being through access to information and affordable quality health care before, during, and after pregnancy

Since beginning the study of infant and fetal loss in St. Joseph County in 2016, it became clear that improving pregnancy and infant outcomes requires that women have access to the physical and mental health care they need throughout their lives, as well as access to food, housing, adequate income, health insurance, safe environment, transportation, and other social needs that constitute the Social Determinants of Health. (SJCDoH HEED Health Equity Report, 2022)

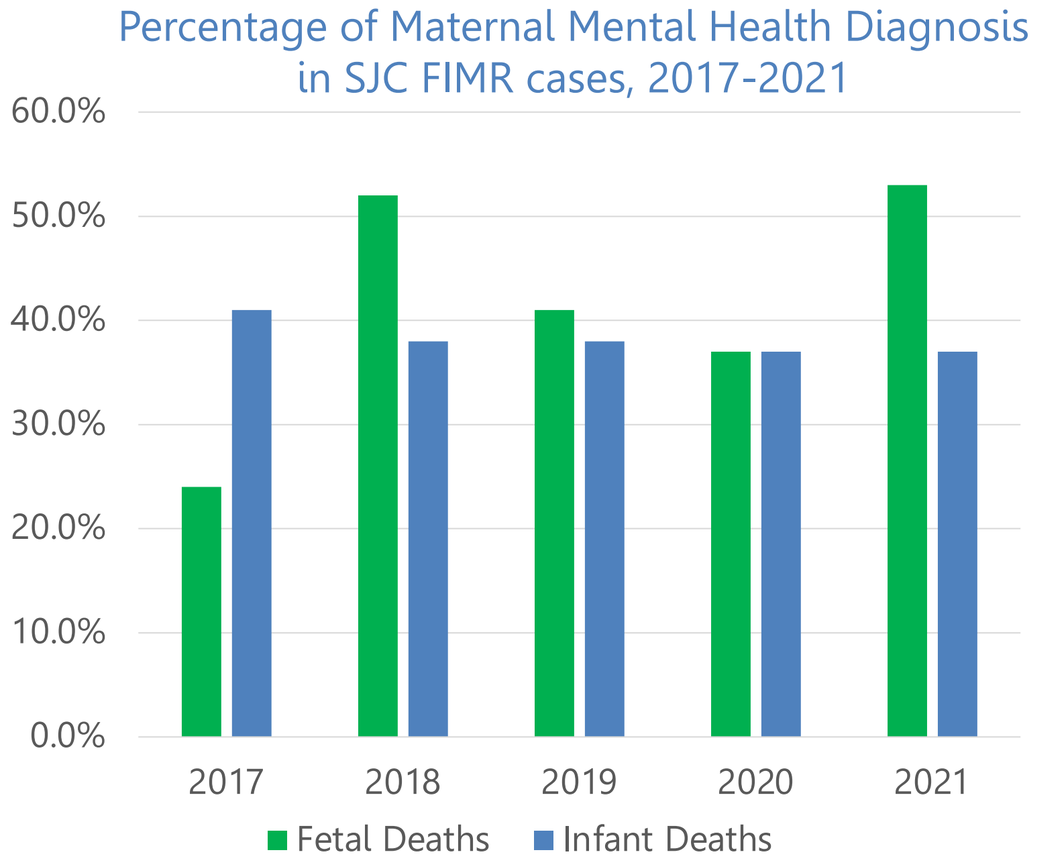
In the next section, we examine several health and social factors and their impact on infant and fetal mortality and the community action taken to address them, using available IDoH natality and SJC FIMR Data.

Maternal Mental Health

Maternal mental health is an important factor in maternal, infant, and fetal mortality.

In spring of 2022, the SJC FIMR Case Review Team noted the growing presence of women who stopped their psychiatric medications with the knowledge of their pregnancy and/or their provider discontinuing their prescriptions.

The team recommended that Maternal Infant Health Initiatives explore an educational opportunity for providers about which pharmaceuticals are appropriate during pregnancy to ensure that mothers' depression, anxiety, bipolar, and other mental health needs be adequately treated during pregnancy.



Source: SJC FIMR 2017-2021

Community Action - Maternal Mental Health, 2022-2023

In May of 2022, the Maternal Infant Health community action workgroup of Maternal Infant Health Initiatives began planning for an educational event.

In May of 2023, during Mental Mental Health month, a Maternal Mental Health continuing medical education event was held in partnership with Beacon Health System and several University of Notre Dame departments.

Dr. Camila Arnaudo, a psychiatrist who specializes in perinatal psychiatry was the keynote speaker.

58 people attended and event feedback indicated that participants desired more information on this subject. The plan is to provide a recording of this event for the hospital system medical education departments.

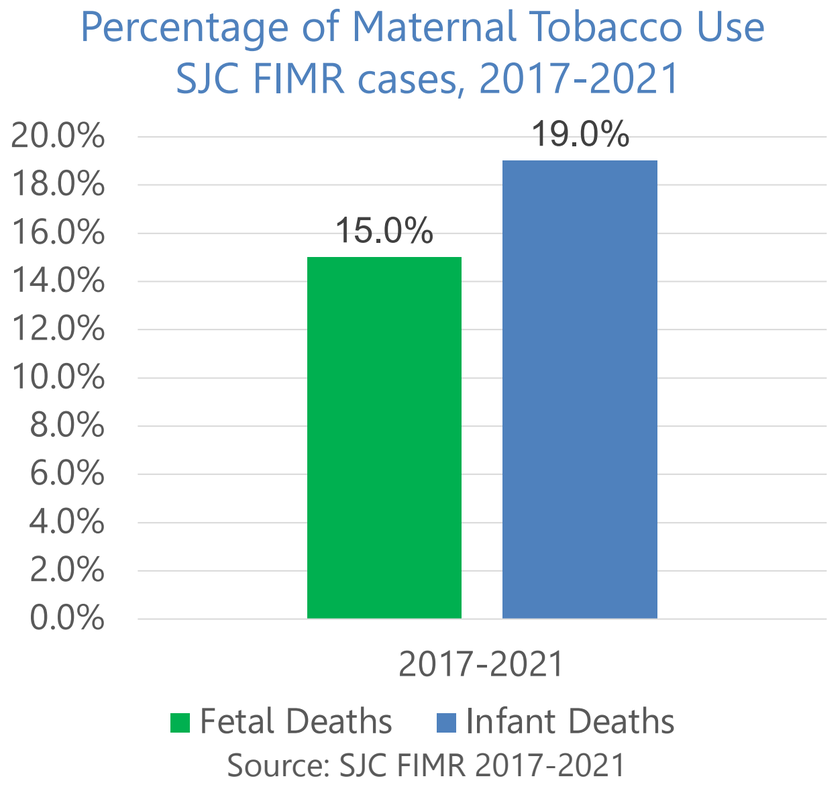
Community Action - Maternal Mental Health, 2022-2023

Dr. Arnaudo introduced the Indiana C.H.A.M.P. program at the event that connects clinical providers to same day psychiatric consultation to assist in the care of patients around the state of Indiana.

Maternal Smoking

In 2021, IDoH changed the method for measuring the maternal smoking percentage for all births, so it can not be compared accurately for the FIMR data from 2017 -2021. The IDoH maternal smoking percentage for all births in 2021 in St. Joseph County is 6.3%.

Smoking during pregnancy is one of the most modifiable risk factors to decrease the risk of preterm delivery, low birth weight, congenital anomaly, and stillbirth. Smoking also significantly increases the risk of sleep related Sudden Unexpected Infant Death.



Source: SJC FIMR 2017-2021

While the majority of mothers who experience an infant or fetal loss do not smoke, reducing tobacco use during pregnancy has the potential to reduce infant and fetal mortality. Mental health is also tied closely to the presence of maternal smoking as a factor in maternal health. 53.8% of mothers who used tobacco during pregnancy in SJC fetal and infant cases combined also had a documented mental health diagnosis.

Maternal Smoking – Community Action

Maternal smoking is rarely the only factor present in a case of infant or fetal loss and therefore rarely noted as an independent cause of infant or fetal mortality.

However, a 2019 Pediatrics study found that any maternal smoking during pregnancy increases the risk of a sleep related Sudden Unexpected Infant Death (SUID) and that if no women smoked during pregnancy, the rate of SUID deaths could be decreased by 22%.

In response to this information, the Maternal Infant Health Workgroup created a Smoking and SUID specific educational flyer (available in English and Spanish) that is distributed to hospitals, provider offices, and community agencies for patient education.

Sleep Related Infant Death & Smoking

1 of every 150 infants, born to mothers in St. Joseph County, who smoked during pregnancy, died from a sleep related infant death before 1 year of age.

Source: St. Joseph County Department of Health: 2015 - 2019

If you or someone close to you smoked during your pregnancy or afterwards, it's very important to use safe sleep to give your baby room to breathe.

How smoking increases the risk of Sleep Related Infant Death

- Your baby can get viral or bacterial infections more easily.
- Your baby's brain gets less oxygen.
- Smoking interferes with the part of your baby's brain that controls breathing and waking up.
- Your baby's nose is sensitive to smoke and may be more stuffy.

ALONE	No pillows, blankets, toys, boppies, bumpers, or people
BACK	Flat, on their back, without propping their head, neck, or body on a boppy, pillow, or other object
CRIB	In a crib, bassinet or pack and play, sharing the same room as you, for the first 6 months to a year

Following the ABC's of safe sleep is important for every baby, but even more so if they are exposed to tobacco.

It's always a good time to quit smoking and it's never too late.
Scan this code to get support and information about quitting smoking today.

It's about safety, just in case.

Ready to quit?

For more information: sdixon@sjcindiana.com

ST. JOSEPH COUNTY DEPARTMENT OF HEALTH

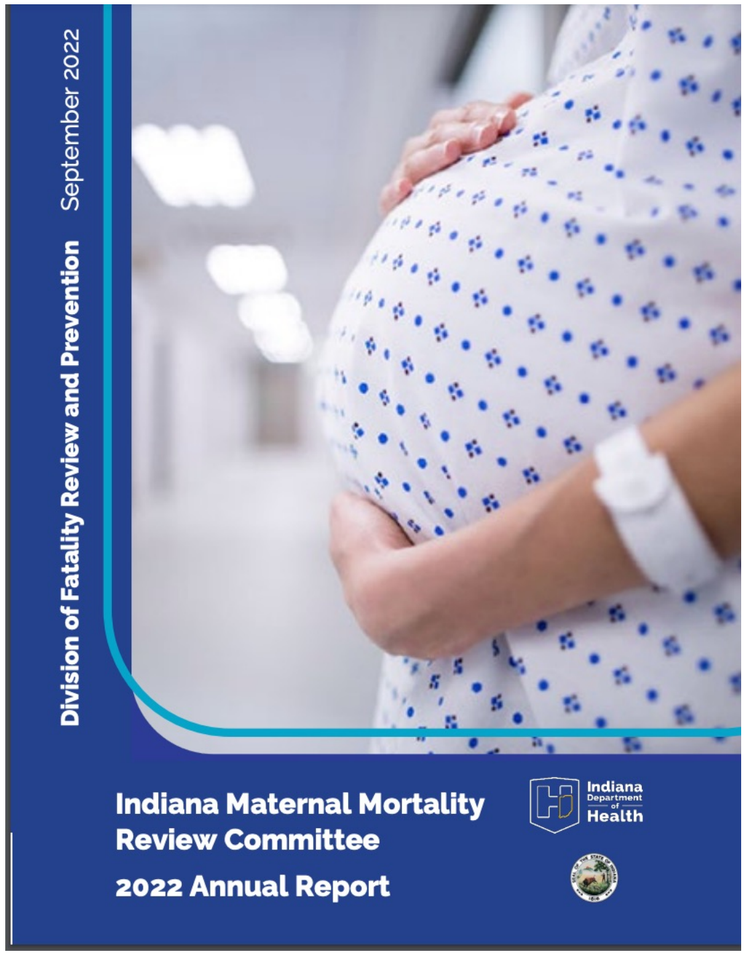
Maternal Substance Use (excluding Tobacco, n=28)

Maternal substance use is a complex topic. In Fetal and Infant cases reviewed by the SJC FIMR Program, 6% of mothers used a substance (excluding tobacco). Of the mothers who used a substance, 50% (14) had a documented mental health diagnosis and others had evidence of adverse mental health symptoms.

75% (21) of the mothers who used a substance in a SJC FIMR case, used THC only.

Maternal substance use is a significant factor in Indiana's maternal mortality rate. The Indiana Maternal Mortality Review Committee report describes this in detail and can be found here.

In SJC FIMR cases of fetal and infant loss, < 5 mothers used opioids during pregnancy from 2017-2022



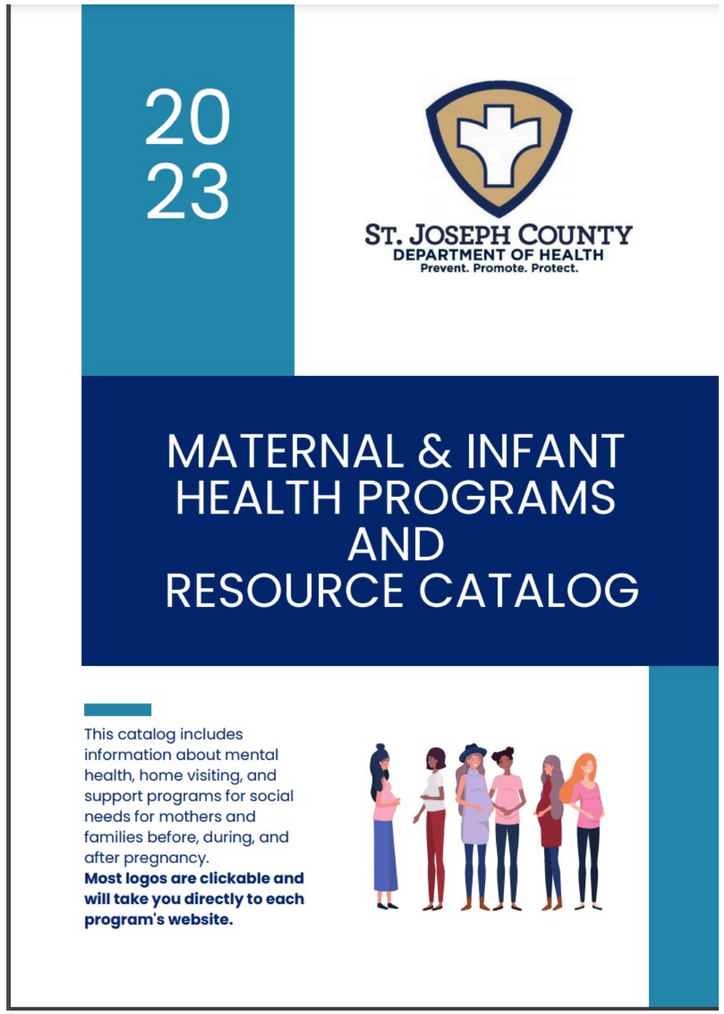
Maternal Substance Use – Community Action

In addition to the May 4th Maternal Mental Health event, SJC Maternal Infant Health Initiatives partnered with Mental Health Awareness Michiana to have Dr. Arnaudo speak at a full day event focused on addressing complex issues involving maternal mental health.

Maternal Health – Community Action

In conjunction with the May maternal mental health events, Maternal Infant Health Initiatives created a resource catalog, available online, with connections to resources and programs that are helpful for mothers, families, and obstetric, pediatric, and family medicine providers.

Click on the image on the right to access the catalog.



Fetal Movement Counts

During the third trimester of pregnancy, (28 weeks through 40 weeks) maternal awareness of fetal movement is an important way to monitor fetal well being.

- Of the 100 stillbirths studied by the SJC FIMR team, 2017-2021, 49% occurred in the third trimester.
- Of these 49 stillbirths that occurred during the third trimester, 85.7% were found to have some to good chance of prevention.
- Of the 42 stillbirths with some to good chance of prevention, the FIMR team found that 40% of them could have benefited from a mother using the Count the Kicks app to establish a baseline for her baby's normal patterns of fetal movement to improve communication about perceived changes to her provider and to give a provider a documented pattern of fetal movement.

ST. JOSEPH COUNTY
DEPARTMENT OF HEALTH
Prevent. Promote. Protect.

Count the Kicks

THE EVIDENCE BEHIND *COUNT THE KICKS*

Norway Research

Count The Kicks was created based on public health research in Norway that demonstrated a 30% reduction in stillbirth by teaching pregnant women how to monitor fetal movement during the third trimester of pregnancy by doing kick counts on a daily basis.

Fetal Movement Counts

Maternal Infant Health Initiatives partnered with Count the Kicks in 2019 to launch an awareness campaign about fetal movement counts in SJC.

In 2021, Anthem Blue Cross Blue Shield partnered with Count the Kicks to make educational materials free to everyone in the state of Indiana.

Mothers, families, or obstetric providers can access the app materials and instructions here and start counting! Watch the video on the right to learn how.

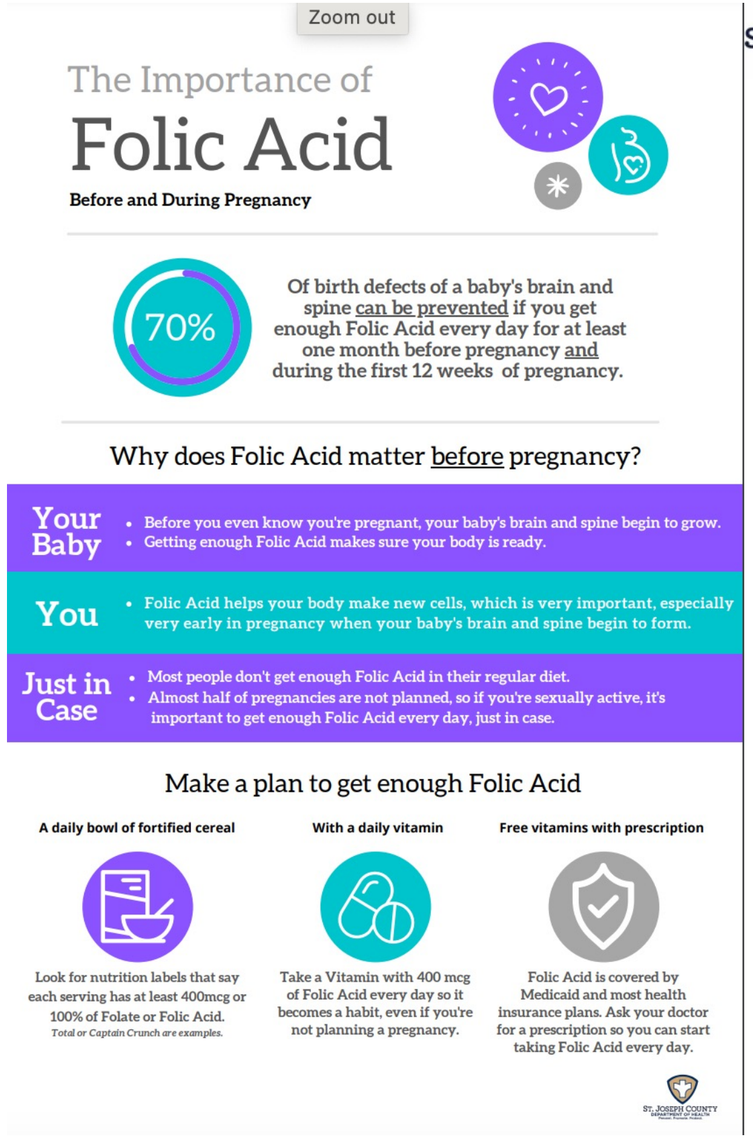
To go straight to the app, just search for Count the Kicks in apps on your mobile device.

Prevention of Neural Tube Defects

23.7% of Congenital Anomalies in fetal and infant deaths in St. Joseph County are due to a neural tube defect, most often the condition of anencephaly.

Anencephaly is a serious birth defect in which a baby is born without parts of their brain or skull. The news of this congenital anomaly is devastating for families during pregnancy because it is incompatible with life outside the uterus. Almost all babies with anencephaly die shortly after birth and the condition is always fatal.

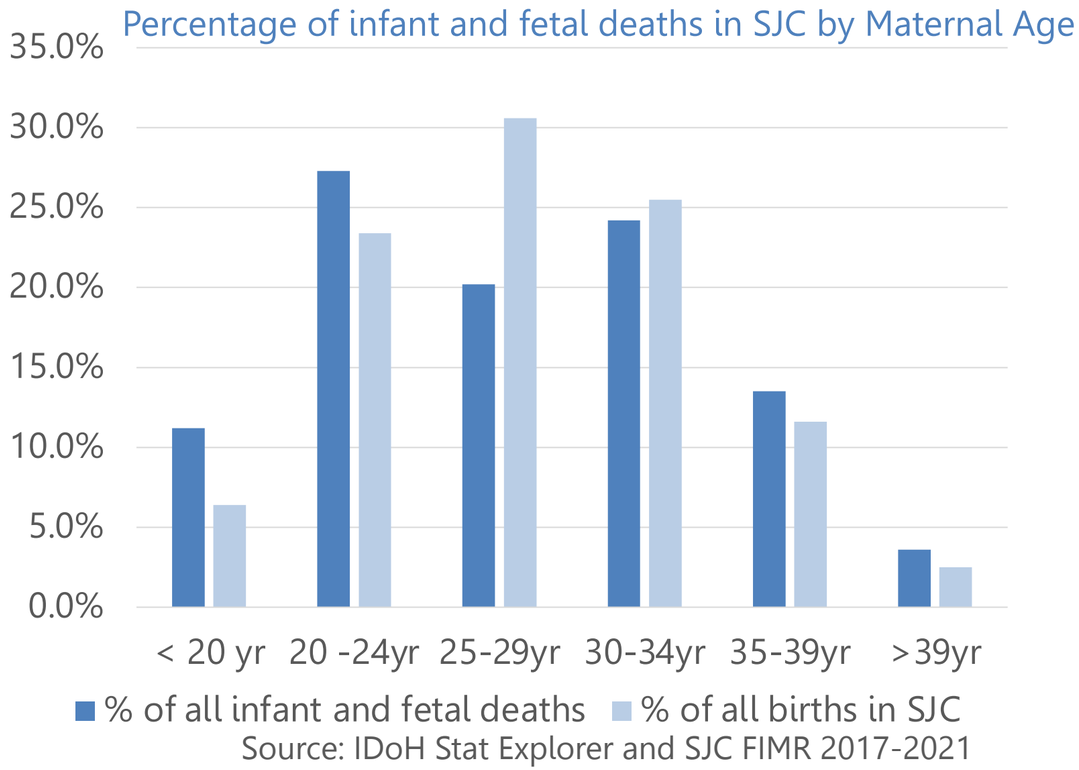
Because prevention is the best defense against this congenital anomaly, the Maternal Infant Health Workgroup of Maternal Infant Health Initiatives created an educational flyer in English and Spanish for use by obstetric providers, primary care offices, and women regarding the importance of adequate folic acid intake before and during pregnancy.



Compare Infant and Fetal Mortality by Maternal Age to All Births in SJC, 2017-2021, n=223

Examining Infant and Fetal mortality, combined, by maternal age, finds that mothers less than 20 years of age comprise 6% of all births in St. Joseph County compared to 11% of deaths.

The age groups of 20-24 yr. and 35-39 yr. also make up slightly higher percentages of deaths than total births.



Estimated Infant Mortality Rates by Maternal Age using Cases Reviewed by SJC FIMR
SJC 2017-2021, n=122 cases with available maternal age

While mothers less than 20 years old make up a small percentage of overall infant deaths, they have the highest rate of infant mortality of any age group, followed by the 20- to 24-year-old age group.

This table suggests that there is opportunity to provide more education for young people about pregnancy health to have an impact on prevention, though all age groups benefit from prevention activities.

Estimated Infant Mortality Rates by Maternal Age
Using Reviewed FIMR Cases, 2017-2021

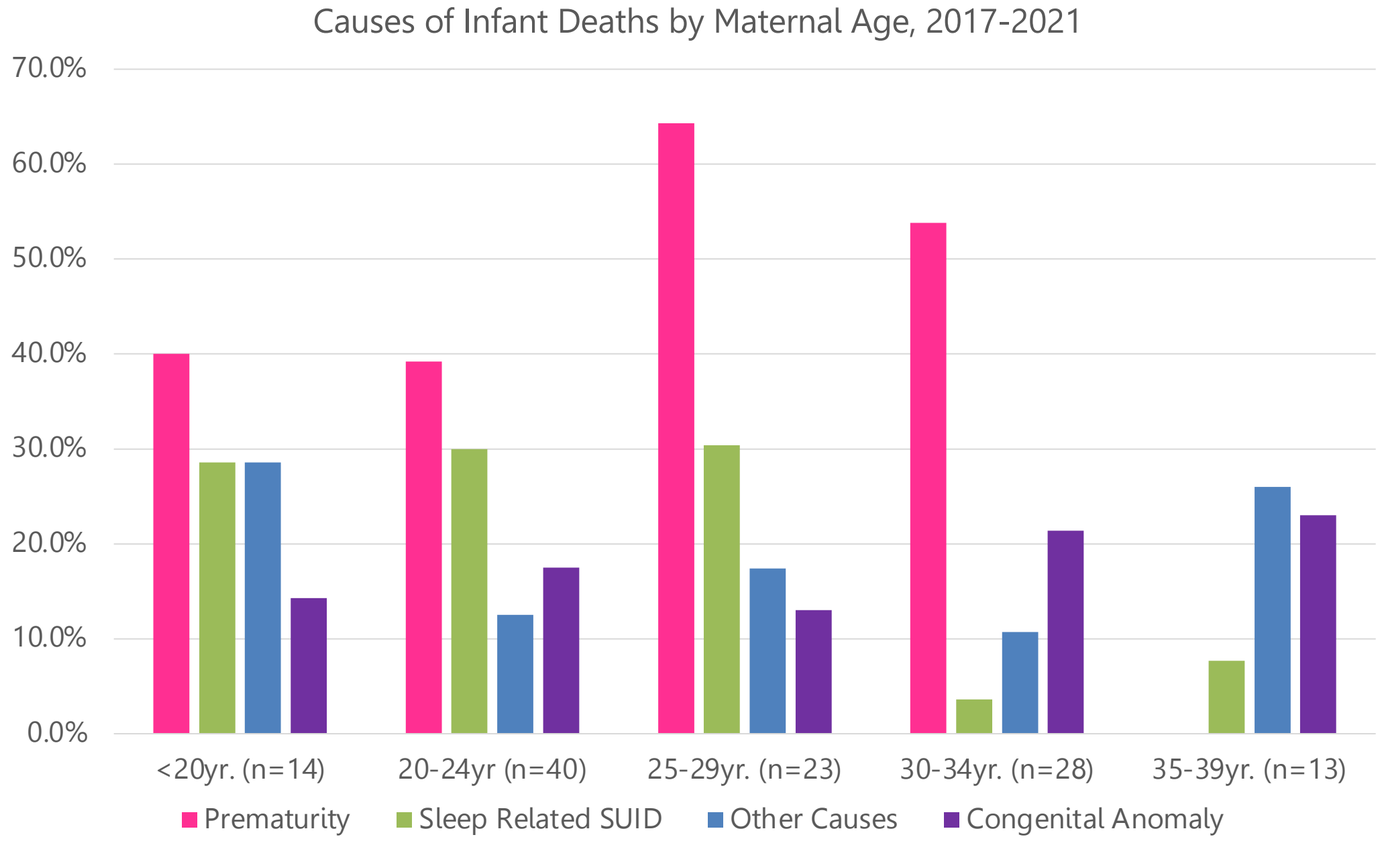
	<20yr	20-24yr	25-29yr	30-34yr	35-39yr	>39yr
# of deaths	14	40	23	28	13	<5
# of births	1093	3943	5166	4300	1952	420
Infant Mortality Rate	12.8	10	4.4	6.5	6.7	*
% with some to good chance of prevention	64%	72%	56.5%	39.3%	46.2%	*

Source: IDoH Stat Explorer and SJC FIMR 2017-2021

Infant Deaths by Cause and Maternal Age Reviewed by SJC FIMR
SJC 2017-2021, n=123 cases with available maternal age

Comparing cause of death by maternal age demonstrates that in most age groups, complications of prematurity is the main cause of infant death. Of note is that sleep related SUID occurs more frequently in the mothers less than 25 years of age.

Adding safe sleep education to school health classes beginning in 8th grade could prepare young people for infant safe sleep for later childbearing, care of siblings, and babysitting jobs. See page 114 for more information about safe sleep initiatives.



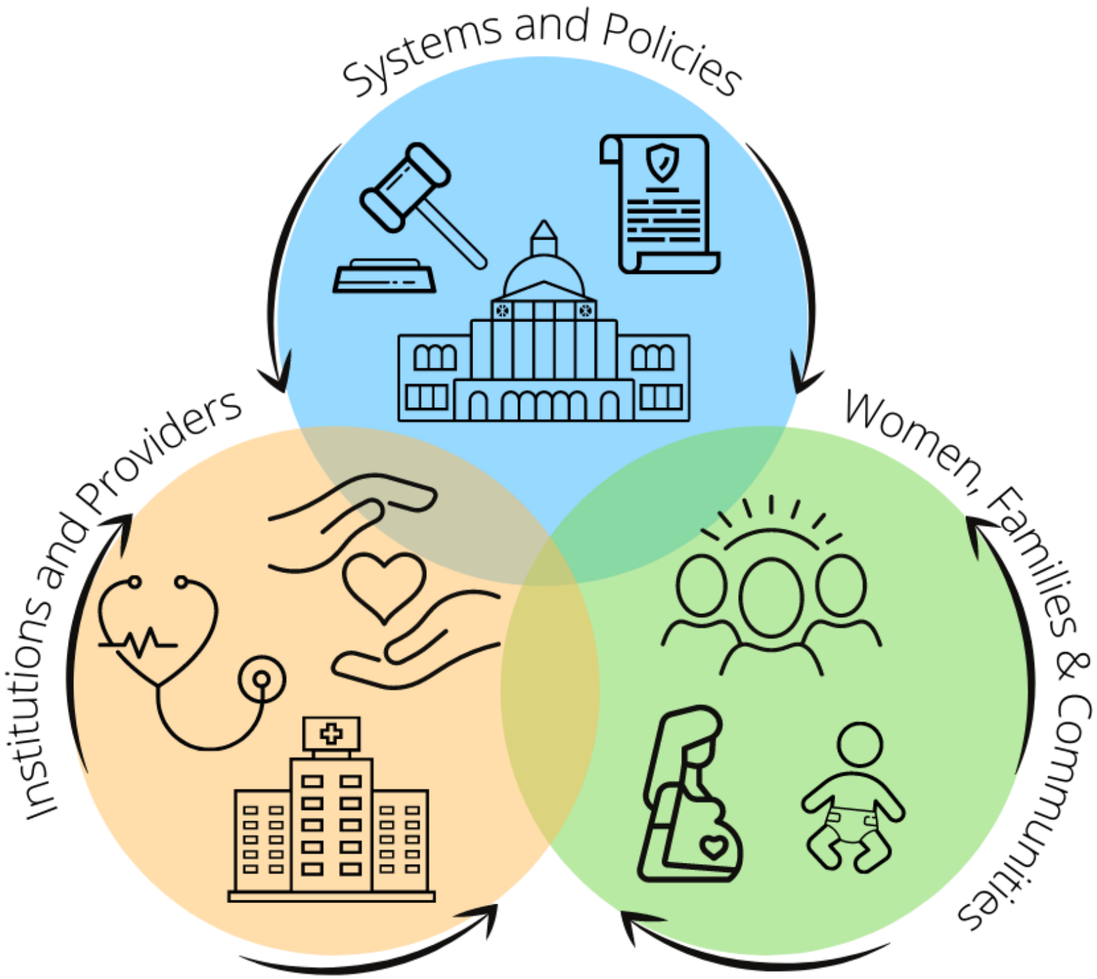
Source: IDoH Stat Explorer and SJC FIMR 2017-2021
Infant deaths in category of maternal age >39 excluded due to total count < 5

Recommendations for 2023 – 2024
Improve women's pregnancy health and well being through access to information and affordable quality health care before, during, and after pregnancy

- Create educational flyer about THC use during pregnancy.
- Create educational flyer about sexually transmitted infections during pregnancy, including the importance of treatment, partner treatment, and risk of pregnancy complications if untreated.
- Continue to facilitate pregnancy intention screening before and between pregnancies at well woman visits in primary care settings.
- Consider conversations with state legislators and schools about the benefit of instruction in high school about folic acid, and topics educational topics listed above to provide basic information about pregnancy health to young people for future pregnancies. Include safe sleep instruction beginning in 8th grade (for siblings and babysitters.) This can be done within existing Indiana code regarding instruction on sexual and reproductive health to prepare young people for adulthood and eventual pregnancies.

St Joseph County FIMR
Recommendations for Community Action

Improve sleep related death prevention education for providers and families.

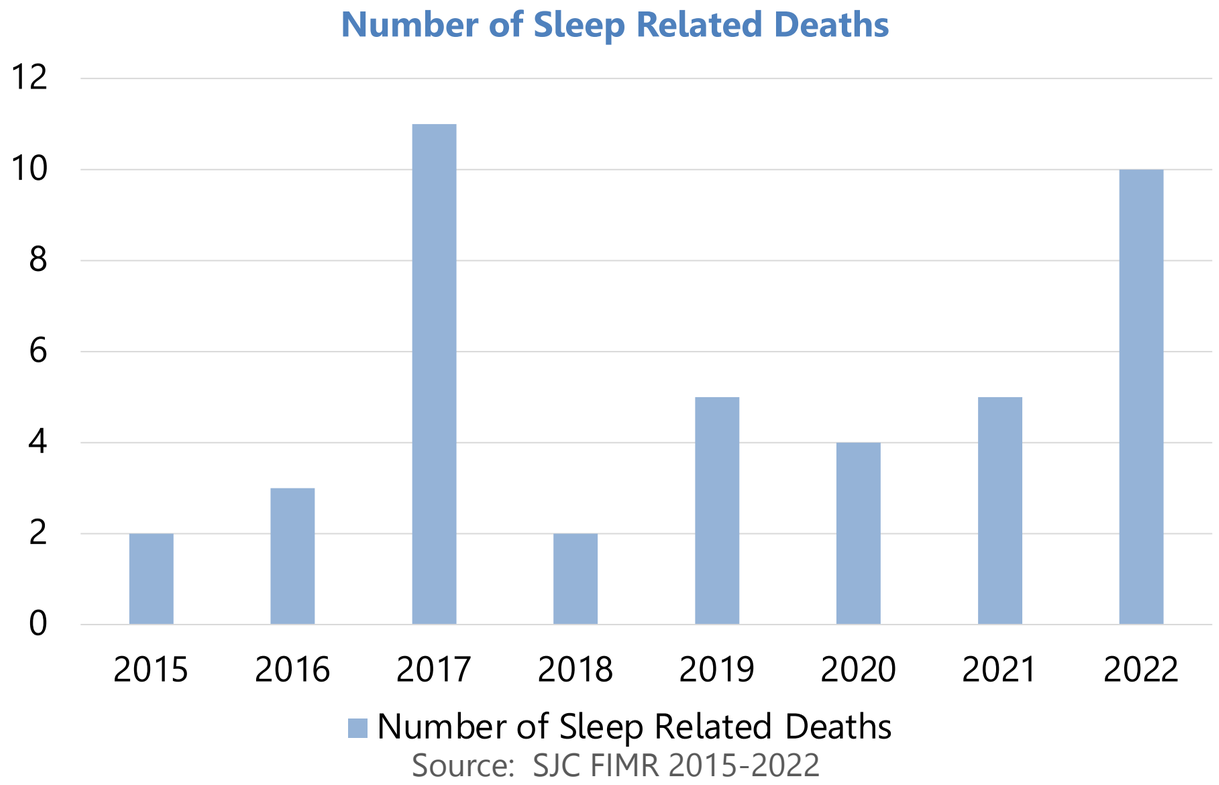


Preventing Sleep Related Sudden Unexpected Infant Death

Following a significant increase in sleep related deaths in 2017, the FIMR Program launched the "Stay Close Sleep Apart" safe sleep campaign throughout St. Joseph County.

Our hospital childbirth units, community programs who serve mothers and families, and medical provider offices all speak to mothers and families about the ABC's of safe sleep to reduce the risk of a Sudden Unexpected Infant Death.

The ABC's include placing a baby Alone (in their own sleep space without pillows or blankets), on their Back, and in a Crib (or pack and play meant for sleep.)



Source: SJC FIMR 2015-2022

Despite this consistent education, the number of sleep related infant deaths increased significantly, again, in 2022.

Preventing Sleep Related Sudden Unexpected Infant Death

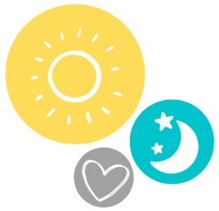
In late summer of 2022, as the FIMR Case Review team identified the trend of increased SUID cases, the coordinator of Maternal Infant Health Initiatives conducted a retrospective review of all SUID cases to help the team identify possible strategies to improve family education about why the ABC's of safe sleep are important. The following slides include the information shared with medical providers, hospitals, and maternal infant health programs and details about the Give Your Baby Room to Breathe campaign, developed from a study of SUID cases in St. Joseph County.

SJC FIMR 2022, design by
Kristen Sachman and Sally Dixon

Give Your Baby

Room to Breathe

every nap, every night, every time.



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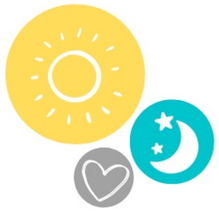
Since 2015, no baby who died from a sleep related death in St. Joseph County was placed to sleep using all the ABC's of safe sleep.

More than 80% of infants who died were surrounded or covered by pillows and blankets or were propped on pillows or boppies. This includes those who died while sharing a bed.

More than 80% of families had an appropriate sleep space for their baby, like a crib or pack n play, available in the home. They just weren't using them.

Give Your Baby
Room to Breathe
every nap, every night, every time.



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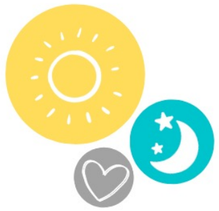
Sharing a Sleeping Environment was a Factor in > 50% of cases

A sleeping environment includes a bed, sofa, chair, or mattress.

Infants did not wake up the next day or after a nap from many different circumstances:

- One parent sharing a bed with the baby with blankets and pillows.
- Both parents or sometimes one or both parents and siblings were sharing a bed with blankets and pillows.
- Infants who were bottle fed and/or breastfed, some were breast fed only.
- A parent sleeping with their baby on a sofa or chair.
- The baby was placed to bed alone, face down on an adult bed, or surrounded by pillows.
- Other deaths involved inclined seats or swings being used for long term sleeping.
- Infants in the care of other family members or others for the day or night.
- Infants sleeping on a parent's chest.

Give Your Baby
Room to Breathe
every nap, every night, every time.



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In October of 2022, during Safe Sleep Awareness month, WNDU and ABC 57 covered the story of increased sleep related deaths in St. Joseph County. WNDU included the story of a mother whose baby died from a sleep related death and details about safe sleep practices.

Maternal Infant Health Initiatives launched a social media **Give Your Baby Room to Breathe** campaign to increase family and caregiver understanding about why babies need room to breathe.

In December of 2022, the American Academy of Pediatrics Journals Blog asked, "*Should We Talk to Parents About Suffocation Instead of SIDS?*

This question reflects the SJC FIMR Case Review's efforts to help families understand that the risk factors for accidental suffocation are the same as those for Sudden Infant Death Syndrome (SIDS). Most sleep related deaths in St. Joseph County, after an autopsy, have a finding of an undetermined cause because suffocation can not be ruled out. The **Give Your Baby Room to Breathe** campaign helps families understand the **WHY** of safe sleep practices.

Give Your Baby

Room to Breathe

every nap, every night, every time.

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Social media images were shared with community partners and the public via social media to educate about why babies need room to breathe

Give Your Baby

Room to Breathe

every nap, every night, every time.

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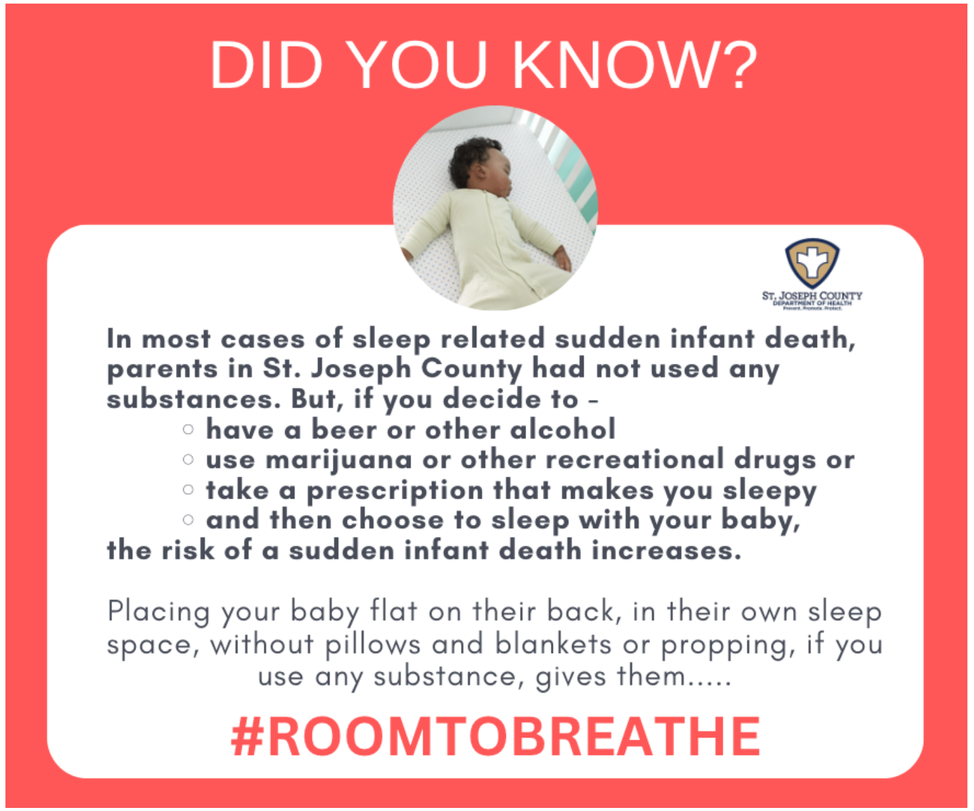


Give Your Baby
Room to Breathe
every nap, every night, every time.

In early 2023, thousands of Give Your Baby Room to Breathe educational flyers were distributed to hospital Mother-Baby units, obstetric providers, pediatricians, and community programs that serve mothers and babies. Maternal Infant Health Professionals were given buttons to wear with the Room to Breathe message and hundreds of sleep sacks were also distributed through community partners and the Vital Records department at the SJCDoH.

Flyers are available in English and Spanish from the SJCDoH and can be printed from the Maternal Infant Health Initiatives webpage, here.

Give Your Baby

Room to Breathe

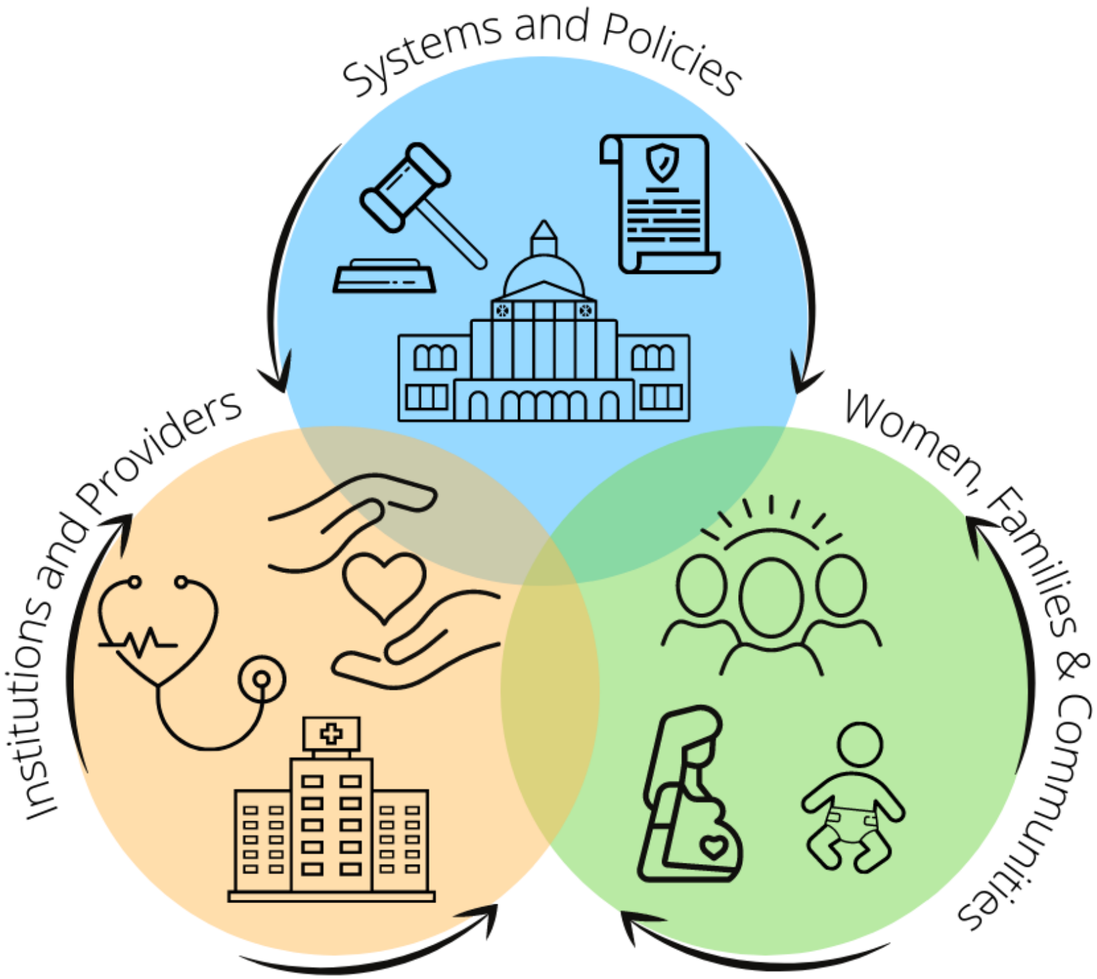
every nap, every night, every time.

As of June 19, 2023, there is one confirmed case of sleep related SUID in St. Joseph County in 2023.

This statistic should be viewed with caution, with 6 months remaining in 2023, however it does represent and encouraging decrease in the incidence of sleep related death in our community for the first half of the year.

St Joseph County FIMR
Recommendations for Community Action

Provide data and information to support policy and legislation to improve birth outcomes.



Provide Information and Data to Support Legislation to Improve Birth Outcomes.

In 2018, Governor Holcomb set a goal of Indiana being the Best in the Midwest for infant mortality by 2024. Accomplishing this goal depended, in part, on passing legislation to support the health and well being of mothers. It isn't likely that Indiana will surpass Minnesota and Iowa's low infant mortality rates by next year, but our state has made progress to improve birth outcomes.

Until 2020, Indiana was among the worst 10 states for infant mortality in the United States. Now, we are ranked 38th for infant mortality.

2015 – 2021 State & Federal Legislation to Improve Birth Outcomes

- Medicaid Expansion, 2015
- Paid parental leave for state employees in Indiana, 2017
- Creation of the My Healthy Baby/OB Navigator program , 2019
- Ability to consent to prenatal care for teens, who are pregnant, when they lack parental support, 2019
- Paid parental leave for federal workers, 2019

Provide Information and Data to Support Legislation to Improve Birth Outcomes.

In 2022, the Policy & Legislation workgroup of Birth Equity & Justice, SJC spoke to state and national legislators or their staff to share information about how policies under consideration could improve maternal and infant health.

2022 Legislation

- Pregnant Worker Fairness Act to grant reasonable workplace accommodations to all pregnant workers in the United States. Federal. Effective, June 27, 2023.
- PUMP Act to grant workers accommodations to pump breast milk. Federal. Effective, April 28, 2023.
- Expansion of Medicaid Coverage from 60 days to 1 year postpartum for women in Indiana. State. Effective, July 1, 2022.

Provide Information and Data to Support Legislation to Improve Birth Outcomes.

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2023 Legislation

- **Indiana House Enrolled Act 1091** makes lawful permanent residents of the United States, who are pregnant, eligible for Medicaid benefits without a waiting period and removes the requirement that WIC verify eligibility of individuals for benefits.
- **Indiana House Enrolled Act 1568** – allows pharmacists to prescribe and dispense hormonal contraception within certain guidelines.
- **Senate Enrolled Act 265** – makes pregnant women, who do not have other children, eligible for Temporary Assistance For Needy Families (TANF) and increases direct support amounts to families.

Future legislative action that can improve birth outcomes:

- Direct Medicaid billing for independent doulas.
- Paid Parental Leave in Indiana. (The legislature could study the improvement in birth outcomes experienced by other states who have enacted paid leave.)
- Passing the Federal Momnibus maternal health package of bills.
- Increase the cigarette tax in Indiana.

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For more information about Maternal Infant Health Initiatives at the St. Joseph County Department of Health
Contact rmeleski@sjcindiana.com