ARIZONA STILLBIRTH AND INFANT MORTALITY ACTION PLAN

AUGUST 2023

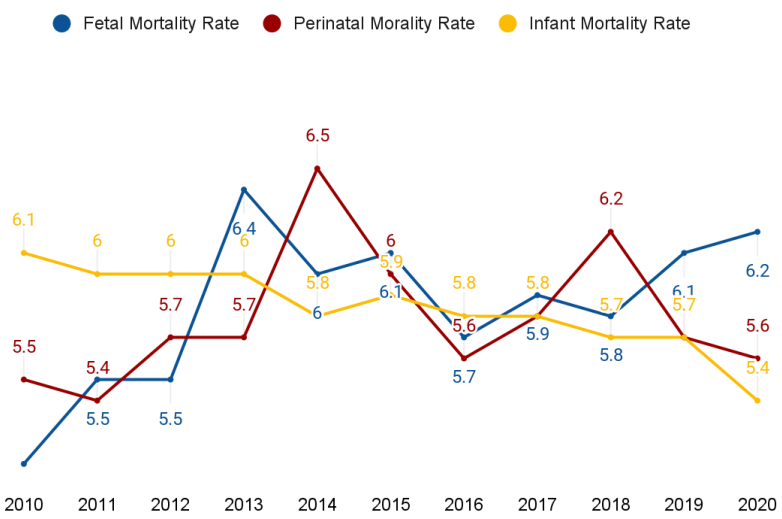
ARIZONA DEPARTMENT OF HEALTH SERVICES

Fetal Infant Mortality

ADHS Response

Goal	2-year	5-year
Reduce the overall infant mortality rate	5%	10%
(Base: 5.3 per 100,000 live births)	(4.8)	(4.2)

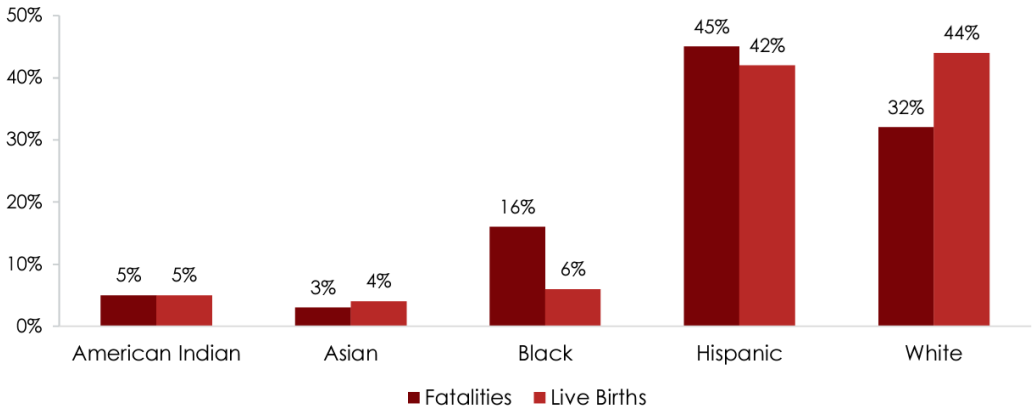
Fetal, Perinatal, and Infant Mortality Rate (2010-2020):



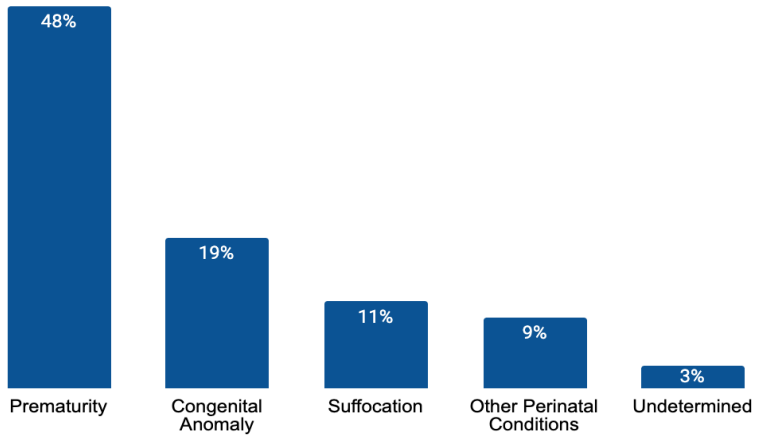
Activity Updates:

- Presented draft plan with internal and external stakeholders
- Identify and notify pending Fetal Infant Mortality Workgroup (FIMW) members
- Present plan at the Maternal Mortality Summit on August 24-25, 2023

Distribution of Infant Deaths per 1,000 Live Births by Race/Ethnicity, Arizona, 2021 (n=428):



Top 5 Leading Causes of Infant Death in Arizona, 2021



Recommendations

Goals	Recommendations	Performance Measures
GOAL 1	Reduce prematurity/preterm births	• Percentage of live births born prematurely • Percentage of low birthweight births • Preterm birth disparity ratio
GOAL 2	Prevent birth defects	• Number of infants confirmed to have one or more reportable birth defects • Percent of live births with a birth defect • Percent of stillbirths with a birth defect
GOAL 3	Strengthen systems of care for mothers and infants	• Percent of children under that have a preventive care visit • Number of Arizona counties designated as a maternity care desert • Percent of live births with late entry into prenatal care
GOAL 4	Diversity and strengthen workforce	• Percent of live births attended by a Certified Nurse Midwife • Number of voluntarily licensed doulas as prescribed by Arizona Revised Statute
GOAL 5	Improve surveillance of fetal-infant morbidities and deaths	• Number of initiatives completed • Number of dissemination activities to stakeholders and community partners on fetal-infant morbidities and mortalities
GOAL 6	Promote optimal fetal-infant health	• Infant mortality rate per 1,000 live births • Stillbirth rate per 1,000 live births • Post neonatal mortality rate per 1,000 live births • Perinatal mortality rate per 1,000 live births

DEFINITIONS

Arizona Perinatal Trust (APT): APT is a 501(c) (3) nonprofit, was established in September 1980. The Trust is dedicated to improving the health of Arizona's mothers and babies, and is governed by a volunteer Board of Trustees and Board of Directors. Arizona Perinatal Trust (APT) has three main components; certification, perinatal education, and perinatal data analysis, which together form the core of their work.

Birth Defects: A physical or biochemical abnormality that is present at birth and that may be inherited or the result of environmental influence.

Count the Kicks: *Count the Kicks* is an evidence-based stillbirth prevention campaign that provides educational resources to healthcare providers and expectant parents.

Congenital Anomalies: Congenital anomalies comprise a wide range of abnormalities of body structure or function that are present at birth and are of prenatal origin.

Extremely Low Birth Weight: Extremely low birth weight (ELBW) is when a baby is born weighing less than 1000 g (2 lb, 3 oz).

Fetal Mortality: Fetal death refers to the spontaneous intrauterine death of a fetus at any time during pregnancy.

Fetal Mortality Rate: Number of fetal deaths at 20 weeks gestation or more per 1000 live births.

Health Equity: Health equity is the state in which everyone has a fair and just opportunity to attain their highest level of health. Achieving this requires focused and ongoing societal efforts to address historical and contemporary injustices; overcome economic, social, and other obstacles to health and healthcare; and eliminate preventable health disparities

Infant Mortality: The number of deaths within the first year of life.

Infant Mortality Rate: The infant mortality rate is the number of infant deaths in a calendar year for every 1,000 live births.

Late Stillbirth: Occurs between 28 and 36 completed pregnancy weeks.

Low Birth Weight: Low birthweight (LBW) is when a baby is born weighing less than 5 pounds, 8 ounces.

March of Dimes (MoD): MoD is a United States nonprofit organization that works to improve the health of mothers and babies.

Neonatal Abstinence Syndrome (NAS): NAS is a withdrawal syndrome that can occur in newborns exposed to certain licit and illicit substances, especially opioids, in utero.

Neonatal Mortality Rate: The neonatal mortality rate refers to the number of deaths of infants aged 0–27 days per 1,000 live births.

DEFINITIONS

Perinatal Mortality Rate: Perinatal mortality rate is the number of infant deaths under age 7 days and fetal deaths at 28 weeks or more per 1,000 live births and fetal deaths at 28 weeks of gestation or more.

Post Neonatal Mortality Rate: The post neonatal mortality rate refers to the number of deaths of infants aged 28 days through 11 months per 1,000 live births.

Pregnancy-Associated Deaths: The death of a woman during pregnancy or within one year of the end of pregnancy, regardless of the cause. All deaths that have a temporal relationship to pregnancy are included.

Pregnancy Risk Assessment Monitoring System (PRAMS): PRAMS, the Pregnancy Risk Assessment Monitoring System, is a surveillance project of the Centers for Disease Control and Prevention (CDC) and health departments.

Premature/Preterm Birth: Premature (also known as preterm) birth is when a baby is born too early, before 37 weeks of pregnancy have been completed.

Severe Maternal Morbidity (SMM): unexpected conditions or outcomes of pregnancy, delivery, or postpartum that aggravate or lead to significant negative effects on a woman's health and wellbeing.

Stillbirth: Loss of a baby at or after 20 weeks of pregnancy.

Substance Use Disorder (SUD): Substance use disorder (SUD) is a complex condition in which there is uncontrolled use of a substance despite harmful consequences.

Sudden Unexplained Infant Death: Sudden unexpected infant death (SUID) is a term used to describe the sudden and unexpected death of a baby less than 1 year old in which the cause was not obvious before investigation. These deaths often happen during sleep or in the baby's sleep area.

Surveillance for Emerging Threats to Pregnant People and Infants Network (SET-NET): Detects the effects of health threats on pregnant people and their babies by collecting data from pregnancy through childhood. Uses actionable information to help save and improve the lives of mothers and babies.

Term Stillbirth: Occurs between 37 or more completed pregnancy weeks.

The National Institute for Children's Health Quality (NICHQ): NICHQ is a mission-driven nonprofit dedicated to driving dramatic and sustainable improvements in the complex issues facing children's health

INTRODUCTION

All babies have the right to be born healthy and live a long productive life. For decades the Infant Mortality Rate (IMR) in the United States has been significantly higher than other developed nations. The various underlying factors that contribute to infant mortality include birth defects, preterm birth, sudden infant death syndrome, injuries, and maternal health complications.[1] As of 2022, the U.S. preterm birth rate has hit a 15-year high with prematurity being identified as a leading cause of death for infants.[2] Evidence consistently indicates that prematurity and low birth weight (LBW) combined lead to adverse outcomes for infants.[3] A newborn's weight is one of the most critical predictors of survival. Furthermore, there are long standing and significant racial disparities in birth outcomes. Non-Hispanic Black infants in the U.S. are dying at twice the rate of non-Hispanic White infants. Specifically, the preterm birth rate is 52% higher for black women than white women.[4] In addition, as of 2020, the Fetal Mortality Rate (FMR) in our country is at 5.7 deaths per 1000 live births.[5] Unfortunately, 21,000 babies die yearly in the United States due to stillbirth, and in Arizona, we have lost around 500 babies to stillbirth every year for the past decade. Almost 50% of these fetal deaths are either a late or term stillbirth of a much anticipated baby.[6] Data from 2021 indicates that there was a 20% increase in fetal deaths equating to 701 babies stillborn.[7] There are disparities around stillbirth that exist and continue to persist - Black women and Indigenous women in Arizona are two to three times more likely to experience a stillbirth over white women in our state.[6] Evidence also indicates that a woman has up to a 5x greater risk of maternal mortality and morbidity with a stillbirth.[8] Health indicators that lead to fetal death include low socioeconomic status, chronic diseases, and smoking cigarettes during pregnancy.[9] A 2018 cohort study published in *Obstetrics & Gynecology* determined that at least 25% of stillbirths are preventable with identification and management of placental insufficiency having the most impact on stillbirth reduction.[10] Also, it's important to note that the rate of babies dying from Sudden Unexplained Infant Deaths is increasing in Arizona. There was a 23% increase in SUIDs from 2020 to 2021 with the main cause being suffocation. Sadly, 29% of SUIDS involved substance abuse. It has been determined that 99% of SUIDs are preventable.[11] Too many babies in the state of Arizona are not born healthy. The loss of an infant and a wanted baby causes social and emotional devastation for parents, families and communities that is felt for generations. The state of Arizona is committed to utilizing proven strategies, collaborative partnerships, and effective resources so babies are born healthy and thriving.

EXECUTIVE SUMMARY

In Arizona more than 400 newborns every year will not make it to see their first birthday.[12]

The IMR is an important measure of the health within a state and Arizona ranks 34th in the nation for infant mortality. Arizona's IMR has fluctuated since 2012 and as of 2020, Arizona's infant mortality rate has increased by 12.2% from 4.9 deaths per 1,000 live births to 5.5 deaths per 1,000 live births.[12] While the Arizona IMR has consistently been lower than the U.S. rate, there are far too many babies dying in our state. One in ten babies are born prematurely and 1 in 14 babies are born with low birth weight (<2,500 grams or 5 pounds, 8 ounces) in Arizona.[13] A recent study from the Arizona Department of Health Services (ADHS) uncovered that a majority of excess fetal-infant deaths are attributed to birth weight distribution.[10] In other words, Arizona has too many babies who are born with very LBW, less than 1,500 grams (3 pounds, 4 ounces). Having a previous preterm birth comes with 3x the risk for a mother of having another very LBW baby compared to women without a previous preterm birth.[14] In 2019, more than 80% of infants in Arizona with extremely low birth weight did not survive.[12] Of great concern are the significant racial disparities that are prevalent and continue to persist in Arizona. Black/African American and American Indian/Alaska Native infants have consistently had the highest rates of infant mortality from 2010-2019.[6]

Furthermore, in 2021 there were 701 fetal losses in Arizona.[7] That is 701 Arizona families that face navigating life without their very loved and much wanted baby. The stillbirth rate in Arizona has remained fairly unchanged for the past decade and there is an urgent need for effective stillbirth prevention initiatives. Black women and Indigenous women in Arizona are two to three times more likely to experience a stillbirth over white women in our state.[6] This is unacceptable and speaks to persistent racial disparities that need to be addressed. In 2021 ADHS partnered with *Count the Kicks*, an evidence-based stillbirth prevention program with proven success in decreasing stillbirth rates. In Iowa, where the program began, there has been a 32% reduction in the overall stillbirth rate and a 39% reduction in the stillbirth for African American women.[15] In Arizona we have the potential to save 155 babies every year from preventable stillbirth with this program. Implementation of *Count the Kicks* in Arizona will undoubtedly save lives. Through their evidence-based materials and their free kick counting app - available in over 16 languages - *Count the Kicks* is saving lives and should be implemented in health systems, clinics, rural health centers, WIC, Head Starts --- anywhere expectant parents frequent.

To address this public health issue, ADHS in partnership with external partner organizations, has created a comprehensive plan to reduce the current FMR and IMR. This plan ensures that realistic and effective measures are implemented that will improve birth outcomes. The Stillbirth and Infant Mortality Action Plan, also referred to as "The SIMAP" will serve as a roadmap to guide providers and community partners in a collaborative effort to reduce fetal and infant mortality in Arizona. The SIMAP aligns with the goals of the Maternal Mortalities Severe Maternal Morbidity in Arizona Report published in December of 2020. To address current obstacles and health disparities in Arizona, the SIMAP will apply the **Life Course Theory, the Health Equity Framework, and Family and Young Adult Engagement.**

LIFE COURSE THEORY

The Life Course Theory (LCT) is a multidisciplinary approach that comprises four key concepts: timeline, timing, environment, and equity.[16] Timeline recognizes that genetics, current and prior health behaviors, social experiences, and environmental conditions have a cumulative effect—not only on an individual's long-term health but that of future generations. The LCT acknowledges that there are critical or sensitive periods of development when exposure to various events and experiences—harmful or positive—can have significant long-term impact. Environment encompasses physical, social, and economic factors, such as housing, clean air and water, poverty, racism, employment opportunities, and the capacity of a community to engage in change. Women's health before, during, and shortly after pregnancy is directly related to fetal-infant health. A mother's and her infant's well-being from conception to one year is the best foundation for lifelong health.[17] Notably, evidence shows that socially and economically disadvantaged populations in the United States carry an increased burden of adverse maternal and child health outcomes. Of particular importance are the social determinants of health faced by women of color. Adverse childhood experiences and exposure to harmful factors during critical periods of development have been proven to lead to adverse health outcomes for an adult.[18] Women from communities of color continue to face high levels of cumulative chronic stress that contribute to the disparities they face in birth outcomes.

Moreover, the identification of risk factors and the promotion of protective factors in the lives of individuals and communities are interwoven throughout this model, as is the reality that these factors can change during a person's life span. The LCT acknowledges the link between individual health behaviors and social, economic, and environmental factors. It proposes that communities and agencies develop strategies that support good health by addressing all these factors. Reducing health disparities by implementing LCT will improve health outcomes for Arizona families across generations at the individual, family, community, population, and policy levels.

FRAMEWORKS AND MODELS

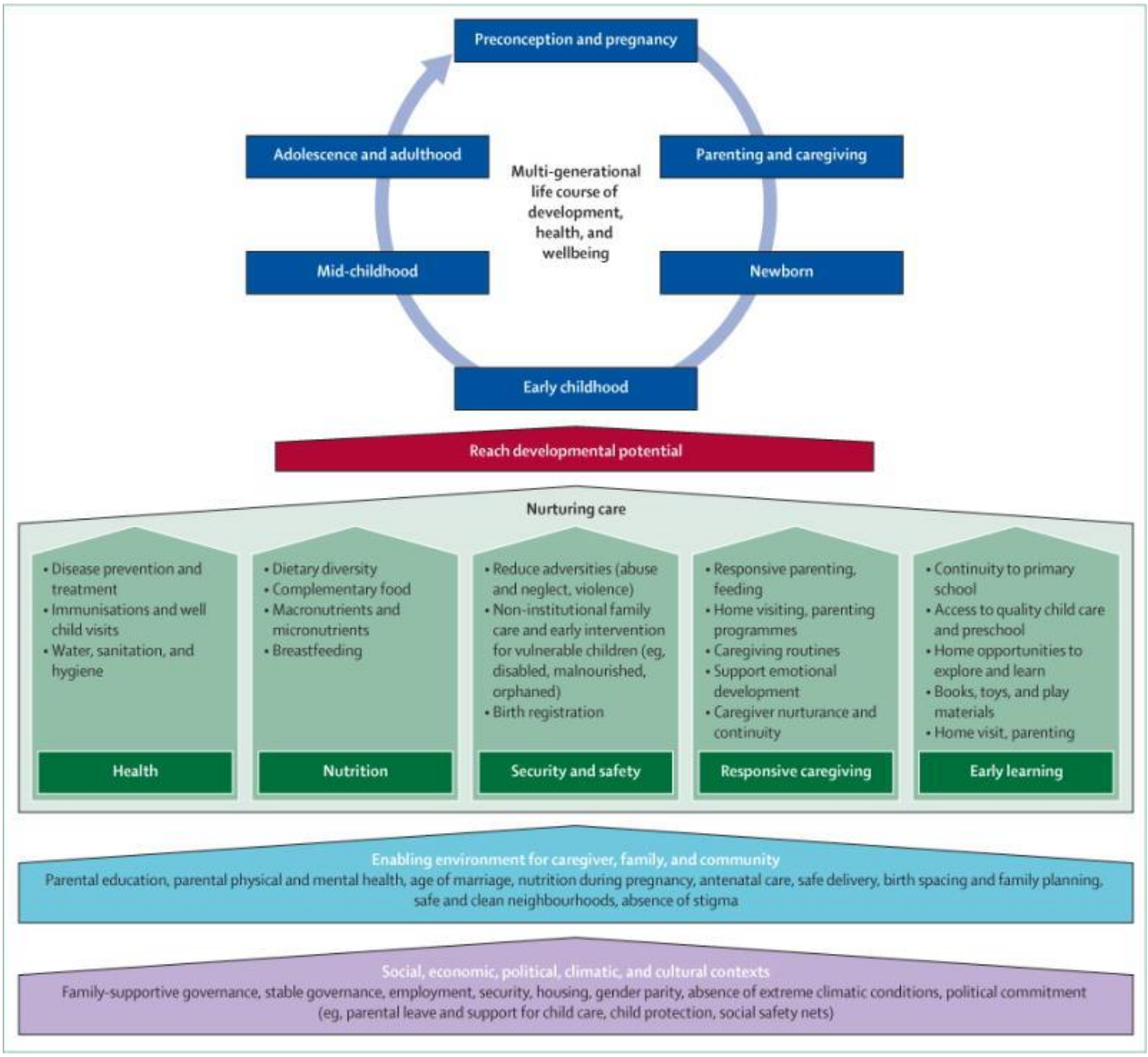


Figure 1: The effects of contexts, environments, and nurturing care through the multigenerational life course. The Lancet, 2017, https://www.sciencedirect.com/science/article/abs/pii/S0140673616313897?fr=RR-2&ref=pdf_download&rr=78407ab74f1d2af0

FRAMEWORKS AND MODELS

HEALTH EQUITY FRAMEWORK

ADHS is committed to eliminating disparities by addressing social determinants of health so all Arizona babies can be born healthy and have the opportunity to thrive. ADHS defines health equity to mean that everyone has the opportunity to define and achieve good health for themselves. This may involve removing obstacles to assure the necessary conditions for good health are present for everyone. Health disparities are a particular type of health difference closely linked with social, economic, and/or environmental disadvantage. Health inequities are unfair differences in health status across populations. These differences in health are due to a wide range of social and economic conditions. Disparities and inequities can persist over time, as these systems tend to repeat and reinforce patterns of exclusion and marginalization.[19.] The Health Equity Framework (HEF) illustrates how social and economic conditions affect health outcomes. The HEF relates to the LCT by highlighting that health inequities are the result of cumulative experiences throughout a person's life span. Systems of power that have been in place for generations lead to socially determined differences, structural racism, and other discriminatory practices which contribute to poor health outcomes for disadvantaged populations. To achieve health equity for Arizona families, it is vital that all populations, regardless of race/ethnicity, gender, socioeconomic status, sexual orientation, religious background, or creed have equitable access to needed support systems. It has been proven that relationships and networks provide support systems that improve health equity by mitigating some of the social disadvantages created by systems of power that breed structural and inherent inequalities.[20] Ultimately, the SIMAP aims to provide families with the needed levels of support and opportunities to improve birth outcomes.

FAMILY ENGAGEMENT MODEL

Family engagement plays a vital role in maternal child health programs in Arizona. Family partnership, defined as "patients, families, their representatives, and health professionals working in active partnership at various levels across the health care system—direct care, organizational design and governance, and policy-making—to improve health and health care." This partnership is accomplished through the intentional practice of working with families to achieve positive outcomes in all areas through the life course." Consequently, Arizona families being given the opportunity to share their lived experiences will help guide them in making better decisions about their health and well-being. Families have the unique perspective of how barriers in the system of care affect them. In addition, family leaders reflect the diversity of their communities, and giving them a voice allows them to be a champion for themselves and their children. Family advisors offer unique lived experiences critical to achieving outcomes. Families are ultimately the most important stakeholder. Impactful family engagement considers all cultural and linguistic aspects of a community while promoting protective factors that improve health outcomes. This entails maximizing opportunities for families to connect with peer support, creating seamless connections across programs, and partnering with families to create optimal goals for their health. Establishing trust lays the foundation for strengthening our families and communities in Arizona. ADHS recognizes that engaging and empowering families will improve the health and well-being of women through pre-conception, pregnancy, and postpartum which leads to improving the health of Arizona babies.

According to the Arizona Child Fatality Review Team 29th Annual Report, 31 children died from COVID-19 in 2021.[11] Of those deaths, 61% were less than 12 years old. In addition, 27 children under the age of 12 years old died in 2021 from causes indirectly related to COVID-19. Contributing factors in these deaths were suffocation, poisoning, strangulation, and firearm injuries. Substance abuse was attributed to 48% of the deaths indirectly related to COVID-19. Moreover, data indicates that 85% of child deaths indirectly caused by COVID-19 were preventable.[11]

Furthermore, results from the 2020 AZ PRAMS indicated that over 92% of new mothers implemented behavior strategies to prevent COVID-19 infection during their pregnancy. These strategies included avoiding large gatherings, washing hands for 20 seconds, covering coughs and sneezes, wearing a mask in public, using alcohol-based hand sanitizer, and maintaining a 6-foot distance from others in public.[21] Even with these reported mitigation measures, a death record review from January 2020 to April 2022 determined that 1 in 5 maternal deaths in Arizona had an indication of a COVID-19 infection.[22]

The SIMAP is intended to support the efforts of The Arizona Health Improvement Plan - Pandemic Recovery & Resiliency 2021 - 2025 (AzHIP). The AzHIP aligns with the proposed actions in the SIMAP and establishes 4 main goals with the intention of creating a stronger, healthier and more resilient Arizona.[23] These goals are as follows:

- Goal 1: Strengthen public health capacity and infrastructure
- Goal 2: Rebuild a stronger system to support health
- Goal 3: Advance health equity
- Goal 4: Enhance resilience of Arizona communities

In addition, due to the Consolidated Appropriations Act (CAA) being enacted by Congress in December of 2022, AHCCCS will now begin regular Medicaid renewals as of April 2, 2023. Members are required to reverify eligibility status for both AHCCCS and KidsCare. AHCCCS is working with community partners, advocates, and members to ensure that eligible members remain covered while members who are no longer eligible are referred to resources for other health care plans.[23]

METHODS

Due to the existence of stark disparities in fetal and infant mortality in Arizona, community stakeholders reached out to the Arizona Department of Health Services (ADHS) in 2018 to identify the best approach to address infant deaths in communities of color. In 2020, findings from Perinatal Periods of Risk (PPOR) analysis for 2014-2018 fetal-infant deaths in Arizona and Arizona's 2021 Child Fatality Review Report indicated the importance of improving maternal health conditions in order to reduce the number of excess infant mortality in communities of color, especially in deaths due to prematurity or low birthweight. The PPOR approach is a six-stage community-based assessment and planning approach to curb infant mortality. The six stages are: 1) readiness, 2) data and assessment, 3) strategies and planning, 4) implementation, 5) monitoring and evaluation, and 6) investment.[66] The Bureau of Women's and Children's Health, Arizona's Title V Maternal and Child Health Program, in partnership with the Bureau of Assessment and Evaluation conducted a robust literature review of other plans published by state health departments and scientific literature of strategies proven to improve fetal-infant outcomes. The SIMAP planning team then engaged internal and external stakeholders representing the state agencies, maternal and child health experts, perinatal specialists, tribal communities, and non-profit organizations to review and provide feedback on the planned activities. This quickly led to the development of a statewide Stillbirth and Infant Mortality Task Force (SIM-TF) to establish a support network of providers and organizations invested in the activities listed in the plan and ensure sustainability, support, and acceptance of the statewide plan which represents step 3 and 4 in the PPPOR framework. The diagram below depicts our approach for developing this plan utilizing data from the child fatality review program and the perinatal periods of risk approach analysis to provide the evidence and rationale to guide our comprehensive literature review that led to the six identified goal strategies. These strategies were designed with health equity, family engagement, and life course theory frameworks and are inclusive of other developed plans by ADHS such as the maternal mortality action plan, the Arizona Health Improvement Plan, and others. The image below is a graphical depiction of our methodology.

METHODS

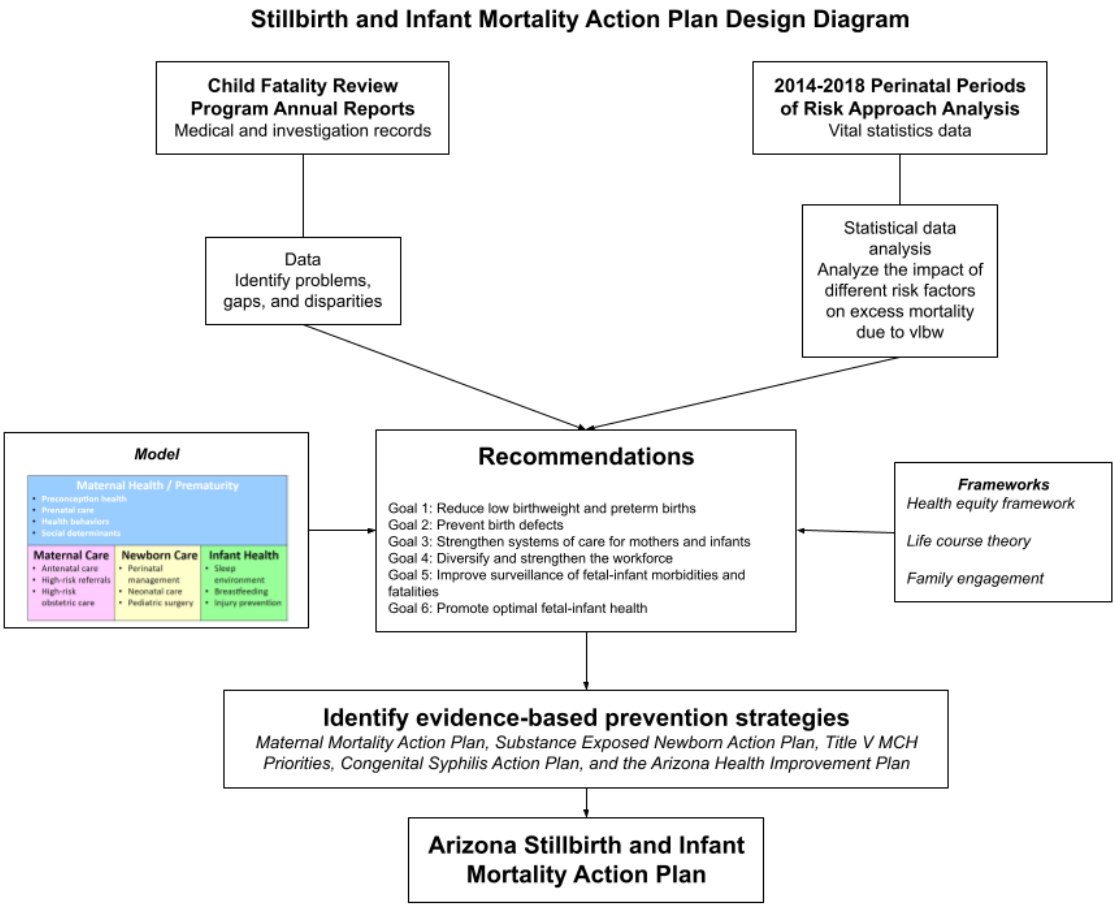


Figure 11. ADHS Approach for Developing the Stillbirth and Infant Mortality Action Plan.

GOALS TO ADDRESS STILLBIRTH AND INFANT MORTALITY

The goals identified to address Stillbirth and Infant Mortality in Arizona are:

- Goal 1: Reduce prematurity/preterm births
- Goal 2: Prevent birth defects
- Goal 3: Strengthen systems of care for mothers and infants
- Goal 4: Diversity and strengthen workforce
- Goal 5: Improve surveillance of fetal-infant morbidities and deaths
- Goal 6: Promote optimal fetal-infant health

A gap analysis was conducted to identify areas of opportunity and growth for Arizona in improving fetal infant health outcomes. The gap analysis was completed internally by ADHS after conducting an environmental scan of campaigns, interventions, and programs it sustains and supports. Recommendations to address gaps were created after multiple meetings with partners, including state agencies, a thorough review of state and national data, published literature, and available action plans and best practices from other states. This includes the 2018 State of Alabama Infant Mortality Reduction Plan and the 2016-2019 State of Michigan Infant Mortality Reduction Plan.[25,26] The recommendations were used to develop a 5-year work plan to address infant mortality in Arizona. The following is a list of proposed actions included in years 1 and 2 grouped by goal statements.

GOAL 1: REDUCE LOW BIRTH WEIGHT & PRETERM BIRTHS

RECOMMENDATION: Increase pregnant women's awareness on how to prevent premature birth.

BACKGROUND & GAP: In Arizona prematurity is a leading cause of infant death with 1 in 10 babies being born prematurely. Overall, the preterm birth rate across the United States has increased for the fourth year in a row and Arizona's 2021 preterm birth rate is at 10%, a 5% increase from 2020.[27] Ultimately, Arizona's preterm birth rate has increased for the third year in a row. African American babies are born prematurely at 1.5 times the rate of White, non-Hispanic babies. For Native American babies the prematurity rate is at 1.3 times the rate of White, non-Hispanic babies.[28] This disturbing trend requires immediate action and intervention to ensure that babies are born healthy in Arizona. The 2022 March of Dimes Report Card noted that Maricopa, Pima, and Yuma Counties hold some of the highest preterm birth rates in the state.[27]

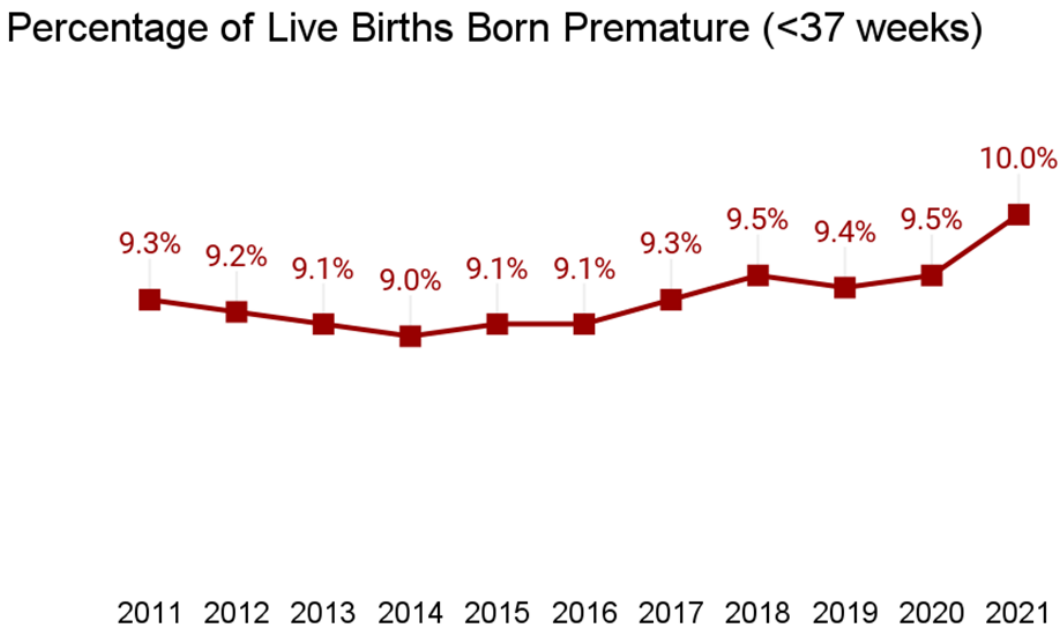


Figure 2: March of Dimes 2011-2021 percentage of live birth born preterm.
https://www.marchofdimes.org/peristats/reports/arizona/report-card

A gap that has been identified is a lack of access to healthcare. On average 1,729 live births per year have no prenatal care in our state. This is approximately 2.05% of all live births in Arizona, around 1 in every 40 births.[27] Since 2009 the percentage of live births with no prenatal care increased by 44% with noticeable increases between 2013 and 2017 and a current decrease since 2018.[27] Also, 2 out of 5 Arizona moms report not having a healthcare visit during the 12 months before pregnancy. Only 20% of Arizona moms report visiting a health care provider for family planning or birth control.[29]

GOAL 1: REDUCE PREMATURITY/PRETERM BIRTHS

Another concerning trend is that syphilis prevalence during pregnancy with accompanying substance abuse is on the rise in the United States. In a 2023 studied published by the CDC, data on Arizona births from the Surveillance for Emerging Threats to Pregnant People and Infants Network (SET-NET) determined that from January 1, 2018 to December 31, 2021 the rate of substance abuse in people with a congenital syphilis outcome was nearly double (48.1%) compared to that of people with a non-congenital pregnancy outcome (24.6%). In addition, 50% of people who used substances during pregnancy and had a congenital syphilis outcome received late or no prenatal care.[30] This data highlights a critical need for syphilis screening and treatment throughout pregnancy, particularly for pregnant people that face social determinants of health such as incarceration and homelessness.

ACTION PLAN:

1. Partner with March of Dimes (MoD) to onboard the Healthy Babies are Worth the Wait community program
    - By 2024: Access feasibility of becoming a HBWW community program
    - By 2024: Reach out to MoD to express interested in participating
    - By 2024: Establish a HBSS community program Chapter
    - By 2024: Evaluate progress and outcomes

2. Increase awareness on the risk factors and signs of premature labor
    - By 2024: Create campaign content
    - By 2024: Conduct focus groups for mothers and providers to test campaign content and identify best methods to reach target populations
    - By 2024: Distribute campaign content packages to birthing facilities and partners for distribution via apps and social media platforms
    - By 2024: Publish campaign across social media platforms and other selected mediums
    - By 2024: Evaluate the campaign content based on new emerging trends

3. Increase the number of women, men, and youth who develop a reproductive life plan
    - By 2024: Evaluate the Title V Family Planning program in Arizona
    - By 2024: Expand the Title V Family Planning program to emphasize the importance of a reproductive life plan
    - By 2024: Provide technical assistance to establish a mechanism for Title V Family Planning clinics to refer patients to other settings based on reproductive life plan needs

4. Prevent, detect, and treat maternal STI's
    - By 2024: Establish regional disease investigation teams throughout the state to support surveillance and mitigation effort
    - By 2024: Pilot and evaluate a rapid testing (point of care testing) program in community health centers for syphilis and other STI's
    - By 2024: Expand resources for community health centers and county clinics to provide STI screenings
    - By 2024: Partner with professional medical organizations to emphasize the importance of testing women of child-bearing age, especially those pregnant, for syphilis with routine STD/HIV screens

- By 2024: Configure the Arizona congenital syphilis campaign to reach at-risk communities (i.e. methadone clinics, tribal health facilities, social service organizations, as such)
- By 2024: Expand authority for pharmacists to provide expedited partner therapy for pregnant women and their partners
- By 2024: Establish a statewide transportation and hotel voucher program to encourage pregnant women and their partners completing treatment
- By 2024: Partner with tribal and community health centers to establish coordination of care between screening to treatment of syphilis in perinatal period
- By 2024: Partner with the AZ Chapter of the Academy of Pediatrics to expand screening and treatment services during child well visits for mothers
- By 2024: Develop a model for home visitors (Nurse) to conduct at home screening and treatment services when medically appropriate and refer clients to local county health resources
- By 2024: Coordinate learning seminars, webinars, and training materials for providers on repeated syphilis screening requirements early during the third trimester and at delivery

5. Ensure appropriate management of chronic disease in the before, during, and after the perinatal period.
    - By 2025: Partner with the Bureau of Chronic Disease and Health Promotion to establish or support chronic disease management (diabetes, hypertension, as such) interventions for all women of reproductive age
    - By 2025: Identify a medical home model to support women with pre-pregnancy chronic diseases during the perinatal and postpartum periods
    - By 2025: Partner with community health centers to conduct reproductive life planning and contraceptive considerations for women of reproductive age with chronic medical conditions shortly after diagnosis
    - By 2025: Identify models to promote lifestyle changes in women of reproductive age before, during, and after the perinatal period.
    - By 2025: Secure additional funding to increase services for women to understand and reduce their risk for hypertensive disorders and diabetes before pregnancy.
    - By 2025: Provide multiple statewide training opportunities (with CE credits) for birth professionals on chronic disease management

6. Women at risk for preterm delivery need to be identified and offered access to effective treatments to prevent preterm birth.
    - By 2025: Partner with the APT to conduct quality improvement initiatives with providers on identifying women at risk for preterm delivery and treatment strategies
    - By 2025: Provide resources and technical assistance needed to ensure that mothers at risk for preterm delivery should be offered antenatal corticosteroids (ANCS) to improve fetal lung maturity
    - By 2025: Assess gaps and challenges with providing 17p to high risk individual in Arizona

- By 2025: Design an innovate program to increase the uptake of 17p in high risk individuals (i.e. Create a pay-for performance model to encourage AHCCCS managed care plans to increase the percent of eligible women getting 17p, or address supply-chain issues, improve case management of high-risk individuals)

7. Reducing Non-Medically Indicated Elective Inductions of Labor
    - By 2025: Establish a stakeholder workgroup to identify policy and program initiatives aimed at reducing non-medically indicated elective inductions of labor
    - By 2025: Partner with professional organizations to hold annual training sessions or meetings to provide information to physicians with admitting privileges on induction guidelines, policies, and procedures
    - By 2025: Publish a report of non-medically indicated elective inductions of labor
    - By 2025: Partner with hospitals in establishing strict elective delivery policies, scheduling guidelines, and protocols for approving exceptions to non-medically necessary deliveries before 39 weeks gestation
    - By 2025: Continue to encourage payment models promoting reductions in primary and secondary cesarean sections.
    - By 2025: Increase access to childbirth preparation classes for families to learn about the risks and benefits of elective induction of labor.

8. Improve oral health status for pregnant women
    - By 2024: Establish oral health Medicaid coverage for pregnant women regardless of age
    - By 2024: Partner with CHWs, CHRs, and other professionals to educate pregnant women to reinforce routine oral health maintenance and address myths and fears
    - By 2024: Partner with medical and nursing professional organizations to promote dental care and good oral hygiene during pregnancy.
    - By 2024: Explore opportunities for regional charitable dental care events specific for pregnant women, children, and children with special health care needs.
    - By 2024: Promote the Protect Tiny Teeth toolkit across the state to promote conversations and improve awareness that oral health should be part of prenatal care.

9. Prevent unintended pregnancies and achieving optimal birth spacing
    - By 2026: Conduct an assessment of unintended pregnancies using the PRAMS data
    - By 2026: Strengthen the Title V family planning sites and enhance partnerships with Arizona's Title X Program to provide a full range of contraceptive methods throughout the state
    - By 2026: Evaluate and strengthen the teen pregnancy prevention program
    - By 2026: Address barriers in provider and patient knowledge, availability, and costs to ensure the most efficacious contraception method is accessible, including long-acting reversible contraception

10. Expand the use of the Arizona Smokers Helpline (ASHLine)
    - By 2024: Partner with the BCDHP's Tobacco Free Arizona Program to identify areas for partnership to reduce the percentage of women of reproductive age who use tobacco
    - By 2024: Collaborate with the ASHLine to develop promotional materials focused on prematurity and stillbirth prevention
    - By 2024: Establish a stronger mechanism for providers and home visitors to refer clients to the ASHLine

PARTNER AGENCIES/ORGANIZATIONS:

- Arizona Perinatal Trust
- Bureau of Chronic Disease and Health Promotion
- Bureau of Infectious Disease Services
- Title V Family Planning Clinics
- March of Dimes (MoD)

METRICS:

- Percentage of live births born prematurely
- Percentage of low birthweight births
- Preterm birth disparity ratio

GOAL 2: PREVENT BIRTH DEFECTS

RECOMMENDATION: Increase awareness on how to prevent birth defects.

BACKGROUND& GAP: Birth defects are a leading cause of infant mortality in the U.S. with 1 in 5 babies dying every year from congenital anomalies. Ultimately, 1 in 33 babies in our country are born with a birth defect.[31] On average 111 infants die in Arizona due to birth defects every year.[32] Congenital anomalies range from neural tube defects, Trisomy 21, and congenital heart defects.[30] Notably, birth defects cost the hospital system over 2.6 billion every year. This does not include outpatient and additional provider costs.[31] A recent assessment done by ADHS determined that 36.1% of women indicated the desire to improve their health and 16.6% indicated they want to control their medical conditions.[21] This information suggests an essential need to raise awareness about the risk of birth defects and how important preconception health is to having a healthy baby. According to the March of Dimes - good preconception health, seeking care for current health conditions, and taking folic acid during pregnancy are important steps to reducing the risk of birth defects.[32] The causes of birth defects are largely unknown, however evidence indicates that genes, health behaviors, and environmental factors play a role. While birth defects can occur anytime during pregnancy most occur during the first 3 months of pregnancy which is a critical time of fetal development. Research shows that health indicators associated with an increased risk of birth defects are smoking, drinking alcohol, and obesity.[34]

Between 2019 and 2021, 1 in 5 infant deaths were due to congenital anomalies in Arizona.[32] The majority of infant deaths due to congenital anomalies were experienced by Latino infants at 47% but only make up 42% of the live births, followed by White, non-Hispanic infants at 31% but make up 44% of live births, and Black infants at 13% but make up 6% of live births.[11] Congenital anomalies is a leading cause of infant mortality followed by preterm birth and low birth weight.[35] While the most common specific defects vary year to year, common trends are often seen across all timeframes. Trisomy 21, gastroschisis, and orofacial clefts are nearly always among the top 10 most prevalent birth defects in Arizona.[36]

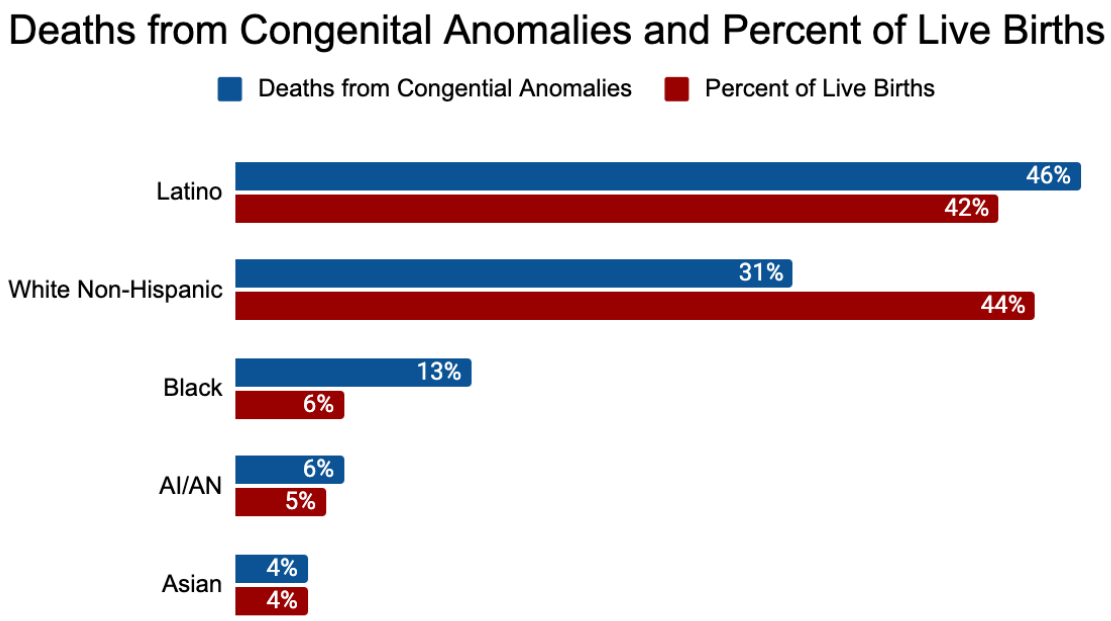


Figure 3: Deaths from congenital anomalies per the Arizona Child Fatality Review Team Twenty-Ninth Annual Report https://www.azdhs.gov/documents/director/agency-reports/29th-annual-child-fatality-report.pdf

Further, there is a gap identified in limited awareness and access among families for genetic counseling. Genetic counseling helps parents understand how genes, birth defects, and medical conditions run in families and how they affect families. Ensuring access to genetic counseling for all expectant parents is an equitable approach to gaining valuable knowledge that would reduce the risk of birth defects and improve birth outcomes.

ACTION PLAN:

1. Increase providers and educators who emphasize pre and interconception care
    - By 2024: Work with WIC and the Breastfeeding Program to identify leverage points for partnerships
    - By 2024: Build partnerships with medical and nursing training programs for curriculum update or adaptation
    - By 2024: Continue to provide support and participate in the Preconception Care Alliance
    - By 2024: Develop webinars and trainings for clinical and non-clinical providers
    - By 2024: Launch a media campaign on pre and interconception care

GOAL 2: PREVENT BIRTH DEFECTS

2. Support statewide screening for critical congenital heart disease, through support of ONBS and ABDMP. Specifically, monitor and reconcile screening data, and track babies with failed screening results. Continued evaluation and improvement of pulse oximetry screening processes, based on ongoing quality assessment.
    - By 2024: Quarterly reconciliation of failed screens and failed reports submitted; follow up with facilities who have missing reports
    - By 2024: Resume and enhance outreach and ongoing education for facilities - focusing on screening best practices and statewide reporting requirements
    - By 2024: Evaluation of data - false positives and false negatives

3. Partner with the Children with Special Healthcare Needs Program to facilitate referrals to local services
    - By 2024: Explore the opportunity to facilitate referrals of babies born with birth defects to the HRPP program
    - By 2024: Establish a collaboration between the state Family-to-Family Health Information Center (F2F) or Family Voices Affiliate Organization (FVAO) to support provider training and assist parents that receive news of a birth defect or congenital anomaly – during pregnancy, after birth, during the infant years or later.
    - By 2024: Conduct continuous quality improvement to ensure sustainability and efficiency

4. Expand and promote Power Me A2Z
    - By 2024: Provide Power Me A2Z materials to home visitors and community health workers
    - By 2024: Include information packets in PRAMS reward cards
    - By 2024: Implement a focused social media campaign to increase program uptake in underserved areas in the state
    - By 2024: Distribute materials in local community events, FQHCs, child care settings, WIC sites, and such

5. Increase knowledge about primary and secondary birth defects prevention
    - By 2025: Work with community providers for different birth defects to develop specific materials
    - By 2025: Develop educational materials for genetic counselors
    - By 2025: Develop promotional materials to share with expecting families to increase awareness of primary and secondary birth defects prevention

6. Increase access and utility of genetic counseling services
    - By 2026: Link medically underserved populations to genetic counseling services
    - By 2026: Implement quality improvement activities to improve and increase genetic services; work with community providers, including March of Dimes to ensure accurate information is being disseminated to families
    - By 2026: Implement quality improvement activities to improve and increase genetic services; work with community providers to ensure accurate information is being disseminated

PARTNER AGENCIES/ORGANIZATIONS:

- ADHS Breastfeeding Program
- Arizona Birth Defects Monitoring Program (ABDMP)
- Arizona Supplemental Nutrition Program for Women, Infants and Children (WIC)
- Children and Youth with Special Healthcare Needs (CYSHN)
- Office of Newborn Screening (ONBS)
- Preconception Care Alliance

METRICS:

- Number of infants confirmed to have one or more reportable birth defects.
- Percent of live births with a birth defect
- Percent of stillbirths with a birth defect

GOAL 3: STRENGTHEN SYSTEMS OF CARE FOR MOTHERS AND INFANTS

RECOMMENDATION: Increase collaboration between our health, insurance, and public health system with the purpose of enhancing access to maternal and child health programs.

BACKGROUND & GAP: The fragmented nature of our health, insurance, and public health systems has resulted in a patchwork of programs that are individually and collectively critical to maternal and child health. As a result, changes in one area may have unanticipated consequences for other areas. When that happens, women and children can find themselves unable to obtain needed care, increasing the risk of poor health outcomes and complications. The current state of maternal and child health in the U.S. today calls for synergy and collaboration throughout the system of care to ensure optimal health and wellbeing for Arizona moms and babies. In 2020, about 1 in 10 infants (9.6% of live births) was born to a woman receiving late or no prenatal care in Arizona and about 1 in 5 infants (20.6% of live births) was born to a woman receiving inadequate prenatal care. The risk of having a very low birth weight baby is 4 to 5 times greater for women with no prenatal care compared to women with prenatal care.[37] Each year in Arizona, approximately 70 women die within 365 days of pregnancy, of which 15-20 deaths are pregnancy-related cases (i.e., would not have died if she had not been pregnant).[38] Increasing access to postpartum care would serve to improve maternal outcomes. In Arizona, 1 in 7 women report not having a postpartum checkup after delivery. Most common reasons given by women for not having a checkup were: “I felt fine and did not need a visit”, “had too many things going on”, and “couldn’t get an appointment when I wanted one”. Conversely, 98% of mothers report being able to take their baby to care as many times as they wanted when their baby was sick.[21] Additionally, approximately 900 women experience a severe maternal morbidity (SMM) during labor and delivery in an Arizona hospital every year (i.e., a severe and unexpected complication).[38] It is also important to note that emerging evidence indicates that a woman who experiences severe maternal morbidity has an increased risk of cardiovascular disease in the short and long term after pregnancy.[39]

The disparities in maternal and birth outcomes by rurality are not surprising, as many women living in rural areas must travel significant distances to obtain prenatal care and to deliver their babies. According to a 2020 Arizona OB/GYN and Certified Nurse Midwife Workforce Report published by the University of Arizona Center for Rural Health, the ratio of OB/GYN to 10,000 female population is 2.1 in urban areas, 1.5 in large rural cities/towns, 1.1 in small rural towns, and 0 in isolated small rural towns.[40] In fact, two counties in Arizona are designated as maternity care deserts (offering no maternity care) and four additional rural counties have limited access to maternal care.[41,42]

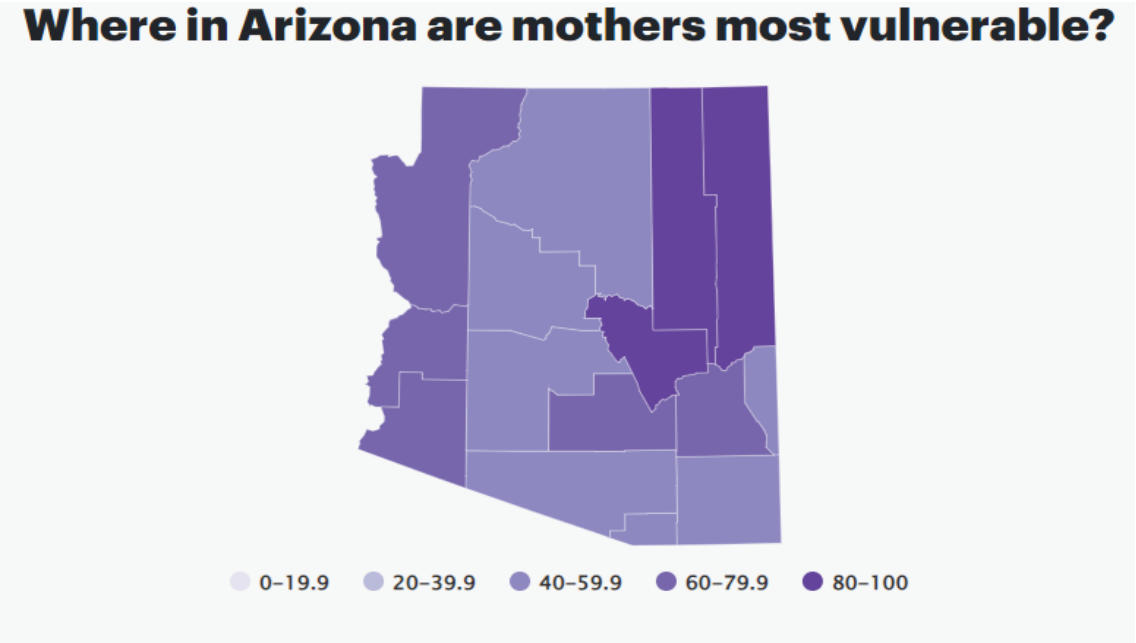


Figure 4: 2022 March of Dimes Report Card for Arizona.
https://www.marchofdimes.org/peristats/reports/arizona/report-card

Another concerning trend is that well-child visits for Arizona infants (ages 0-15 months) have declined since March 2020.[43] Almost 18% of children under five in Arizona did not see a doctor, nurse, or healthcare provider for sick-child care, well-child checkups, physical exams, hospitalizations, or other medical care.[43]

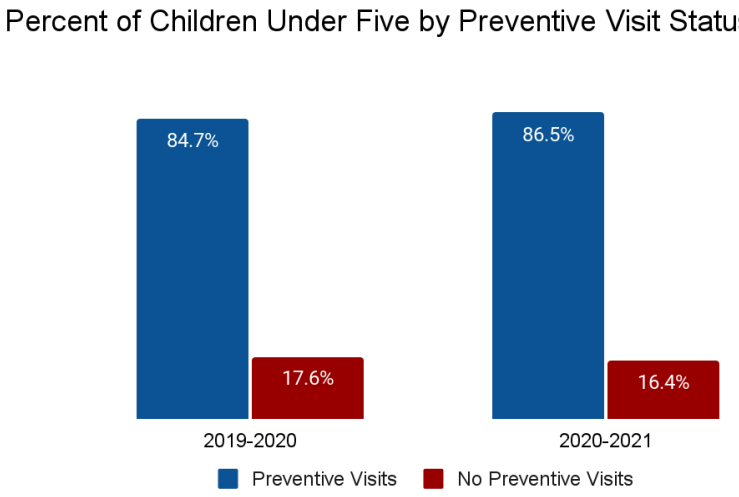


Figure 5: Data Resource Center for Child and Adolescent Health.
https://www.childhealthdata.org/browse/survey/results?q=9373&r=4

GOAL 3: STRENGTHEN SYSTEMS OF CARE

According to the American Academy of Pediatrics, well-child visits can improve children's health, support caregivers' behaviors to promote their children's health, and prevent injury and harm. Mothers that attend their baby's well child visit are more likely to breastfeed and use safe sleep practices. In addition, during a well-child visit, providers perform maternal mental health screenings and assess social needs. These are all protective factors that increase the overall well-being of both mom and baby.[44]

Equally important, continuity of care and lack of provider communication has been identified as a concern. This included care providers without access to a woman's complete medical records or who did not communicate a woman's health status sufficiently, a lack of continuity between prenatal, labor and delivery, and postpartum providers, and other fragmented care among or between healthcare facilities or units that was uncoordinated or not comprehensive[37] Of great significance is the reality that Black women and other women of color often receive a poor quality of care and are victims of racial bias in traditional health care settings. A 2022 study found that Black women continue to face racially insensitive medical care, unfair treatment based on health insurance, and dismissed pain concerns.[45] The racial disparities that continue to persist indicate that the time for action is now by creating effective provider training that addresses bias, stereotyping, and prejudice.

Equitable, culturally sensitive and high-quality care for moms and babies in conjunction with community-based interventions will help reduce the rate of fetal and infant deaths in Arizona.

ACTION PLAN:

1. Enhance the regionalized perinatal system through coordination with the state funded High Risk Perinatal 24/7 Consult Line and the Arizona Perinatal Trust (APT)
    - By 2024: Assess hospital systems' internal algorithm to support the transport of high risk mothers and newborns presenting at the systems' affiliated hospitals without OB services
    - By 2024: Educate non-birthing hospitals on the state funded High Risk Perinatal 24/7 Consult Line
    - By 2024: Continue to partner with the APT to recertify hospitals with the most recent perinatal levels of care

2. Educate families on insurance options available for mothers and infants to increase levels of health insurance coverage and improve health outcomes
    - By 2024: Identify hospitals' processes for assisting families in applying for insurance options
    - By 2024: Establish a partnership with AHCCCS aimed at improving the education surrounding insurance options available to mothers and infants
    - By 2024: Develop an informational guide for providers to utilize when introducing insurance options to families, including options for families that are denied AHCCCS

GOAL 3: STRENGTHEN SYSTEMS OF CARE

3. Explore opportunities to establish a perinatal nurse navigator program
    - By 2025: Identify current or similar practices in the state
    - By 2025: Evaluate feasibility of adapting a model for Arizona
    - By 2025: Identify funding to support model adaptation and implementation

4. Reduce late entry into prenatal care
    - By 2025: Explore presumptive Medicaid eligibility for pregnant women or a similar expedited process to cover early prenatal care services before confirmation
    - By 2025: Expand the prenatal telemedicine program
    - By 2025: Increase promotion of the state loan repayment program for prenatal care providers in rural and high need primary care health professional shortage areas
    - By 2025: Work with insurance plans/payers to expand coverage to high need primary care areas, and for additional prenatal care services
    - By 2025: Establish a prenatal health care in group setting program in areas of limited access to maternal care

5. Support and initiate collaborative quality improvement efforts in areas that affect prenatal and infant care in the hospital setting
    - By 2026: Partner with the AIM Steering Committee to explore opportunities to conduct the NICHQ Equity Systems Auditing Tool
    - By 2026: Enhance coordination and communication with the Arizona Perinatal Trust
    - By 2026: Consult with NICHQ on quality improvement initiatives for Arizona

6. Implement the Engaging Families & Young Adults Program to assure families and youth are key partners in health care decision-making at all levels in the system of services, especially those who are vulnerable and medically underserved
    - By 2024: Develop a request for grant application to solicit a statewide contractor
    - By 2024: Develop the Title V MCH Family Advisor SOW to include training deliverables

7. Consult with Title V MCH Family Advisor to provide technical assistance to BWCH and training for family and youth advisors
    - By 2024: Establish practices that build Family and Youth Engagement at system and local levels
    - By 2024: Train and integrate family advisors in offices within the Bureau of Women and Children's Health

8. Support the implementation of "Birthing-Friendly" hospital designations
    - By 2025: Convene stakeholders to establish a statewide working group to explore opportunities for implementation in Arizona

GOAL 3: STRENGTHEN SYSTEMS OF CARE

9. Expand birth options
    - By 2027: Partner with Medicaid to provide market-value reimbursement rates for nurse-midwives, doulas, and other alternative health care providers
    - By 2027: Conduct assessment of home births to identify options to include midwives in home births
    - By 2027: Support the expansion for perinatal certification of freestanding birth centers (increase)
    - By 2027: Partner with Medicaid to cover facility fees of licensed birth centers and professional fees of licensed (Nurse) midwives

10. Promote models that support fathers in their role in the family
    - By 2025: Identify evidence-based practice
    - By 2025: Conduct environmental scan of home-grown initiatives
    - By 2025: Pilot models in areas of high need

11. Support initiatives of Primary Care Office that aim to strengthen systems of care in rural areas and underserved areas across Arizona
    - By 2024: Implement workforce programs aimed to increase health care providers in Arizona, including the Nurse Education Investment Pilot Program, Accelerated Nursing Program, and Preceptor Grant Program. These programs work to increase the capacity of nursing education programs in this state, increase the number of qualified nursing education faculty members, provide more preceptorships for the training and development of graduate students to become new allopathic or osteopathic physicians, advanced practice registered nurses, physician assistants or dentists to address the healthcare workforce shortages.
    - By 2024: Increase outreach to Ob/Gyn providers to learn about and join the Arizona State Loan Repayment Program, NHSC, Nurse Corps, and other PCO workforce initiates
    - By 2024: Continue to collect and evaluate data for the Maternity Care Target Areas (MCTAs) as per HRSA. Maternity Care Health Professional Target Areas (MCTAs) are areas within an existing Primary Care Health Professional Shortage Areas (HPSA) that are experiencing a shortage of maternity health care professionals.

12. Increase the use and quality of well-child visits
    - By 2025: Partner with KidsCare to pilot a project that will incentivize providers to expand their hours of operations
    - By 2025: Conduct a utility assessment of KidsCare
    - By 2025: Partner with the AzAAP/UA COM to implement a mobile clinic in areas of greatest need
    - By 2025: Initiate the process for Arizona to implement Bright Futures national health promotion and prevention initiative

GOAL 3: STRENGTHEN SYSTEMS OF CARE

PARTNER AGENCIES/ORGANIZATIONS:

- AZ Chapter of the Academy of Pediatrics (AzAAP/UA COM)
- Arizona Perinatal Trust (AIM)
- Arizona Health Care Cost Containment System (AHCCCS)
- Alliance for Innovation on Maternal Health (AIM)
- Bright Futures
- High Risk Perinatal Program
- KidsCare
- National Institute for Children's Health Quality (NICHQ)

METRICS:

- Percent of children under that have a preventive care visit
- Number of Arizona counties designated as a maternity care desert
- Percent of live births with late entry into prenatal care

GOAL 4: DIVERSIFY AND STRENGTHEN WORKFORCE

RECOMMENDATION: Improve the diversity and availability of midwife care, substance use disorder (SUD) resources, maternal and infant mental health, and equity-centered professionals. Also, increase clinical and non-clinical training opportunities for underrepresented populations statewide.

BACKGROUND & GAP: The positive outcomes for women who receive midwife care is well documented. Women who receive midwife-led care are less likely to experience an intervention, are more likely to have a spontaneous vaginal birth, and are more likely to be satisfied with their care. In addition, women who received midwife-led care were less likely to experience preterm birth, fetal loss before and after 24 weeks, and neonatal death.[46] Even though there is ample supporting evidence indicating that midwife care leads to improved birth outcomes, on average only 10% of births in Arizona are delivered by certified nurse midwives (CNM) with increases each year in the past 10 years. Communities of color have a lower percentage of CNM attendants with the exception of Asian/Pacific Islander communities. A greater percentage of all births are attended by a physician.[47] In addition, doula care has been proven to improve birth outcomes and reduce racial disparities. Doulas are non-clinical health care personnel who provide physical, emotional, and informational support not only during labor and delivery, but also to expectant and postpartum mothers. A 2022 study published in The Lancet determined that doula care in conjunction with a clinical team that included a midwife improved outcomes for marginalized minority populations. Community-based doulas are particularly well suited to improve racial disparities in health outcomes by ensuring that pregnant people who face the greatest risk of discrimination and mistreatment in the medical system receive the additional support they require. Women who received doula care had 52.9% lower odds of cesarean delivery and 57.5% lower odds of postpartum depression/postpartum anxiety.[48] Increasing the amount of CNMs and doulas in Arizona requires funding and is vital to expanding midwife and doula care that will bring critically needed maternal healthcare to areas of our state that need it the most.

A 2021 study done by Mayo Clinic's Alix School of Medicine in Scottsdale, Arizona compared trends in racial and gender diversity in OB/GYN residency and fellowship programs across the US from beginning of program accreditation in 2012 to 2018. The study discovered that during this time period residents overall were 42.96% white and OB GYN residents overall were 54.20% white. Gynecology Oncology had the highest percentage of white trainees (73.45%), followed by Maternal Fetal Medicine (67.8%), Reproductive Endocrinology and Infertility (65.62%), then Female Pelvic Medicine and Reconstructive Surgery (60%). Native American/Alaskan Native, Black, and Hispanic residents represented 7% or less of the overall resident population in the study with Native American/Alaskan Native having the smallest representation around 0.7% or less.[49]

Compounding the lack of diversity in the OB/GYN workforce is the issue of provider shortages in relation to demand. A HRSA OB/GYN workforce analysis for Arizona predicts an increase in demand of 10% or more for OB/GYN services by 2025.[50] This regional demand is attributed to existing geographic maldistribution of Arizona OB/GYN physicians and population growth. As of 2020 there are 695 OB/GYN's in Arizona which represents 4% of the physician workforce. In addition, as of 2020 there are 203 Certified Nurse Midwives for the entire state.[50] New workforce programs through the Arizona Primary Care Office have been created to incentivize and encourage people to enter healthcare.

GOAL 4: DIVERSIFY AND STRENGTHEN WORKFORCE

The Accelerated Nursing Program has the goal of addressing nursing shortages and offers scholarships to students enrolled in an Arizona university or community college with an accelerated nursing program who commit to practicing in Arizona for 4 years after graduation.[50] Another program aimed at addressing the primary care provider shortages in Arizona is the J-1 Visa Waiver Program which allows foreign physicians to practice in medically underserved areas for 3 years without returning to their home residence.[51]

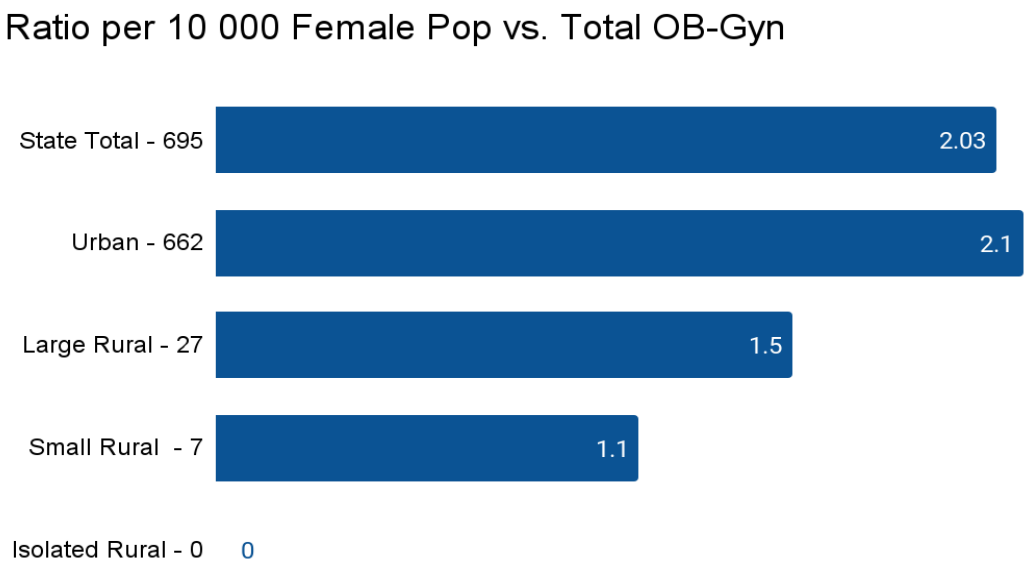


Figure 6: The University of Arizona Mel & Enid Zuckerman College of Public Health. Arizona Workforce Report: Obstetrician - Gynecologist Physicians and Certified Nurse Midwives. https://crh.arizona.edu/sites/default/files/2022-04/20200220_AZ_MH_Workforce_Report_Full_0.pdf

As a subspecialty, OB/GYN is lacking diversity which has been proven to have negative impacts on patient care.[49] A study completed by Mayo Clinic Alix School of Medicine in Scottsdale, Arizona compared trends in racial and gender diversity in Obstetrics and Gynecology (OBGYN) residency and fellowship programs from beginning of program accreditation in 2012 to 2018. The study found that OB GYN fellowships combined had more men proportionately than OB GYN residencies. The study also uncovered that most residents overall were 42.96% White, Non-Hispanic. OBGYN residents overall were 54.20% White, Non-Hispanic. GYNONC had the highest percentage of white trainees (73.45%), followed by MFM (67.8%), REI (65.62%), then FPMRS (60%).[49] Increasing the diversity of the physician workforce to reflect the population served in Arizona would improve and promote equitable care for moms and babies.

GOAL 4: DIVERSIFY AND STRENGTHEN WORKFORCE

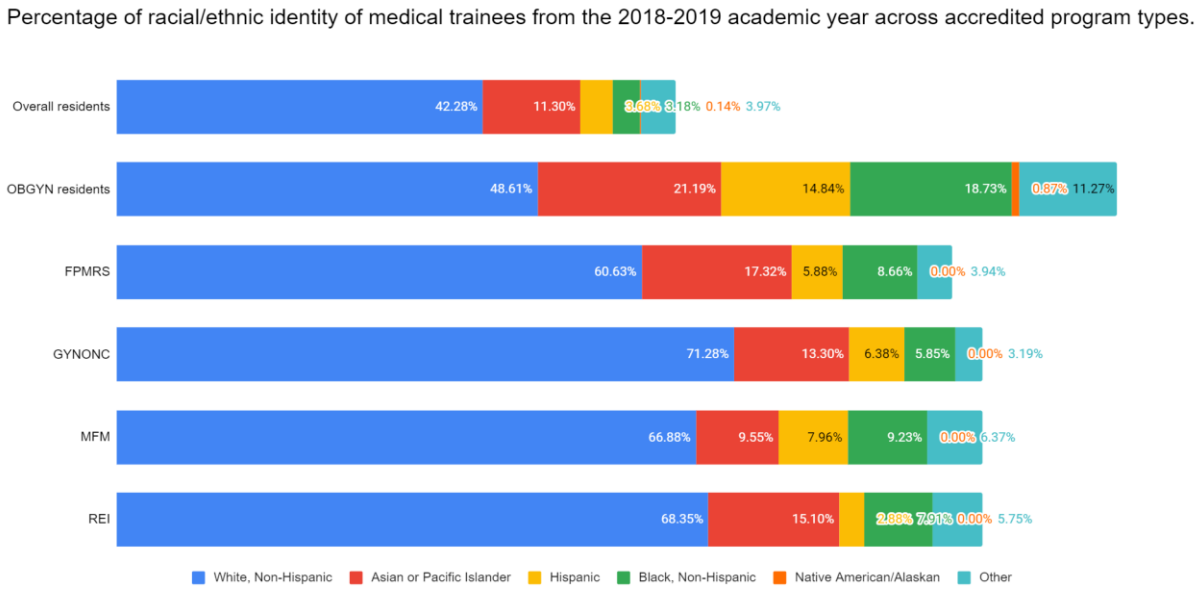


Figure 7. Mayo Clinic Alix School of Medicine, Scottsdale, Arizona; and Department of Medical and Surgical Gynecology, Mayo Clinic, Phoenix, Arizona. Technical note: Trainees could identify as more than once racial or ethnic identity, which explains why the proportions do not equal 100%. OBGYN, Obstetrics and Gynecology; FPMRS, Female Pelvic Medicine and Reconstructive Surgery; GYN ONC, Gynecologic Oncology; MFM, Maternal Fetal Medicine; REI, Reproductive Endocrinology and Infertility; PI, Pacific Islander; NA, Native American.
https://drive.google.com/file/d/1EiqWcbb2_89uHX7iB4fG-Z5ddBwUl8a6/view

Among all Pregnancy-Associated deaths in Arizona between 2016 and 2018, substance use disorder and/or mental health conditions accounted for 48.0% of all cases. This amounts to approximately 98 deaths. Among these deaths White and American Indian/Alaskan Native birthing persons experience the greatest disparity when compared to their percentage of live births (61.6% vs. 43.5% for White; 11.1% vs. 5.9% for American Indian/Alaska Native).[38]

In 2021, 3 out of every 10 substance use related child deaths were infants; approximately 52 infants a year.[11] Black and American Indian/Alaska Native children made up 21% and 9% of all substance use related child deaths (0-17 years), respectively, but only comprised 6% and 5% of the total child population.[11] Notably, maternal mental health conditions have been linked to a moderate increase in stillbirth and infant death.[52] Efforts to reduce the incidence of maternal mental health conditions in Arizona will have a positive impact on improving infant outcomes. Ultimately, raising awareness and expanding equitable access to community-based organizations will serve to provide birthing people in Arizona with much needed mental health resources.

GOAL 4: DIVERSIFY AND STRENGTHEN WORKFORCE

ACTION PLAN:

1. Improve access to midwifery care services
    - By 2026: identify funding to support the educational process required for CNM/CPM licensure to increase the number of midwives in AZ that serve areas of limited maternal care
    - By 2026: Assess gaps to improving access and utility of midwifery care services in the state

2. Improve access to maternal mental health/SUD and child/infant mental health services
    - By 2024: Enhance the Strong Families online training portal for Home visitors and family support professionals to promote the workforce
    - By 2024: Coordinate Infant & Toddler Mental Health Training in partnership with the ITMH Coalition with Arizona
    - By 2024: Launch a maternal and infant mental health social awareness campaign and continue to support the SUD stigma reduction campaign
    - By 2024: Increase the number of trained and skilled behavioral providers who are able to diagnose and treat mental health and substance use conditions in mental HPSAs
    - By 2024: Partner with Medicaid to set up a local hotline that is staffed by physicians trained in perinatal psychiatry to provide consultation to OB providers
    - By 2024: Connect with Substance Exposed Newborn Taskforce to implement a statewide approach to the treatment of pregnant and postpartum women with substance use disorder
    - By 2024: Create optimal opportunity for engagement in effective interventions and services for all women of reproductive age in Arizona
    - By 2024: Explore the opportunity to establish a maternal and infant mental health consultant to serve as a subject matter expert and provide technical assistance to providers (clinical and non-clinical)

3. Support innovative community-based models that promote equity-centered initiatives
    - By 2026: Collaborate with South Phoenix Healthy Start
    - By 2026: Collaborate with tribal organizations and governments
    - By 2026: Identify funding streams to support an RFGA that will promote and execute unique innovations in maternal or fetal/infant health service delivery, such as improving access to services, identifying and addressing workforce needs, and/or supporting prenatal or postpartum care

4. Increase training opportunities for underrepresented populations
    - By 2026: Promote and expand family health from an indigenous perspective training series

GOAL 4: DIVERSIFY AND STRENGTHEN WORKFORCE

5. Provide statewide training opportunities for clinical and non-clinical professionals
    - By 2024: Promote the Strong Families AZ Statewide and Tribal Home Visiting Conference
    - By 2024: Conduct an annual Maternal and Infant Mortality Summit with community participation
    - By 2024: Promote the High Risk Perinatal Program Annual Conference
    - By 2024: Support completing Newborn, Individualized Developmental Care and Assessment Program by APT Level 2 facilities
    - By 2024: Enhance the Strong Families AZ Home Visitor Training Portal based on 'The Essentials of Home Visiting Training
    - By 2024: Identify funding to support completion of Postpartum Support International certificate programs by clinical and non-clinical providers

6. Establish a training and certification program for doulas
    - By 2024: Establish the voluntary licensing program for doulas within the Arizona Department of Health Services
    - By 2024: Establish a statewide workgroup to assess the capacity of ancillary support/doulas in Arizona
    - By 2024: Develop a plan to increase the capacity of ancillary support/doulas in Arizona
    - By 2024: Establish a workgroup for plan implementation statewide

7. Diversify and strengthen the workforce by supporting SLRP, J-1, NIW, NHSC programs administered by Arizona's Primary Care Office
    - By 2024: Promote the Arizona SLRP, NHSC and Behavioral Health Loan Repayment Programs
    - By 2024: Identify key partner organizations to provide outreach and promotion for PCO programs for diverse populations
    - By 2024: Promote the accelerated nursing and preceptor programs to diverse groups and sites in underserved areas
    - By 2024: Collect and evaluate PCO program participation by demographic characteristics

PARTNER AGENCIES/ORGANIZATIONS:

- Medicaid
- Postpartum Support International
- South Phoenix Healthy Start
- Strong Families AZ
- The Arizona Statewide Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs
- The Infant Toddler Mental Health Coalition of Arizona (ITMH)
- Tribal Organizations & Government

METRICS:

- Percent of live births attended by a Certified Nurse Midwife
- Number of voluntarily licensed doulas as prescribed by Arizona Revised Statute

GOAL 5: IMPROVE SURVEILLANCE OF FETAL-INFANT MORBIDITIES AND DEATHS

RECOMMENDATION: Strengthen current fetal-infant morbidity and mortality surveillance especially establishing Arizona as a Fetal and Infant Mortality Review (FIMR) state.

BACKGROUND & GAP: According to the National Center for Fatality Review and Prevention, there are 28 states in the U.S. that have a community based Fetal and Infant Mortality Review (FIMR), however Arizona does not have a FIMR.[53] Fetal and infant mortality review plays a key role in assessing the contributing factors that cause fetal and infant death while also providing essential information that leads to intervention strategies. In addition, there is no established surveillance program for Neonatal Abstinence Syndrome (NAS) which is a much needed resource in Arizona as there has been a 41% increase in NAS cases since 2017. Currently, there are 8.9 NAS cases per 1000 newborn hospitalizations in Arizona.[54]

It is also important to note that the Child Fatality Review Program (CFR) which reviews all child deaths from birth to 17 years, has limited and temporary resources despite annual increases in the number of child deaths. Obtaining sustainable funding for the CFR will serve to protect future generations and save Arizona lives. Furthermore, sustainable support for other surveillance systems such as the Arizona Pregnancy Risk Assessment Monitoring System (AZ PRAMS) are necessary to further improve our understanding of maternal behavior patterns, risks, and challenges families encounter during the perinatal period.

ACTION PLAN:

1. Expand/enhance surveillance of stillbirths through a Fetal Infant Mortality Review approach
    - By 2024: Assess resources, legal implications, financial opportunities, and community readiness
    - By 2024: Establish a process to identify cases
    - By 2024: Secure funding opportunities and a staffing structure
    - By 2024: Build community support and collaboration
    - By 2024: Develop a policy and procedure manual
    - By 2024: Establish a statewide or regional teams
    - By 2024: Provide technical assistance and support to state or regional teams
    - By 2024: Publish a report on FIMR findings

2. Enhance NAS data collection and surveillance
    - By 2024: Improve surveillance by expanding classification of NAS cases (including probably and suspected cases) through active surveillance
    - By 2024: Achieve consensus through a data element submission tool process to inform standards around NAS data elements and case definitions
    - By 2024: Create reporting guidance document for facility reporters
    - By 2024: Understand the landscape of NAS surveillance capacity
    - By 2024: Improve data sharing between public health and Medicaid
    - By 2024: Expand Medicaid's capacity to use NAS data

3. Secure a sustainable solution to funding the CFRP
    - By 2026: Identify total program costs and funding sources
    - By 2026: Submit proposals and requests to increase state allocations to the CFRP (child fatality fund)
    - By 2026: Leverage existing funding sources to support the CFRP long term (past 3-year commitments)

4. Strengthen the AZ PRAMS Project
    - By 2024: Identify total program costs and funding sources
    - By 2024: Submit proposals and requests to increase state allocations to the CFRP (child fatality fund)
    - By 2024: Leverage existing funding sources to support the CFRP long term (past 3-year commitments
    - By 2024: Complete an effort analysis to determine the effort of implementation for systems and infrastructure to strengthen AZ PRAMS and the CFRP

PARTNER AGENCIES/ORGANIZATIONS:

- Centers for Disease Control & Prevention (CDC)
- National Child Fatality Review Fund (CFRP)

FUNDING & SOURCE: $350,000.00

METRICS:

- Number of initiatives completed
- Number of dissemination activities to stakeholders and community partners on fetal-infant morbidities and mortalities

GOAL 6*:* PROMOTE OPTIMAL FETAL-INFANT HEALTH

RECOMMENDATION: Expand and increase access to home visiting for all eligible families in Arizona. Also increase awareness on benefits of breastfeeding through WIC, launch the Count the Kicks campaign in Arizona, and improve COVID-19 vaccine confidence in pregnant women.

BACKGROUND & GAP: Promoting optimal fetal-infant health in Arizona requires a collaborative, innovative, and multi-faceted approach that is outlined below:

Home Visiting: Home visiting is an evidence based strategy that has documented results for improving infant outcomes with a significant impact on reducing the risk of low birth weight births.[55] Despite these benefits, home visiting is currently not available to all eligible families in Arizona. In 2019, there were 81,056 births in Arizona. Of those births, there were 51,772 births, or 63.87% of births that were eligible for home visiting services.[53] Per the 2020 Arizona Home Visiting Needs Assessment, there were 2,190 families who received home visiting, or only 4.23% of eligible families and 4.97% of families in need of home visiting services.[56] The population served by home visiting in Arizona is diverse with 13% being Native American, 8% being Black, and 8% being multiracial.[57] Home visiting programs like Zero to Three can provide tailored programming that is culturally competent, responsive, and language appropriate. Reducing the language and cultural barriers ensures that parents receive the support and resources needed to promote their child's healthy development.[58] Increasing the home visiting workforce, raising awareness of home visiting services, and expanding home visiting outreach to underserved areas of Arizona will increase family participation while promoting optimal fetal-infant health.

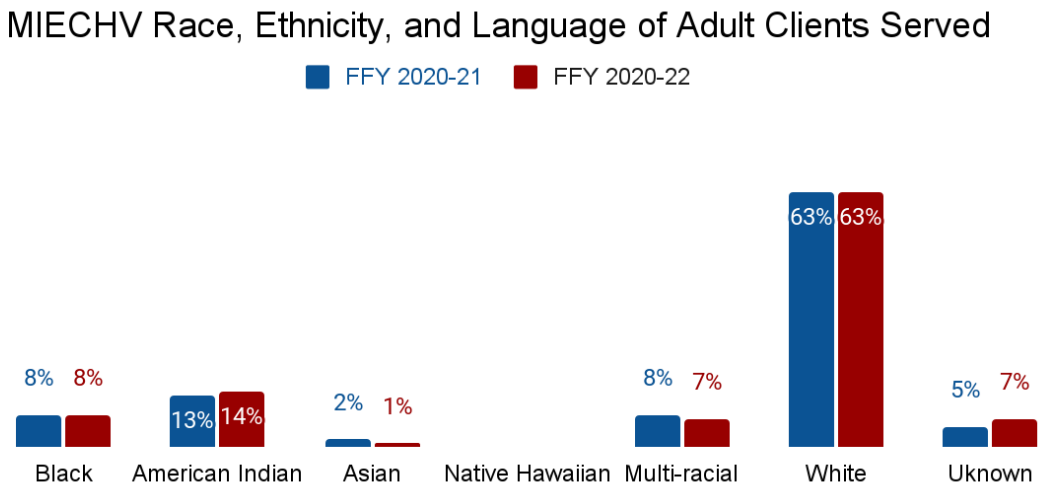


Figure 8. Arizona Needs Assessment: Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program. https://www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/title-v/2020-miechv-needs-assessment.pdf

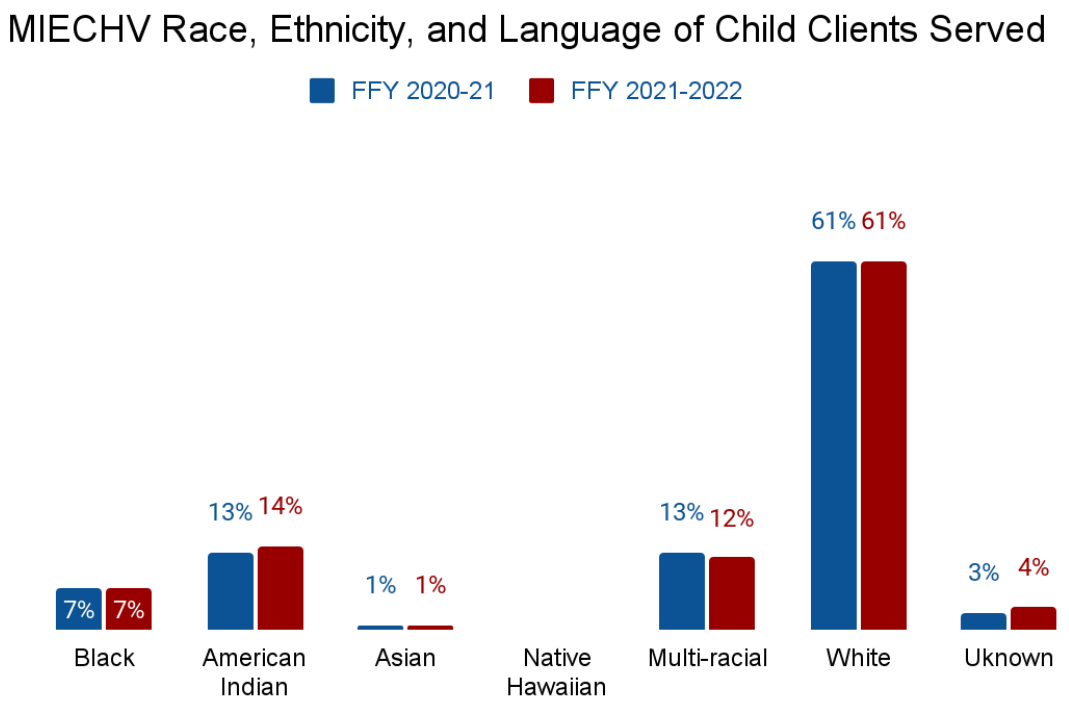


Figure 9. Arizona Needs Assessment: Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program. https://www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/title-v/2020-miechv-needs-assessment.pdf

Sudden Unexpected Infant Death (SUID) Awareness: In Arizona, SUID is the third leading cause of deaths for infants.[11] Most commonly identified risk factors leading to SUID were unsafe sleep environment (100%), objects in sleep environment (92%), unsafe sleep location (85%), and poverty (64%). Evidence shows that 99% of SUID cases are preventable which indicates a need for more comprehensive parent education, provider training and community outreach.[11] Everyone that cares for a baby should be learning about safe infant sleep. According to the Arizona Pregnancy Risk Assessment Monitoring System 74% of infants sleep alone in their bed and 80% sleep on their back.[21]

Breastfeeding Education: Evidence shows that only 1 out of every 4 infants receive breast milk exclusively through 6 months. In Arizona, 85.6% of infants are ever breastfeed and 58.3% are exclusively breastfed at 6 months.[59] Racial disparities persist for Arizona infants in initiating breastfeeding as 91.1% of White infants are ever breastfed but only 80.7% of NH/OPI infants and 84.5% of Black infants are ever breastfed. Implementing breastfeeding programs in Arizona that target high risk populations might help increase initiation, reduce disparities, and improve infant nutrition.[60] Breastfeeding has been associated with a lower risk of SUID and an overall better chance of survival during a baby's first year of life. There are also economic and environmental benefits to communities.[61] Enhancing breastfeeding awareness and resources will provide Arizona mothers with the needed support to ensure their baby has a better chance of an optimal outcome.

Stillbirth Awareness: There are around 500 spontaneous fetal losses reported each year in Arizona with a significant increase in 2021 to 701 fetal deaths.[6,7] There is still not much public awareness around stillbirth which is a tragedy that impacts over 21,000 families in our country every year.[5] According to Count the Kicks Arizona profile, Arizona loses an average of 472 babies a year due to stillbirth and with implementation of their stillbirth prevention campaign, 151 babies could be saved every year.[62] In Iowa where Count the Kicks was launched in 2008 there has been an overall reduction of stillbirth by 32% with a 39% reduction in Black mothers.[15] A 2023 study published in BJOG: An International Journal of Obstetrics and Gynecology, determined through an analysis of time series data that the stillbirth rate in Iowa went down 1% every three months for a decade (2008-2018) while stillbirth rates in neighboring Illinois, Minnesota, and Missouri, remained relatively stagnant during that time frame. The research also shows that the stillbirth rate in Iowa went down sharply despite confounding factors like obesity, maternal age, high blood pressure, and diabetes all increasing during the same timeframe.[63] Expanding and strengthening Count the Kicks outreach through the partnership with ADHS will lead to more Arizona babies being saved.

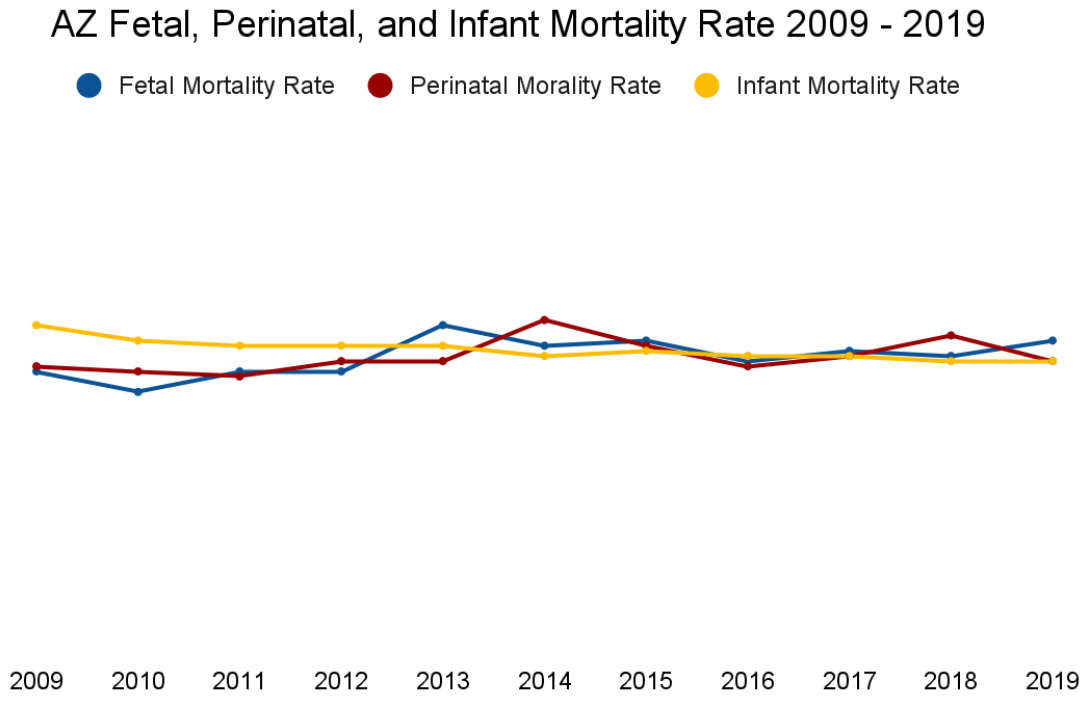


Figure 10. Arizona Department of Health Services Arizona Health Status and Vital Statistics 2009-2019 Table 1C-4 and Table 2C-1. https://pub.azdhs.gov/health-stats/report/ahs/ahs2019/pdf/1c4.pdf and https://pub.azdhs.gov/health-stats/report/ahs/ahs2020/pdf/text_infants.pdf

GOAL 6: PROMOTE OPTIMAL FETAL-INFANT HEALTH

Neonatal Abstinence Syndrome Resources: Unfortunately, the incidence of NAS among Arizona newborns has increased. Arizona observed a 41% increase of NAS cases from 592 (2017) to 835 (2021).[54] In 2021, the two race/ethnicity groups with the highest case rates were American Indian/Alaska Native and Black/African American persons. This differs from trends during 2017-2020; NAS case rates were highest among American Indian/Alaska Native and/or White, non-Hispanic persons.[54] A coordinated approach with The Arizona Statewide Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs is needed to promote awareness, prevention, and intervention to improve outcomes for Arizona families.

COVID-19 & Pregnancy: Pregnant women are at increased risk for severe illness and death from COVID-19 compared with nonpregnant women of reproductive age, and are at risk for adverse pregnancy outcomes, such as preterm birth and stillbirth.[64] Evidence shows COVID-19 vaccination in pregnancy is not associated with any adverse risk to a mother and is associated with lower risks of neonatal intensive care unit admission, intrauterine fetal death, and maternal SARS-CoV-2 infection.[65] The Arizona Pregnancy Risk Assessment Monitoring System identified significant challenges that pregnant women were facing during the pandemic such as being in public where people did not practicing social distancing (65%), living with someone that had a job requiring close contact with other people (58%), and having trouble disinfecting their homes (40%).[21]

ACTION PLAN:

1. Continue to implement promising practice and evidence-based home visiting programs statewide
    - By 2024: Leverage existing federal and state funding sources to support MIECHV, Health Start, HRPP home visiting programs
    - By 2024: Continue to support Health Start program to become an evidence-based practice
    - By 2024: Research the MESCH Home Visiting Model as an evidence-based approach to be utilized by HRPP Community Health Nurses
    - By 2024: Identify service gaps and determine models that would fill gaps

2. Increase community awareness on available tax resources (i.e. tax credits such as the Child Care Credit, Child Tax Credit) and other resources established to address poverty and social inequity
    - By 2024: Enhance the Title V Women's and Children's helpline as the Strong Families Helpline that will include statewide coordinated home visiting referrals and connect families to GED, and tax resources
    - By 2024: Identify organizations and partners to fill service gaps
    - By 2024: Establish new scopes or expand existing scopes of work

3. Educate parents on safe sleeping environments and that Alone, on my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age
    - By 2024: Launch Safe Sleep Campaign
    - By 2024: Distribute Safe Sleep Campaign Toolkit to county public health departments and community partners
    - By 2024: Launch Phase II of Safe Sleep Campaign to include priority populations and medical centers

4. Establish or fund a program that helps low-income families afford a crib that can reduce the frequency of bed-sharing. Bed-sharing is associated with a significantly increased risk of SUID
    - By 2025: Identify areas with highest SUID/Unsafe sleep deaths to establish distribution plan

5. Provide training in prenatal care at maternity health centers. Encourage pediatricians and gynecologists to start initial training on safe sleeping practices before a child is born
    - By 2025: Develop a web-based safe sleep module for training/education tailored to providers

6. Partner with WIC Program, Empower, breastfeeding helpline, and Infant at Work to support and policies
    - By 2024: Establish a new or enhance an existing initiative in partnership with the Bureau of Nutrition and Physical Activity (BNPA) aimed at improving nutrition for pregnant people and infants
    - By 2024: Review Breastfeeding Surveillance

7. Support breastfeeding initiatives through training and certification of home visitors and health professionals, technical assistance, policy and procedures, and direct support services
    - By 2024: Increase funding for IBCLC certification and other lactation certification courses to increase the number of lactation consultants in AZ that serve minority populations
    - By 2024: Revive the Baby Friendly Hospital Initiative
    - By 2024: Explore opportunities to partner and support the Arizona Breastfeeding Coalition

8. Launch a Count the Kicks Full Campaign (5 years) in Arizona to build awareness among women in their third trimester of the importance of counting their baby's movements, telling their provider right away if they detect any change and to decrease stillbirths in Arizona
    - By 2024: Create a list of maternal health providers, birthing hospitals, and other community providers to participate in a call, email, and mail campaign
    - By 2024: Distribute low literacy materials in Spanish, Swahili and Dine languages
    - By 2024: Coordinate online CE training for 400 maternal health professionals in AZ
    - By 2024: Carry out Agreement between ADHS and Count the Kicks to completion

9. Establish a coordinated approach to increase awareness and improve outcomes for families impacted by opioid use and substance use during Pregnancy
    - By 2025: Coordinate across agencies to ensure buy-in and the most effective response
    - By 2025: Increase the knowledge base of healthcare providers and behavioral health providers regarding screening, diagnosis and treatment of OUD and substance use in pregnant and postpartum women
    - By 2025: Increase implementation of a family centered approach at all levels of care to screen women and link them to treatment and support services such as home visiting

GOAL 6: PROMOTE OPTIMAL FETAL-INFANT HEALTH

10. Expand partnership between ONBS and HRPP to find infants who have not returned for a second blood spot screen
    - By 2025: Coordinate to identify gaps and barriers
    - By 2025: Provide training to community health nurses
    - By 2025: Explore the opportunity with ADHS funded home visiting programs
    - By 2025: Identify tracking to monitor progress

11. Improve COVID-19 vaccine confidence among pregnant women
    - By 2024: Conduct a literature review on vaccine hesitancy among pregnant women
    - By 2024: Identify community-based partnerships to promote vaccine uptake and reduce hesitancy
    - By 2024: Develop materials for statewide distribution addressing vaccine hesitancy concerns
    - By 2024: Translate materials for non-English speaking communities with low vaccine uptake
    - By 2024: Partner with the Health Emergency Operations Center to monitor COVID-19 vaccine trends in the pregnant population

PARTNER AGENCINES/ORGANIZATIONS:

- Arizona Newborn Screening Program
- Count the Kicks
- Maternal Infant and Early ChildhoodHome Visiting Services
- WIC

METRICS:

- Infant mortality rate per 1,000 live births
- Stillbirth rate per 1,000 live births
- Post neonatal mortality rate per 1,000 live births
- Perinatal mortality rate per 1,000 live births

Arizona Stillbirth and Infant Mortality Plan & Action Plan	
Goal Statements	
1	Reduce prematurity/preterm births
2	Prevent birth defects
3	Strengthen systems of care for mothers and infants
4	Diversify and strengthen the workforce
5	Improve surveillance of fetal-infant morbidities and deaths
6	Promote optimal fetal-infant health

GOAL 1: PREVENT PREMATURITY/PRETERM BIRTHS		
PROPOSED ACTIONS	**INITIATION YEAR**	**MILESTONES**
Partner with the MoD to establish the Healthy Babies are Worth the Wait	2024	Assess the feasibility of becoming an HBWW community program
		Reach out to the MoD to express interest in participating
		Establish a HBWW community program Chapter
		Evaluate progress and outcomes
Increase awareness on the risk factors and signs of premature labor	2024	Create campaign content
		Conduct focus groups for mothers and providers to test campaign content and identify best methods to reach target populations
		Distribute campaign content packages to birthing facilities and partners for distribution via apps and social media platforms
		Publish campaign across social media platforms and other selected mediums
		Evalaute the campaign to update content based on new emerging trends
Increase the number of women, men, and youth who develop a reproductive life plan.	2025	Evaluate the Title V Family Planning program in Arizona
		Expand the Title V Family Planning program to emphasize the importance of a reproductive life plan
		Support access and distribution of long-acting reversible contraceptives for individuals that request it
		Provide technical assistance to establish a mechanism for Title V Family Planning clinics to refer patients to other settings based on reproductive life plan needs
Prevent, detect, and treat maternal STIs	2024	Establish regional disease investigation teams throughout the state to support surveillance and mitigation efforts
		Pilot and evaluate a rapid testing (point of care testing) program in community health centers for syphillus and other STIs
		Expand resources for community health centers and county clinics to provide STI screenings
		Partner with professional medical organizations to emphasize the importance of testing women of child-bearing age, especially those pregnant, for syphilis with routine STD/HIV screens
		Configure the Arizona congenital syphillus campaign to reach at-risk communities (i.e. methadone clinics, tribal health facilities, social service organizations, as such)
		Expand authority for pharmacists to provide expedited partner therapy for pregnant women and their partners
		Establish a statewide transportation and hotel voucher program to encourage pregnant women and their partners completing treatment
		Partner with tribal and community health centers to establish coordination of care between screening to treatment of syphilus in perinatal period
		Partner with the AZ Chapter of the Academy of Pediatrics to expand screening and treatment services during child well visits for mothers
		Develop a model for home visitors (Nurse) to conduct at home screening and treatment services when medically appropriate and refer clients to local county health resources
		Coordinate learning seminars, webinars, and training materials for providers on repeated syphilis screening requirements early during the third trimester and at delivery

Ensure appropriate management of chronic disease in the before, during, and after the perinatal period.	2025	Partner with the Bureau of Chronic Disease and Health Promotion to establish or support chronic disease management (diabetes, hypertension, as such) interventions for all women of reproductive age
		Identify a medical home model to support women with prepregnancy chronic diseases during the perinatal and postpartum periods
		Partner with community health centers to conduct reproductive life planning and contraceptive considerations for women of reproductive age with chronic medical conditions shortly after diagnosis
		Identify models to promote lifestyle changes in women of reproductive age before, during, and after the perinatal period.
		Secure additional funding to increase services for women to understand and reduce their risk for hypertensive disoreders and diabates before pregnancy.
		Provide multiple statewide training opportunities (with CE credits) for birth professionals on chronic disease management
Women at risk for preterm delivery need to be identified and offered access to effective treatments to prevent preterm birth.	2025	Partner with the APT to conduct quality improvement initiatives with providers on identifying women at risk for preterm delivery and treatment strategies
		Provide resources and technical assistance needed to ensure that mothers at risk for preterm delivery should be offered antenatal corticosteroids (ANCS) to improve fetal lung maturity
		Assess gaps and challenges with providing to 17p to high risk individuals in Arizona
		Design an innovate program to increase the uptake of 17p in high risk individuals (i.e. Create a pay-for performance model to encourage AHCCCS managed care plans to increase the percent of eligible women getting 17P, or address supply-chain issues, improve case management of high-risk individuals)
Reducing Non Medically Indicated Elective Inductions of Labor	2025	Establish a stakeholder workgroup to identify policy and program initiatives aimed at reducing non medically indicated elective inductions of labor
		Partner with professional organizations to hold annual training sessions or meetings to provide information to physicians with admitting privileges on induction guidelines, policies, and procedures
		Publish a report of non medically indicated elective inductions of labor
		Partner with hospitals in establishing strict elective delivery policies, scheduling guidelines, and protocols for approving exceptions to non-medically necessary deliveries before 39 weeks gestations.
		Continue to encourage payment models promoting reductions in primary and secondary cesarean sections.
		Increase access to childbirth prepration classes for families to learn about the risks and benefits of elective induction of labor.
Improve oral health status for pregnant women	2024	Establish oral health Medicaid coverage for pregnant women regardless of age
		Partner with CHWs, CHRs, and other professionals to educate pregnant women to reinforce routine oral health maintenance and address myths and fears
		Partner with medical and nursing professional organizations to promote dental care and good oral hygiene during pregnancy.
		Explore opportunities for regional charitable dental care events specific for pregnant women, children, and children with special health care needs.
		Promote the Protect Tiny Teeth toolkit across the state to promote conversations and improve awareness that oral health should be part of prenatal care.

Prevent unintended pregnancies and achieving optimal birth spacing	2026	Conduct an assessment of unintended pregnancies using the PRAMS data
		Strengthen the Title V family planning sites and enhance partnerships with Arizona's Title X Program to provide a full range of contraceptive methods throughout the state
		Evaluate and strengthen the teen pregnancy prevention program
		Address barriers in provider and patient knowledge, availability, and costs to ensure the most efficacious contraception method is accessible, including long-acting reversible contraception
Expand the use of the Arizona Smoker's Helpline (ASHLine)	2024	Partner with the BCDHP's Tobacco Free Arizona Program to identify areas for partnership to reduce the percentage of women of reproductive age who use tobacco
		Collaborate with the ASHLine to develop promotional materials focused on prematurity and stillbirth prevention
		Establish a stronger mechanism for providers and home visitors to refer clients to the ASHLine

GOAL 2: PREVENT BIRTH DEFECTS		
PROPOSED ACTIONS	**INITIATION YEAR**	**MILESTONES**
Increase providers and educators who emphasize pre and interconception care	2024	Work with WIC and the Breastfeeding program to identify leverage points for partnerships
		Built partnerships with medical and nursing training programs for curriculum update or adaptation
		Continue to provide support and participate the preconception health alliance
		Develop webinars and trainings for clinical and non-clinical providers
		Launch a media campaign on pre and interconception care
Support statewide screening for critical congenital heart disease, through support of ONBS and ABDMP. Specifically, monitor and reconcile screening data, and track babies with failed screening results. Continued evaluation	2024	Quarterly reconciliation of failed screens and failed reports submitted; follow up with facilities who have missing reports
		Resume and enhance outreach and ongoing education for facilities - focusing on screening best practices and statewide reporting requirements
		Evaluation of data - false positives and false negatives
Partner with the Children with Special Healthcare Needs Program to facilitate referrals to local services	2024	Explore the opportunity to facilitate referrals of babies born with birth defects to the HRPP program
		Establish a collaboration between the state Family-to-Family Health Information Center (F2F) or Family Voices Affiliate Organization (FVAO) to support provider training and assist parents that receive news of a birth defect or congenital anomaly – during pregnancy, after birth, during the infant years or later.
		Conduct continuous quality improve to ensure sustainability and efficiency
Expand and promote PowerMeA2Z	2024	Provide powermeaz materials to home visitors and community health workers
		Include information packets in PRAMS reward cards
		Implement a focused social media campaign to increase program uptake in underserved areas in the state
		Distribute materials in local community events, FQHCs, child care settings, WIC sites, and such
Increase knowledge about primary and secondary birth defects prevention	2024	Work with community providers for different birth defects to develop specific materials
		Develop educational materials for genetic counselors
		Develop promotional materials to share with expecting families to increase awareness of primary and secondary birth defects prevention
Increase access and utility of genetic counseling services	2026	Link medically underserved populations to genetic counseling services
		Implement quality improvement activities to improve and increase genetic services; work with community providers, including March of Dimes to ensure accurate information is being disseminated to families
		Implement quality improvement activities to improve and increase genetic services; work with community providers to ensure accuurate information is being disseminated

GOAL 3: STRENGTHEN SYSTEMS OF CARE FOR FAMILIES		
PROPOSED ACTIONS	**INITIATION YEAR**	**MILESTONES**
Enhance the regionalized perinatal system through coordination with the state funded High Risk Perinatal 24/7 Consult Line and the Arizona Perinatal Trust (APT)	2024	Assess hospital systems' internal algorithm to support the transport of high risk mothers and newborns presenting at the systems' affiliated hospitals without OB services
		Educate non-birthing hospitals on the state funded High Risk Perinatal 24/7 Consult Line
		Continue to partner with the APT to recertify hospitals with the most recent perinatal levels of care
Educate families on insurance options available for mothers and infants to increase levels of health insurance coverage and improve health outcomes	2024	Identify hospitals' processes for assisting families in applying for insurance options
		Establish a partnership with AHCCCS aimed at improving the education surrounding insurance options available to mothers and infants
		Develop an informational guide for providers to utilize when introducing insurance options to families, including options for families that are denied AHCCCS
Explore opportunities to establish a perinatal nurse navigator program	2025	Identify current or similar practices in the state
		Evaluate feasibility of adapting a model for Arizona
		Identify funding to support model adaptation and implementation
Reduce late entry into prenatal care	2025	Explore presumptive Medicaid elligibility for pregnant women or a similar expedited process to cover early prenatal care services before confirmation
		Expand the prenatal telemedicine program
		Increase promotion of the state loan repayment program for prenatal care providers in rural and high need primary care health professional shortage areas
		Work with insurance plans/payers to expand coverage to high need primary care areas, and for additional prenatal care services
		Establish a prenatal health care in group setting program in areas of limited access to maternal care
Support and initiate collaborative quality improvement efforts in areas that affect prenatal and infant care in the hospital setting	2026	Partner with the AIM Steering Committee to explore opportunities to conduct the NICHQ Equity Systems Auditing Tool
		Enhance coordination and communication with the Arizona Perinatal Trust
		Consult with NICHQ on quality improvement initiatives for Arizona
Implement the Engaging Families & Young Adults Program to assure families and youth are	2024	Develop a request for grant application to solicit a statewide contractor
		Develop the Title V MCH Family Advisor SOW to include training deliverables
Consult with Title V MCH Family Advisor to provide technical assistance to BWCH and training for family and youth advisors	2024	Establish practices that build Family and Youth Engagement at system and local levels
		Train and integrate family advisors in offices within the Bureau of Women and Children's Health
Support the implementation of "Birthing-Friendly" hospital designations	2025	Convene stakeholders to establish a statewide working group to explore opportunities for implementation in Arizona

Expand birth options	2027	Partner with medicaid to provide market-value reimbursement rates for nurse-midwives, doulas, and other alternative health care providers
		Conduct assessment of home births to identify options to include midwives in home births
		Support the expansion perinatal certification of free standing birth centers (increase)
		Partner with medicaid to cover facility fees of licensed birth centers and professional fees of licensed (Nurse) midwives
Promote models that support fathers in their role in the family	2025	Identify evidence based practices
		Conduct environmental scan of homegrown initiatives
		Pilot model in areas of high need
Support inititaives of Primary Care Office that aim to strengthen systems of care in rural areas and underserved areas across Arizona.	2024	Implement workforce programs aimed to increase health care providers in Arizona, including tthe Nurse Education Investment Pilot Program, Accelerated Nursing Program, and Preceptor Grant Program. These programs work increase the capacity of nursing education programs in this state, increase the number of qualified nursing education faculty members, provide more preceptorships for the training and development of graduate students to become new allopathic or osteopathic physicians, advanced practice registered nurses, physician assistants or dentists to address the healthcare workforce shortages.
		Increase outreach to Ob/Gyn providers to learn about and join the Arizona State Loan Repayment Program, NHSC, Nurse Corps, and other PCO workforce initiates.
		Continue to collect and evaluate data for the Maternity Care Target Areas (MCTAs) as per HRSA. Maternity Care Health Professional Target Areas (MCTAs) are areas within an existing Primary Care Health Professional Shortage Areas (HPSA) that are experiencing a shortage of maternity health care professionals.
Increase the use and quality of well-child visits	2025	Partner with KidsCare to pilot a project that will incentivize providers to expand their hours of operations
		Conduct a utility assessment of KidsCare
		Partner with the AzAAP/UA COM to implement a mobile clinic in areas of greatest need
		Highlight Innovative practices/best practices to care for mothers/infants
		Initiate the process for Arizona to implement Bright Futures national health promotion and prevention initiative

GOAL 4: DIVERSIFY AND STRENGTHEN THE WORKFORCE		
PROPOSED ACTIONS	**INITIATION YEAR**	**MILESTONES**
Improve access to midwifery care services	2026	Identify funding to support the educational process required for CNM, CPM, and CM licensure to increase the number of midwives in AZ that serve areas of limited maternal care
		Assess gaps to improving access and utilty of midwifery care services in the state
Improve access to maternal mental health/sud and child/infant mental health services	2024	Enhance the Strong Families online training portal for Home visitors and family support professionals to promote the workforce
		Coordinate Infant & Toddler Mental Health Training in partnership with the ITMH Coalition with Arizona
		Launch a maternal and infant mental health social awareness campaign and continue to support the SUD stigma reduction campaign
		Increase the number of trained and skilled behavioral providers who are able to diagnose and treat mental health and substance use conditions in mental HPSAs
		Partner with medicaid to set up a local hotline that is staffed by physicians trained in perinatal psychiatry to provide consultation to OB providers
		Connect with Substance Exposed Newborne Taskforce to implement a statewide approach to the treatment of pregnant and postpartum women with substance use disorder
		Create optimal opportunity for engagement in effective interventions and services for all women of reproductive age in Arizona
		Explore the opportunity to establish a maternal and infant mental health consultant to serve as a subject matter expert and provide technical assitance to providers (clinical and non-clinical)
Support innovative community based models that promote equity-centered initiatives	2026	Collaborate with South Phoenix Healthy Start
		Collaborate with tribal organizations and governments
		Identify funding streams to support an RFGA that will promote and execute unique innovations in maternal or fetal/infant health service delivery, such as improving access to services, identifying and addressing workforce needs, and/or supporting perintal or postpartum care
Increase training opportunities for underrepresented populations	2027	Promote and expand family health from an indigenous perspective training series

Provide statewide training opportunities for clinical and non-clinical professionals	2024	Promote the Strong Families AZ Statewide, Tribal, and HRPP Annual Home Visiting Conference
		Conduct an annual Maternal and Infant Mortality Summit with community participation
		Support completing Newborn, Individualized Developmental Care and Assessment Program by APT Level 2 facilities
		Enhance the Strong Families AZ Home Visitor Training Portal based on 'The Essentials of Home Visiting Training'
		Identify funding to support completion of Pospartum Support International certificate programs by clinical and non-clinical providers
Establish a training and certification program for doulas	2024	Establish the voluntary licensing program for doulas within the Arizona Department of Health Services
		Establish a statewide workgroup to assess the capacity of ancillary support/doulas in Arizona
		Develop a plan to increase the capacity and utility of ancillary support/doulas in Arizona
		Establish a workgroup for plan implementation statewide
Diversify and strengthen the workforce by supporting SLRP, J-1, NIW, NHSC programs administred by Arizona's Primary Care Office	2024	Promote the Arizona SLRP, NHSC and Behavioral Health Loan Repayment Programs, especially among students in Historically Black Colleges and Universities and Hispanic Serving Institutions
		Identify key partner organizations to provide outreach and promotion for PCO programs for diverse populations
		Promote the accelerated nursing and preceptor programs to diverse groups and sites in underserved areas
		Expand NHSC approved sites in Arizona
		Collect and evaluate PCO program participation by demographic characteristics

GOAL 5: IMPROVE SURVEILLANCE OF FETAL-INFANT MORBIDITIES AND FATALITIES		
PROPOSED ACTIONS	**INITIATION YEAR**	**MILESTONES**
Establish a FIMR in Arizona	2024	Assess resources, legal implications, financial opportunities, and community readiness
		Establish a process to identify cases
		Secure funding opportunities and a staffing structure
		Build community support and collaboration
		Develop a policy and procedure manual
		Establish a statewide or regional teams
		Provide technical assistance and support to state or regional teams
		Publish a report on FIMR findings
Enhance NAS data collection and surveillance	2024	Improve surveillance by expanding classification of NAS cases (including probable and suspected cases) through active surveillance
		Achieve consensus through a data element submission tool process to inform standards around NAS data elements and case definitions
		Create reporting guidance document for facility reporters
		Understand the landscape of NAS surveillance capacity
		Improve data sharing between public health and Medicaid
		Expand Medicaid's capacity to use NAS data.
Secure a sustainable solution to funding the CFRP	2026	Identify total program costs and funding sources
		Submit proposals and requests to increase state allocations to the CFRP (child fatality fund)
		Levarage existing funding sources to support the CFRP long term (past 3 year commitments)
Strengthen the AZ PRAMS Project	2024	Identify total program costs and funding sources
		Submit proposals and requests to increase state allocations to the CFRP (child fatality fund)
		Levarage existing funding sources to support the CFRP long term (past 3 year commitments)
		Complete an effort analysis to determine the effort of implementation for systems and infrstratucture to strengthen AZ PRAMS and the CFRP

GOAL 6: PROMOTE OPTIMAL FETAL-INFANT HEALTH		
PROPOSED ACTIONS	**INITIATION YEAR**	**MILESTONES**
Continue to implement promising practice and evidence-based home visiting programs statewide.	2024	Levarage existing federal and state funding sources to support MIECHV, Health Start, HRPP home visiting programs
		Continue to support Health Start program to become an evidence-based practice
		Research the MESCH Home Visiting Model as an evidence-based approach to be utiilized by HRPP Community Health Nurses
		Identify service gaps and determine models that would fill gaps
Increase community awareness on available tax resources (i.e. tax credits such as the Child Care Credit, Child Tax Credit) and other resources established to address poverty and social inequity.	2024	Enhance the Title V Women's and Children's helpline as the Strong Families Helpline that will include statewide coordinated home visiting referrals and connect families to GED, and tax resources
		Identify orgnaizations and partners to fill service gaps
		Establish new scopes or expand existing scopes of work
Educate parents on safe sleeping environments and that Alone, on my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age.	2024	Launch Safe Sleep Campaign
		Distribute Safe Sleep Campaign Toolkit to county public health departments and commutniy partners
		Lauch Phase II of Safe Sleep Campaign to include priority populations and medical centers
Establish or fund a program that helps low-income families afford a crib that can reduce the frequency of bed-sharing. Bed-sharing is associated with a significantly increased risk of SUID.	2025	Idenitfy areas with highest SUID/Unsafe sleep deaths to establish distribution plan
Provide training in prenatal care at maternity health centers. Encourage pediatricians and gynecologists to start initial training on safe sleeping practices before a child is born.	2025	Develop a web-based safe sleep module for training/education tailered to providers
Partner with WIC Program, Empower, breastfeeding helpline, and Infant at work to support and policies.	2024	Establish a new or enhance an existing initiative in partnership with the Bureau of Nutrition and Physical Activity (BNPA) aimed at improving nutrition for pregnant people and infants (i.e. breastfeeding support groups in birth and primary care settings)
		Review Breastfeeding Surveillance
Support breastfeeding initiatives through training and certification of home visitors and health professionals, technical assistance, policy and procedures, and direct support services.	2024	Increase funding for IBCLC certification and other lactation certification courses to increase the number of lactation consultants in AZ that serve minority populations
		Revive the Baby Friendly Hospital Initiative
		Explore opportunities to partner and support the Arizona Breastfeeding Coalition

Launch a Count the Kicks Full Campaign (5 years) in Arizona to build awareness among women in their third trimester of the importance of counting their baby's movements, telling their provider right away if they detect any change and to decrease stillbirths in Arizona.	2024	Create a list of maternal health providers, birthing hospitals, and other community providers to participate in a call, email, and mail campaign
		Distribute low Literacy materials in Spanish, Swahili and Dine languages
		Coordinate online CE training for 400 maternal health professionals in AZ
		Carry out Agreement between ADHS and Count the Kicks to completion
Establish a coordinated approach to increase awareness and improve outcomes for families impacted by opioid use and substance use during pregnancy.	2025	Coordinate across agencies to ensure buy-in and the most effective response
		Increase the knowledge base of healthcare providers and behavioral health providers regarding screening, diagnosis and treatment of OUD and substance use in pregnant and postpartum women
		Increase implementation of a family centered approach at all levels of care to screen women and link them to treatment and support services such as home visiting
Expand partnership between ONBS and HRPP to to find infants who have not returned for a second blood spot screen.	2025	Coordinate to identify gaps and barriers
		Provide training to community health nurses
		Explore the opportunity with ADHS funded home visiting programs
		Identify tracking to monitor progress
Improve COVID-19 vaccine confidence among pregnant women	2024	Conduct a literature review on vaccine hesitancy among pregnant women
		Identify community based partnerships to promote vaccine uptake and reduce hesitancy
		Develop materials for statewide distribution addressing vaccine hesitancy concerns
		Translate materials for non-English speaking communities with low vaccine uptake
		Partner with the Health Emergency Operations Center to monitor COVID-19 vaccine trends in the pregnant population

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