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A Process Evaluation Plan for the Nebraska Fetal Infant Mortality Review (FIMR) Program

Mamello Makhele
University of Nebraska Medical Center

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CAPSTONE

Mamello Makhele

Master of Public Health – Maternal and Child Health

Committee Chair: Dr. Marisa Rosen, PhD, MPHD

Committee Member: Dr. Chad Abresch, PhD

Committee Member: Dr. Keyonna King, DrPH, MA

Abstract

The United States (U.S.) has made substantial progress in reducing fetal and infant mortality, but high rates of infant mortality persist, particularly within minority populations. In Douglas County, Nebraska, racial disparities in infant mortality rates remain a significant issue. In 2019, the infant mortality rate among African American mothers was 14.2 infant deaths per 1,000 live births, compared to 5.7 infant deaths per 1,000 live births among Caucasian mothers. To reduce fetal and infant mortality in the U.S., the Centers for Disease Control and Prevention along with the Human Resources and Services Administration, fund the Fetal and Infant Mortality Review (FIMR, an evidence-based model to identify contributing factors and assess community needs while prioritizing recommendations to address this challenge for women, infants, and families of all races and ethnicities. In Douglas County, Nebraska, FIMR has operated since 2006. Following the model, a community review team and community action team, also known as the Baby Blossom Collaborative (BBC), have worked in Douglas County, to improve fetal and infant mortality rates through various interventions focused on preconception, prenatal care, infant health, and safe sleep. This paper provides a process evaluation plan grounded in CDC Evaluation Framework to understand how FIMR has been implemented over the past five years in Nebraska, assess fidelity to the FIMR process, and identify key facilitators and barriers to implementation of FIMR in Nebraska. The results will be shared with participants, and the insights gained can be used to improve FIMR and inform future efforts to address infant mortality in the community.

Keywords: FIMR, Process Evaluation

Chapter 1: Introduction

Significant progress has been made in reducing infant mortality rates (IMR) globally and within the United States over the past few decades. Globally, IMR has declined from 65 deaths per 1000 live births in 1990 to 29 deaths per 1000 live births in 2018, as the World Health Organization reported (WHO, 2024). Although there has been substantial progress in reducing infant mortality rates worldwide, addressing persistent disparities in IMR remains a critical challenge, requiring continued attention and investment in evidence-based interventions and policies (Singh & Yu, 2019). In the United States, the IMR has decreased from 7.04 deaths per 1,000 live births in 1999 to 5.44 in 2021, as reported by the Centers for Disease Control and Prevention (CDC) WONDER (CDC WONDER, n.d.) However, significant disparities persist among racial and ethnic groups (Jang & Lee, 2022). In 2018, the IMR for the non-Hispanic Black population was 10.8 per 1,000 live births, significantly higher than the rates for non-Hispanic White (4.6) and Asian (3.6) populations in the United States of America (Jang & Lee, 2022).

The Fetal and Infant Mortality Review (FIMR) is a comprehensive, community-based program in the United States that aims to effectively address disparities and improve maternal and infant health outcomes (McDonnell et al., 2004). FIMR identifies and addresses modifiable factors contributing to fetal and infant deaths through a multidisciplinary strategy engaging various stakeholders such as healthcare providers, public health officials, social service agencies, and community members (Strobino et al., 2004; Misra et al., 2004). This collaborative network develops targeted interventions to reduce fetal and infant mortality rates while addressing local trends and factors that contribute to infant mortality within specific communities (Koontz et al., 2004).

The collaborative nature of FIMR facilitates partnerships among healthcare providers, public health officials, social service agencies, and community members, enabling coordinated and comprehensive approaches to address infant mortality (Strobino et al., 2004). By examining cases from various perspectives, FIMR teams can better understand the interconnected factors contributing to infant mortality, including maternal health, socioeconomic conditions, and systemic inequalities (Hutchins et al., 2004). FIMR's community action component ensures interventions are informed by local needs and perspectives, promoting community buy-in and increasing the likelihood of successful implementation (Klerman et al., 2000). Through the involvement of community members in developing and implementing interventions, FIMR programs improve perinatal health outcomes, address persistent disparities, and promote overall health equity.

The FIMR program was established in Douglas County with the primary goal of reducing infant mortality rates and improving outcomes for families within the county (DCHD, n.d.). FIMR/BBC programs in Douglas County have demonstrated promising results in addressing infant mortality through a community-based, action-oriented approach. However, a more comprehensive process evaluation could further enhance the effectiveness and impact of these initiatives.

This project aims to develop a process evaluation plan following the CDC Evaluation Framework, in order to examine the implementation of the FIMR and BBC programs, identify areas for improvement, and ensure that the community-based, action-oriented approach is being effectively executed.

The overarching question this evaluation seeks to answer is: *What FIMR activities have been implemented and are those activities being implemented as designed?*

Specific Aims of the process evaluation include:

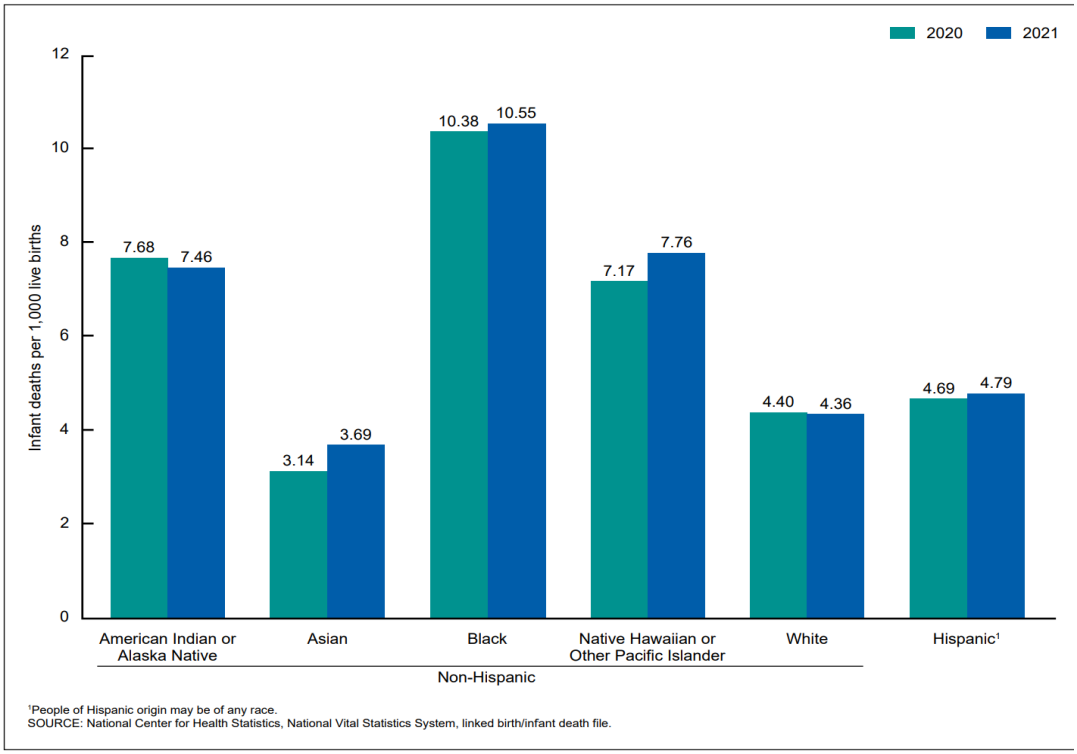
1. To identify and understand the barriers and challenges encountered during the implementation of initiatives within the BBC for the past 3-5 years.
2. To understand the perceived time frame in implementing actions and strategies within the BBC.
3. To gain insights into participants/collaborators' views on strategies and plans for the way forward to enhance the sustainability of the BBC.
4. To explore the process of monitoring the progress of implementing actions within the BBC.

Chapter 2: Background

Infant mortality, defined as the "death of an infant before their first birthday," is a critical public health indicator, and it is calculated as "the number of infant deaths per 1,000 live births in a population" (CDC, 2021; Singh & Yu, 2019). To understand this issue better, it is crucial to examine infant mortality trends, disparities among various demographic groups, the role of maternal age, the impact of stress, and the weathering hypothesis on black mothers. IMR in the United States has steadily declined over the years. In 2019, there were 20,927 reported infant deaths, showing a 3% decrease from 2018. The infant mortality rate was 5.58 deaths per 1,000 live births in 2019, the lowest in U.S. history, although the decline from 2018's rate of 5.67 was not significant (Ely & Driscoll, 2021). While the overall IMR has decreased, significant disparities persist among racial and ethnic groups (Figure 1). Data from CDC (2023), reveal that non-Hispanic Black mothers experience the highest IMR (10.55 deaths per 1,000 live births),

followed by non-Hispanic Native Hawaiians (7.76 deaths per 1,000 live births) and non-Hispanic Native Americans (7.46 deaths per 1,000 live births). In contrast, IMR among non-Hispanic Caucasian mothers is considerably lower, at 4.36 deaths per 1,000 live births (Ely & Driscoll, 2023).

Figure 1. Infant mortality rate, by maternal race and Hispanic origin: United States, 2020 and 2021

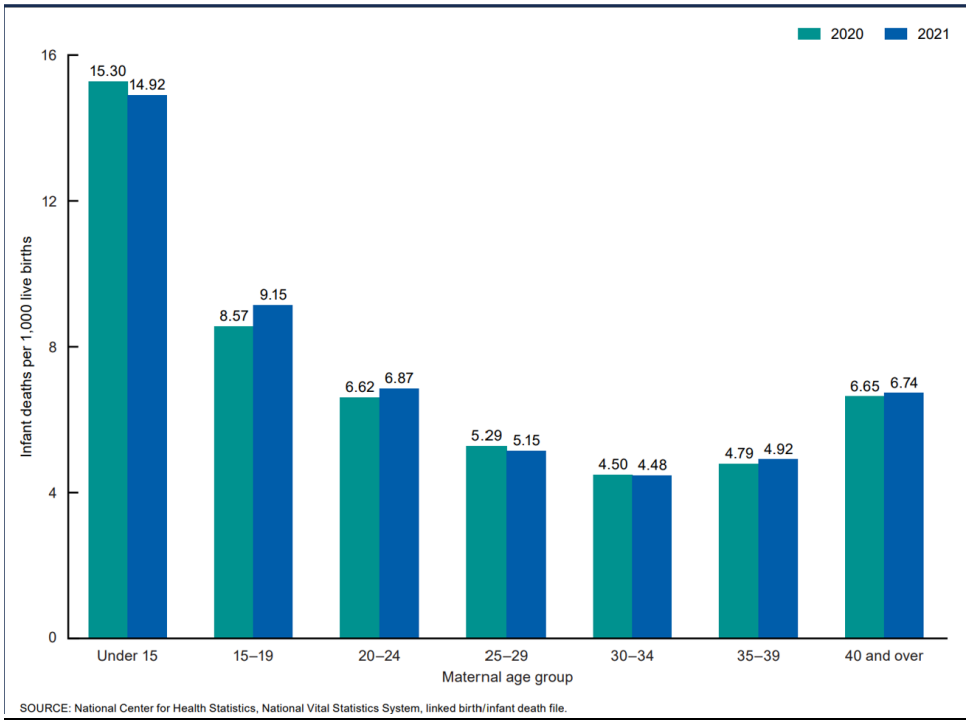


Source: National Vital Statistics Report (2023).

Maternal age plays a significant role in infant mortality rates. A National Vital Statistics Report (2023) indicates that IMR trends vary across age groups. From 2020 to 2021, IMR decreased among females younger than 15, rising slightly for mothers aged 15–19, 35–39, and 40 years and above. The highest IMR was observed in mothers under 15, attributed to an increased likelihood of preterm births, a leading cause of infant mortality (Singh & Yu, 2019).

Likewise, mothers aged 40 and above face an increased risk of IMR due to chronic health conditions, such as diabetes or hypertension, which may result in complications and preterm births (Correa-de-Araujo & Yoon, 2021). Addressing maternal age-related factors and associated health risks is crucial for reducing infant mortality rates.

Figure 2. Infant mortality rate, by maternal age: United States, 2020 and 2021



Source: National Vital Statistics Report (2023).

Black mothers in the United States face a multitude of challenges that contribute to higher allostatic load and increased risk of adverse pregnancy outcomes, including infant mortality. These challenges include racism, discrimination, and socioeconomic inequalities, which are entrenched in the historical and structural contexts of the US (Geronimus et al., 2006). Studies have shown that Black mothers are more likely to experience chronic stress due to the pervasive effects of racism and discrimination, leading to elevated allostatic load and increased

risk of preterm birth, low birth weight, and infant mortality (Geronimus et al., 2006; Lu & Halfon, 2003). This disparity is further exacerbated by socioeconomic inequalities, such as limited access to high-quality healthcare, inadequate prenatal care, and lower socioeconomic status (Riggan et al., 2021). The weathering hypothesis posits that the chronic stressors faced by Black mothers can result in an accelerated increase in allostatic load, heightening their risk of adverse pregnancy outcomes and contributing to the disparities observed in infant mortality rates (Geronimus et al., 2006). Addressing these systemic issues is crucial in improving maternal and infant health outcomes for Black mothers and reducing infant mortality rates (Barry et al., 2022).

Impact of infant mortality on communities and families

Infant mortality has far-reaching consequences for communities, families, and society. Its impact extends beyond the immediate loss of life, shaping social structures, community dynamics, and the psychological well-being of individuals affected by this tragic event (Thomas, 2020).The emotional toll of infant mortality is immense, as it can cause profound grief, trauma, and long-lasting psychological effects on parents, siblings, extended family members, and healthcare providers involved in the care of the infant (Song et al., 2010). These experiences can lead to mental health issues, including depression, anxiety, and post-traumatic stress disorder, requiring comprehensive support systems and interventions to help affected individuals navigate the healing process (Field & Behrman, 2003: Thomas, 2020). High infant mortality rates can disrupt social cohesion, economic stability, and healthcare access within communities, straining resources and exacerbating disparities across different population groups. The economic burden of infant mortality is significant, as families may face increased healthcare costs, loss of income, and reduced productivity. These economic consequences are often more pronounced in low-

income families, exacerbating poverty and contributing to health disparities within the community (Junior et al., 2023).

Public Health Interventions and Policies

Overview of Public Health Interventions Targeting Infant Mortality

Reducing infant mortality is a crucial aspect of public health in the United States. Numerous initiatives and programs have been developed at federal, state, and local levels to tackle this pressing issue. These multifaceted efforts focus on improving prenatal care, enhancing maternal health education, expanding access to healthcare services, and providing essential social support for families.

The Title V Maternal and Child Health (MCH) Services Block Grant Program, a noteworthy federal initiative, supports states in their endeavors to enhance the well-being of mothers and children. Through this program, states can implement various interventions such as prenatal care coordination, home visiting programs, and community-based support services to decrease infant mortality rates and improve birth outcomes (HRSA, n.d.). Another significant federal program, the Healthy Start initiative, launched by the Health Resources and Services Administration (HRSA), targets high-risk communities to reduce disparities in infant mortality rates. This program funds community-based organizations, enabling them to offer comprehensive services like prenatal care, maternal education, and family support.

Other significant programs and initiatives addressing infant mortality in the United States include the Pregnancy Risk Assessment Monitoring System (PRAMS), the Safe to Sleep Campaign, and the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program. Moreover, the March of Dimes Prematurity Campaign raises awareness of preterm birth while

advocating for policies and programs to bolster maternal and infant health outcomes. Through these combined efforts, significant strides have been made to reduce infant mortality and ensure a healthier future for all families.

Effectiveness of interventions in reducing infant mortality rates

In an effort to address health disparities and enhance birth outcomes among socially disadvantaged populations, implementing doula-assisted prenatal support has emerged as a promising intervention (Gruber et al., 2013). This innovative approach integrates certified doulas into the prenatal care of expectant mothers, particularly those at risk for adverse birth outcomes, providing continuous support throughout pregnancy and childbirth. Doula assistance has shown a potential to reduce the likelihood of low birth weight babies, thereby contributing to decreased infant mortality rates and lowering the incidence of birth complications, ultimately improving maternal and infant health outcomes (Sobczak et al., 2023: Gruber et al., 2013).

Sobczak et al.(2023), showed that doulas-supported mothers were more likely (50%) to access prenatal classes as compared to those who are not receiving doulas support (10%). The effectiveness of doula-assisted prenatal support may stem from its ability to enhance mothers' self-efficacy, fostering increased confidence in their capacity to positively influence pregnancy outcomes through continuous encouragement and communication from doulas (Gruber et al., 2013). Safe sleep campaigns have been instrumental in reducing sleep-related infant deaths (Jullien, 2021; CDC, n.d.).

These campaigns focus on safe sleep practices like placing infants on their backs to sleep and providing safe crib environments (National Institutes of Health, n.d.). A study by Y. Moon et al. (2016), found a significant 46% reduction in sleep-related infant mortality rates in Baltimore since adopting the campaign in 2010, demonstrating the effectiveness of targeted public health

messaging in improving birth outcomes. The Healthy Start initiative has emerged as a critical intervention in addressing infant mortality rates, particularly within high-risk communities. The Healthy Start program supports pregnant women and their families to address the complex factors affecting infant health (Escarne et al., 2017). The program combines various resources, such as prenatal care, educational opportunities, counseling services, and access to essential materials like nutrition assistance and parenting classes. In doing so, Healthy Start empowers families with the necessary knowledge and tools to promote a healthy beginning for their children (HRSA, n.d.).

FIMR as an Intervention to Reduce Infant Mortality

FIMR serves as a crucial tool for thoroughly investigating the complex factors surrounding fetal and infant deaths, thereby facilitating the development of targeted interventions aimed at decreasing infant mortality rates (Hutchins et al., 2004). Through multidisciplinary case reviews, FIMR provides a comprehensive understanding of the multifaceted variables contributing to adverse birth outcomes and infant deaths.

Moreover, FIMR adopts a systematic approach to assess economic, environmental, social, health system, and cultural influences on fetal and infant mortality (Misra et al., 2004; Kieltyka et al., 2012). This systematic process allows for a thorough examination of root causes and risk factors associated with adverse outcomes. By identifying patterns, trends, and disparities in infant mortality, FIMR informs the development of evidence-based strategies tailored to address specific risk factors and improve maternal and child health outcomes.

A key strength of FIMR is its ability to generate actionable recommendations based on its findings (Strobino et al., 2004). These recommendations enable the implementation of evidence-based interventions to mitigate identified risk factors and improve outcomes. By translating data

into concrete improvements in healthcare systems, social support structures, and public health policies, FIMR contributes significantly to ongoing efforts to reduce infant mortality rates (Center for Fatality Review & Prevention (CFRP), 2021). Furthermore, the continuous monitoring and evaluation of FIMR-informed interventions ensure that strategies remain relevant and effective in addressing the evolving needs of communities (CFRP, 2021). This iterative process of assessment and adaptation underscores FIMR's commitment to driving sustainable improvements in maternal and child health outcomes.

Fetal and Infant Mortality Review (FIMR) programs emerged in the late 1980s and early 1990s in the United States to address persistent infant mortality rates and improve understanding of contributing factors (CFRP, 2021; Buckley & Chapin, 1999; Florida Healthy Start, n.d.). The first FIMR program was established in Dade County, Florida, in 1989 to reduce disparities in infant mortality rates among racial and ethnic groups through systematic reviews of fetal and infant deaths (Florida Healthy Start, n.d.).

In 1990, a partnership between the Maternal and Child Health Bureau (MCHB) and the American College of Obstetricians and Gynecologists (ACOG) founded the NFIMR program, providing a resource for FIMR program best practices (Kieltyka et al., 2012). Following this initiative, FIMR initiatives spread across the U.S., supported by federal funding from the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration (HRSA). By the mid-1990s, FIMR programs had been implemented in multiple states and localities, tailored to their unique needs (NCFRP, 2021). Currently, there are 160 FIMR programs in 27 states, the District of Columbia, and two U.S. territories (NCFRP, 2021).

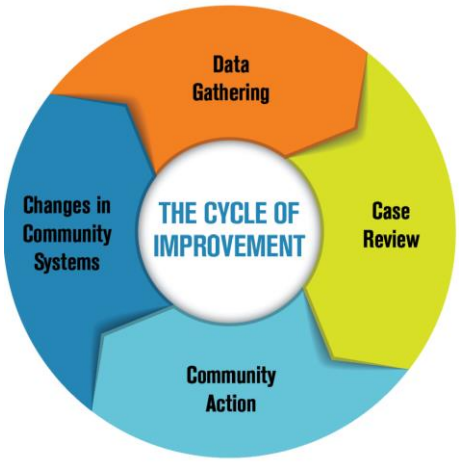
FIMR programs have evolved in response to changing demographics, healthcare practices, and public health priorities (Misra et al., 2004). While their core mission remains

reducing infant mortality through case reviews, FIMR programs now address broader maternal and child health issues. This includes initiatives focused on improving access to prenatal care and reducing healthcare disparities (Strobino et al., 2004).

Core components of the FIMR process

The FIMR process comprises four phases in a continuous cycle of improvement as described in detail below.

Figure 3. FIMR Cycle of Improvement



Source: National Center for Fatality Review & Prevention (NCFRP)

Phase 1: Data gathering

The first phase involves collecting information on fetal and infant deaths from a variety of sources, including birth and death certificates, medical records, public health records, and family/parental interviews about infant deaths. The purpose of information generated from these sources is to provide extensive information on each case. CFRP (2021) detailed that case summaries should incorporate information related to access to care and detailed information on the family, baby, and death. This provides critical information for developing intervention

strategies to prevent infant mortality (Brown et al., 2017). The summary of the case is then presented to the Case Review Team (CRT).

Phase 2: Case Review

Case reviews for the FIMR program involve summarizing cases using data from medical records and maternal interviews, ensuring confidentiality by removing identifying information. The CRT reviews each case summary prior to the meeting and discusses the case as a collective. Subsequently, CRT members review which factors contributed to the death of the infant in the case reviewed. Finally, the identified factors are used to make recommendations for improving local service delivery system and resources. These recommendations are then passed on to the Community Action Team (CAT)

Phase 3: Community Action

In the third phase, the CAT comprises diverse local stakeholders such as healthcare providers, policymakers, and community organizations whose responsibility is to implement actionable recommendations set forth by the CRT. CAT is mandated to develop creative solutions based on racial equity and focus on families, creating better services and care. Additionally, it works with healthcare professionals and communities to make positive changes that improve the quality of care for families. It also protects and maintains successful systems initiated and implemented by FIMR for sustainability.

Changes in Community System

In the final phase, CAT interventions are monitored to determine if significant changes in local systems, such as improved access to healthcare services or physical changes in the healthcare environment, are evident. These changes are then assessed to determine the magnitude of improvement in health outcomes.

Evaluating FIMR in the United States

National Center for Fatality Review and Prevention (NCFRP) (2021), posits that FIMR can be evaluated by an individual or a diverse team of internal staff, external collaborators, data experts, and other relevant professionals. Ensuring a broad range of representation in the evaluation process helps guarantee that the recommended findings are feasible and actionable across all aspects of the FIMR process.

Strobino and colleagues (2004), conducted a nationwide FIMR evaluation to assess a broader range of FIMR programs beyond those previously studied and described in performance monitoring efforts. The FIMR nationwide evaluation aimed to achieve three key objectives: 1) to explore the connection between FIMR programs and the enhancement of resources and service systems for pregnant women, infants, and their families within communities; 2) to identify the elements that contribute to the success of FIMR programs in improving community resources and perinatal service systems; and 3) to examine the impact of FIMR programs on maternal and child health (MCH) practices, particularly regarding core public health functions (Strobino, Misra, et al., 2004). The FIMR evaluation process used by Strobino and colleagues (2004) has three phases as described below.

Phase I

Phase I of the evaluation focused on identifying Fetal and Infant Mortality Review (FIMR) programs and other community-oriented systems initiatives to enhance the health of pregnant women and infants. This was achieved by conducting surveys of Maternal and Child Health (MCH) program directors in states and large metropolitan areas. The survey sought information on initiatives that targeted changes in perinatal health systems, specifically focusing on FIMR programs (Strobino, Misra, et al., 2004). The appropriate respondents were identified

with assistance from key organizations and the National Fetal and Infant Mortality Review (NFIMR) Program. The survey collected data on FIMR programs and Perinatal Systems Initiatives (PSIs) in counties and metropolitan areas from 1996 to 1999. The data gathered in Phase I helped form a comprehensive understanding of FIMR programs and related initiatives across the United States, and the results were used to create a sampling frame for the subsequent Phase II (Strobino, Misra, et al., 2004).

Phase II

Phase II of the evaluation focused on assessing the value and impact of Fetal and Infant Mortality Review (FIMR) programs in communities through a comparative analysis with other Perinatal Systems Initiatives (PSIs). This phase had three key objectives: Firstly, the evaluation aimed to describe the development, implementation, and effectiveness of FIMR programs in delivering essential Maternal and Child Health (MCH) services. This involved evaluating their performance and outcomes within the targeted communities. Secondly, the study compared FIMR programs with other PSIs to determine the extent to which both types of initiatives delivered essential MCH services. Lastly, the evaluation examined the provision of essential MCH services in local health agencies, considering the presence or absence of FIMR and other PSIs in the community (Strobino, Misra, et al., 2004).

Phase III

Phase III of the evaluation focused on in-depth case studies of 10 Fetal and Infant Mortality Review (FIMR) programs. These case studies aimed to gain a more comprehensive understanding of FIMR implementation processes and their impact within the community context. This phase involved site visits and interviews with various stakeholders to gather

detailed information on FIMR characteristics, methods, and outcomes (Strobino, Misra, et al., 2004).

Implementation of FIMR in Douglas County, NE

Origins and history of DCHD FIMR/BBC program

In Douglas County, Nebraska, infant mortality rates (IMR) have decreased slightly from 6.4 per 1,000 live births in 2018 to 6.1 per 1,000 live births in 2019 (Douglas County Health Department Fetal and Infant FIMR Community Report, 2019-2020). However, these rates remain notably higher than the national average (5.4) signaling ongoing challenges in the region. Compounding this issue are significant disparities among racial and ethnic groups within the county. According to Fetal FIMR Community Report published by the Douglas County Health Department in 2019-2020, African American and Hispanic mothers face disproportionately higher IMRs compared to Caucasian mothers. Specifically, African American mothers experience an IMR of 8.9 per 1,000 live births, while Hispanic mothers have a rate of 8.6 per 1,000 live births, contrasting with the lower rate of 5.3 per 1,000 live births among Caucasian mothers.

Recognizing the urgency of addressing these disparities and improving stagnant numbers, the Baby Blossom Collaborative (BBC) was established as an integral component of the FIMR CAT (AMCHP, 2023) As a community-based partnership in Douglas County, the BBC plays a pivotal role in driving efforts to combat infant mortality issues by developing and implementing strategies aimed at enhancing infant health outcomes (Douglas County Health Department, n.d.).

The BBC operates as a coalition of more than 40 agencies, encompassing healthcare providers, public health officials, social service agencies, and community members. This multidisciplinary approach ensures a comprehensive understanding of the multifaceted factors

influencing infant health outcomes, facilitating the development of targeted interventions and policy recommendations (Douglas County Health Department (DCHD), n.d.).

At the core of the BBC's mission is the examination of root causes contributing to infant deaths and the enhancement of existing health initiatives (AMCHP, 2023). Utilizing the Perinatal Periods of Risk (PPOR) process, the BBC identifies critical components of fetal-infant mortality, pinpointing specific areas where interventions can most effectively reduce disparities and improve overall health outcomes. Through collaborative efforts and data-driven approaches, the BBC strives to address the underlying factors driving infant mortality disparities and foster healthier outcomes for all families in Douglas County (AMCHP, 2023).

Core components of the FIMR/BBC process

The FIMR program was established in Douglas County with the primary goal of reducing infant mortality rates and improving outcomes for families within the county (DCHD, n.d.). Using FIMR Cycle of Improvement framework (Figure 3), the FIMR program in Douglas County systematically identifies risk and protective factors associated with infant mortality cases and generates recommendations for community-level changes. Central to this process is the BBC, serving as the Community Action Team within the FIMR Cycle. The BBC is instrumental in developing and executing interventions to address identified issues and effectively reduce infant mortality rates (DCHD, n.d.).

The following describes the phases of the FIMR Cycles of Improvement as they have been implemented in Douglas County.

Phase 1: Data Gathering

The Douglas County FIMR Program gathers data from four key sources to inform its efforts to reduce infant mortality: 1) Case Review Team (CRT) findings, 2) evidence-based research, 3) population-based data, and 4) community capacity assessments. CRT findings provide detailed individual case data on maternal health history, prenatal care, birth outcomes, and postnatal care. Evidence-based research from databases like PubMed, Medline, and the Cochrane Library offers insight into best practices in maternal and child health. Population-based data helps identify trends, patterns, and disparities through datasets such as Nebraska Vital Statistics, Nebraska Hospital Discharge data, Census data, CDC's National Center for Health Statistics (NCHS) data, and the National Survey of Children's Health (NSCH). Finally, community capacity assessments evaluate local strengths, assets, and needs through surveys, interviews, focus groups, and observations from sources such as Community Health Needs Assessment (CHNA) data and input from local community members and healthcare providers

Phase 2: Case Review

The process begins with the identification of eligible cases, drawing on various sources, including vital records and healthcare providers within the community. Once cases are identified, the FIMR program collects relevant medical records, such as prenatal care records. In addition to this, a supportive interview is conducted with the mothers, allowing for a more holistic understanding of their unique pregnancy, birth, and postnatal experiences.

To maintain confidentiality, all identifying information is removed from the data collected. This anonymized information is then carefully summarized and presented in a standardized format for the multidisciplinary Case Review Team (CRT) to examine. Comprising

healthcare professionals and community representatives, the CRT works collaboratively to identify contributing factors to infant deaths, including potential medical complications, social determinants of health, and gaps in local services or resources.

Drawing on these insights, the CRT develops targeted recommendations for improving healthcare practices, policies, and community-based interventions in Douglas County. These recommendations are then passed on to CAT, also known as BBC, which implements the suggested actions (DCHD, n.d.).

Phase 3: Community Action

BBC, a 40-agency group called CAT, focuses on developing and executing the Community Action Plan (CAP) to reduce infant mortality in Douglas County. Utilizing CRT findings, research, population-based data, and community capacity assessments, the BBC's six affinity groups create goals, objectives, and action steps in four key areas including: preconception health, prenatal care, infant health, and safe sleep (DCHD, n.d.). CAP is subsequently implemented and reassessed every 2-4 years to ensure progress and effectiveness (DCHD, n.d.).

Changes in Community System

The FIMR/BBC program has fostered collaborations between stakeholders, facilitating better access to healthcare services for mothers and infants in Douglas County. The development of new initiatives, such as the Now and Beyond preconception health program, has expanded the reach of essential health services to underserved populations, where 80 women were educated through the program (AMCHP, 2023).

The FIMR program's affinity groups collaborate with various organizations to address critical areas influencing infant mortality (DCHD, n.d.).

- Prenatal Care (1) Affinity Group: Partnered with UNMC College of Public Health in an 18-month pilot study to develop a preconception health curriculum emphasizing obesity prevention.
- Prenatal Care (2) Affinity Group: Contacted OB providers to encourage the adoption of the evidence-based "Count the Kicks" program, which reduces fetal deaths.
- Infant Health Affinity Group: Developed a white paper defining pediatric quality medical homes and identifying certified practices in Douglas County.
- Safe Sleep Affinity Group: Collaborated with UNMC College of Public Health on a research study to inform the development of a community-wide safe sleep campaign. However, the specific outcomes of the working group's efforts are not publicly accessible.

Evaluation of FIMR/BBC

The evaluation of the FIMR program within Douglas County lacks a specific published model. Nevertheless, evidence attests to the program's efficacy in the region. One such initiative is implementing the Now and Beyond Preconception health program by BBC. This program emphasizes the significance of maintaining a healthy lifestyle and pregnancy planning for women. By training staff at seven sites and educating 80 women who have set healthier lifestyle goals, the BBC has showcased its commitment to improving maternal health and reducing fetal-infant mortality in Douglas County (AMCHP, 2006).

Process Evaluation of DCHD FIMR/BBC

Despite the valuable insights gained from the above initiative, conducting a comprehensive process evaluation of FIMR and BBC programs can further improve the

efficiency and impact of FIMR/BBC in Douglas County. The proposed process evaluation will examine the implementation of the program, identify areas for improvement, and ensure that the community-based, action-oriented approach is being executed.

Chapter 3: Methods: Designing the Process Evaluation Plan

A process evaluation examines the implementation and operation of a program or intervention to understand how it works and identify areas for improvement. A process evaluation is crucial for assessing whether a program is being implemented as intended and identifying factors influencing its effectiveness (Grant et al., 2020). For the FIMR/BBC program in Douglas County, a process evaluation would involve examining the program's fidelity to its original design, identifying factors that hinder or support successful implementation, assessing its reach and accessibility, evaluating the quality and quantity of services provided, and documenting the program's evolution over time.

To effectively evaluate FIMR's fidelity to its original design, the evaluation would assess the degree to which the program adheres to its intended goals. This includes examining strategies for reviewing fetal and infant deaths, formulating programs, and influencing policies. Ensuring the program maintains its integrity and effectiveness over time is crucial for achieving the program’s desired outcomes. Another critical component of a process evaluation is identifying barriers and facilitators to FIMR's implementation. This would involve exploring challenges related to data collection, accessibility and reach, community engagement, or resource allocation, as well as successful strategies that can be replicated or scaled up. By understanding these factors, the program can make necessary adjustments to optimize its impact (CDC, 1999).

Assessing FIMR's reach and accessibility is essential for understanding whether it effectively engages its target population, which includes families, community members, and community partner organizations affected by or committed to addressing fetal and infant mortality. This element also evaluates the program's efforts to engage diverse communities and address potential disparities in access to services. Lastly, documenting the program's evolution over time is vital for tracking progress and identifying areas and improvement. By monitoring changes in FIMR's implementation, the program can adapt to changing circumstances and better serve the community with efficient processes to address fetal and infant mortality.

Incorporating standards is essential for ensuring that the evaluation meets the needs of its intended users. This includes identifying key partners involved in or affected by the evaluation, ensuring evaluator credibility, collecting relevant data on the program's implementation, outlining the values and rationale used to interpret findings, developing clear and concise evaluation reports, communicating findings in a timely manner, and encouraging follow-through from key partners by presenting actionable recommendations based on findings (CDC, 1999).

For the process evaluation, the Centers for Disease Control and Prevention (CDC) Framework for Program Evaluation has been selected as the guiding framework. This decision is based on the CDC Framework's comprehensive and systematic approach to program evaluation, which emphasizes practicality, ethical practices, and collaboration (CDC, 1999). The CDC Framework is particularly suited for the FIMR program due to its alignment with the program's objectives and values. The framework's six evaluation standards—utility, feasibility, propriety, accuracy, accountability, and collaboration—ensure that the evaluation process is useful, practical, ethical, and promotes teamwork. Accuracy standard, for instance, highlights the generation of valid and reliable data, which is essential for assessing the program's fidelity and

identifying barriers and facilitators to its implementation. CDC Framework for Program Evaluation offers a robust and tailored approach for conducting the process evaluation of FIMR in Douglas County. By utilizing this framework, the evaluation can effectively identify areas for improvement, optimize program effectiveness, and ultimately contribute to eliminating racial gaps in fetal and infant mortality rates (CDC, 1999).

Framework for Developing the Process Evaluation Plan

For the FIMR and BBC programs, conducting a process evaluation can yield valuable insights that contribute to the overall improvement of these initiatives. By examining the function of FIMR's CRT, evaluators can determine how effectively the team analyzes these cases and formulates recommendations based on their findings. Another aspect the process evaluation can shed light on is the engagement of the BBC as the CAT. This includes evaluating how well the BBC translates CRT recommendations into actionable steps and monitoring their implementation. This analysis can provide crucial insights into the level of coordination and communication between the two teams and help identify gaps or areas for improvement. Moreover, a process evaluation can identify the strengths and weaknesses of the delivery of the FIMR and BBC programs and assess the collaboration between community-based organizations and key partners. By examining these entities' roles, responsibilities, and interactions, evaluators can determine the effectiveness of the collaboration process and provide recommendations for enhancing collaboration and overall program implementation.

The CDC Framework for Program Evaluation consists of six interdependent steps that guide evaluators in assessing the effectiveness of public health programs (CDC, 1999). The steps are:

1. Engaging key partners: Involving relevant parties in the evaluation process to address their needs and concerns.
2. Describing the program: Providing a clear and comprehensive description of the program's context, components, and outcomes.
3. Focusing the evaluation design: Identifying evaluation questions and selecting appropriate methods to gather data.
4. Gathering credible evidence: Collecting valid and reliable data to draw conclusions and recommendations to improve program process.
5. Justifying conclusions: Analyzing and interpreting data transparently, clearly outlining the basis for conclusions and recommendations.
6. Ensuring use and sharing lessons learned: Communicating evaluation findings in a timely manner and encouraging the implementation of recommendations.

Figure 4. CDC's Framework for Program Evaluation

Source: CDC Morbidity and Mortality Weekly Report (1999)

Step 1: Stakeholder Engagement:

The initial step involves identifying and actively involving key partners, such as program staff, community members, families, public health professionals, and policymakers, who possess

a vested interest in the program's outcomes. The engagement of key partners in the evaluation process promotes collaboration and ensures that the evaluation aligns with key partners' concerns and priorities, thereby increasing its usefulness, relevance, and practicality.

Step 2: Program Description:

This involves delineating the program's objectives, components, activities, resources, and intended outcomes. A well-defined program description facilitates the development of an evaluation plan that aligns with the program's purpose and intended impact.

Step 3: Evaluation Design:

With a clear program description, the next step was to develop a focused evaluation design. This encompasses formulating pertinent evaluation questions, identifying relevant indicators and performance measures, and selecting appropriate data collection methods and sources. A focused evaluation design ensures that the evaluation is pertinent and practical, enhancing overall effectiveness.

Step 4: Data Collection and Analysis

Data is collected and analyzed in this phase using rigorous methods that adhere to the established evaluation design. Systematic data collection and analysis contributed to the credibility and reliability of the evaluation findings. This step also involves ongoing monitoring and reflection to ensure that the evaluation remains relevant and adapts to changes in the program or context.

Step 5: Conclusion Formation:

Conclusions should be evidence-based and consider the programs' context and stakeholders' perspectives. This step also involved identifying the lessons learned and potential areas for program improvement.

Step 6: Dissemination and Utilization of Findings

The final step is disseminating evaluation findings to stakeholders and facilitating discussions on the implications and opportunities for program refinement and improvement.

Chapter 4: Methods: Proposed Process Evaluation Plan

FIMR/BBC programs in Douglas County have demonstrated promising results in addressing infant mortality through a community-based, action-oriented approach (AMCHP, 2023). However, a more comprehensive process evaluation could further enhance the effectiveness and impact of these initiatives.

The following is a proposed process evaluation, which aims to examine the implementation of the FIMR and BBC programs, identify areas for improvement, and ensure that the community-based, action-oriented approach is being effectively executed.

The overarching question this evaluation seeks to answer is: *What FIMR activities have been implemented and are those activities being implemented as designed?*

Specific Aims of the process evaluation include:

1. To identify and understand the barriers and challenges encountered during the implementation of initiatives within the BBC for the past 3-5 years.
2. To understand the perceived time frame in implementing actions and strategies within the BBC.
3. To gain insights into participants/collaborators' views on strategies and plans for the way forward to enhance the sustainability of the BBC.
4. To explore the process of monitoring the progress of implementing actions within the BBC.

Engage Stakeholders

As delineated in the CDC's Evaluation Framework, the first step in an evaluation should be to engage stakeholders in the design of the evaluation and throughout implementation of an evaluation. To effectively engage stakeholders in the Fetal and Infant Mortality Review (FIMR) process evaluation for the Baby Blossoms Collaborative (BBC) in Douglas County, a comprehensive multi-step approach will be employed. This approach focuses on strategic planning, efficient communication, and the inclusion of diverse perspectives to ensure a well-rounded evaluation process. The following steps will guide the stakeholder engagement process (Table 1).

The first step will include identifying potential stakeholders, including families and individuals affected by fetal and infant mortality, healthcare providers, community organizations, public health officials, program staff, funders, decision-makers, and members of the different agencies included in the BBC coalition, particularly those representing the disproportionately impacted African American community. Next, key stakeholders will then be selected based on their significant influence, interest, expertise, and ability to support the FIMR/BBC's goals of reducing fetal and infant mortality rates, addressing health disparities, and promoting community-based health initiatives. Next, appropriate engagement strategies will be determined to ensure meaningful participation from stakeholders. These may include in-person meetings, phone calls, or emails, depending on individual preferences and expectations. Discussions with stakeholders will focus on the FIMR/BBC's effectiveness in reducing fetal and infant mortality rates, addressing health disparities, and promoting improved maternal and infant health outcomes. Stakeholders will also provide input on the relevance and effectiveness of the BBC's

activities, evaluation questions, and data collection preferences. The analysis of stakeholder feedback will be crucial in refining the program description, logic model, and evaluation questions. This will ensure that stakeholder concerns and priorities are adequately addressed in the evaluation design for both FIMR and BBC. Finally, a comprehensive stakeholder engagement plan will be developed, outlining each stakeholder group's roles, responsibilities, and communication methods throughout the evaluation process. The plan will be adjusted based on the project's complexity and the number of stakeholders involved.

Table 1. Stakeholder Engagement Plan

Stakeholders	**Roles**	**Responsibilities**	**Method of communication**
Families and individuals affected by fetal and infant mortality		Participate in interviews, focus groups, or surveys to share insights.	in-person meetings, phone calls, or emails based on individual preferences.
Healthcare providers and community organizations	Offer professional perspectives on the implementation and impact of FIMR/BBC initiatives.	Contribute to data collection by sharing program experiences, successes, and challenges.	Collaboration through meetings or surveys
Public health officials and program staff	Share insights on program development, implementation, and outcomes.	Provide relevant program data and updates and collaborate on evaluation design and analysis.	Maintain regular contact through meetings or emails,
Funders and decision-makers	Guide resource allocation and policy decisions based on evaluation findings.	Review and provide feedback on evaluation reports, ensuring recommendations align with program goals and priorities.	Engage through formal presentations, reports, and discussions.

BBC coalition members	Represent diverse community perspectives and contribute to evaluation design and implementation.	Participate in focus groups, surveys, or interviews and share feedback on evaluation findings.	Engage through meetings, email updates, or other designated communication platforms.

Program Description

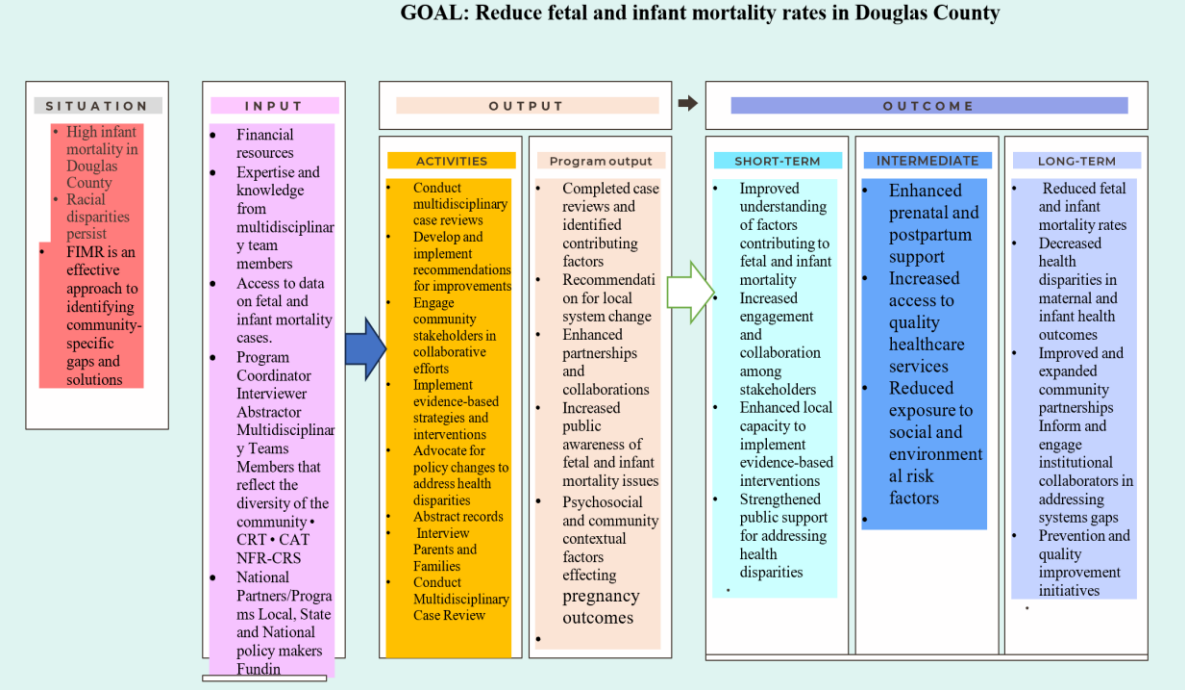
The second step is to understand the design of the program being evaluated. The FIMR program in Douglas County addresses the critical issue of fetal and infant mortality, working towards improving maternal and child health outcomes. FIMR's collaborative nature cultivates partnerships among healthcare providers, public health officials, social service agencies, and community members (Strobino et al., 2004). These partnerships enable more coordinated and comprehensive approaches to addressing infant mortality, ensuring that interventions target multiple levels of influence, such as individual behaviors, healthcare practices, and broader social determinants of health. Through its multidisciplinary lens, FIMR contributes to a more nuanced understanding of the complex factors contributing to infant mortality, including maternal health, socioeconomic conditions, and systemic inequalities (Hutchins et al., 2004)

Engaging with the Douglas County Health Department (DCHD) is a crucial component of the process evaluation, allowing the evaluator to gain insights into current program implementation, identify any discrepancies between available information and actual practices. During the evaluation, the evaluator may uncover differences between the publicly available logic model and program design and the current practices being implemented by DCHD. By working closely with the department, the evaluator can determine any updates to the program design, activities, or adaptations made over time. This collaboration ensures that evaluation

methods are adjusted as needed and facilitates transparent communication to obtain accurate data and insights into program implementation processes.

A logic model for the FIMR program would visually represent the sequence of events for bringing about improved infant health outcomes, linking processes to effects, and displaying the tools needed to support program operations (Figure 2). This model would include inputs (e.g. financial resources), activities (e.g., data collection), and results ranging from short-term to intermediate to long-term effects. The logic model allows stakeholders to clarify the program's strategies and focuses on the direction of the FIMR program.

Figure 6. FIMR/BBC using the logic framework



Evaluation Design

The process evaluation will seek to:

1. Identify and understand the barriers and challenges encountered during the implementation of initiatives within the BBC for the past 3-5 years.

2. Understand the perceived time frame in implementing actions and strategies within the BBC.
3. Gain insights into participants/collaborators' views on strategies and plans for the way forward to enhance the sustainability of the BBC.
4. Explore the process of monitoring the progress of implementing actions within the BBC

Intended users of the evaluation include program staff, Douglas County Health Department (DCHD) administrators, community partners, healthcare providers, and policy makers.

Evaluation Questions

The overarching question this evaluation seeks to answer is: *What FIMR activities have been implemented and are those activities being implemented as designed?*

Secondary questions include:

1. *What are the facilitators and barriers in the implementation of FIMR and BBC?*
2. *How do participants/collaborators perceive the sustainability of the initiatives?*

Study Design

The process evaluation of the FIMR/BBC will employ a qualitative, multi-method approach to assess the implementation of the program and identify key barriers and facilitators. This design allows for an in-depth exploration of the experiences, perspectives, and contextual factors influencing the execution of the FIMR/BBC intervention. The evaluation will utilize a variety of qualitative data collection methods, including:

- Semi-structured interviews with key stakeholders
- Focus groups to gather insights from diverse stakeholder groups
- Direct observation of program activities and service delivery
- Review of program documents, reports, and other relevant materials

Evaluation Question: What are the barriers and facilitators to the FIMR process?					
Indicator	Evaluation type	Measurement	Data collection methods and frequency	Frequency/time of collection	Responsible parties
Change in communication among stakeholders	Process evaluation	Open-ended question Qualitative coding	Qualitative key-informant interviews Direct Observation	Start of the project, quarterly and end of the project	• Evaluation Team
Availability of financial (?) resources	Process evaluation	Open-ended question	Qualitative key-informant interviews	Start and end of the project	• Evaluation Team • Interviewers
Collaboration with other stakeholders	Process evaluation	Open-ended question	Interviews	Quarterly	• Evaluation Team

Evaluation Question: What FIMR activities have been implemented?					
Indicator	Evaluation type	Measurement	Data collection methods and frequency	Frequency/time of collection	Responsible parties
Case Review Meetings	Process evaluation	Number of meetings held, attendance, and issues identified	Interviews Document Analysis	Quarterly	Evaluation team
Number of Recommendations from CRT	Process evaluation	Count of recommendations generated by the Case Review Team	Document Analysis	Quarterly	Evaluation team
Number of Evidence-based Strategies Planned	Process evaluation	Count of evidence-based strategies	Document analysis	Quarterly	Evaluation team

		planned for implementation			
Number of Evidence-based strategies implemented	Process evaluation	Count of evidence-based strategies implemented	Document analysis	Quarterly	Evaluation team

Evaluation Question: How do participants perceive the sustainability of the initiatives?					
Indicator	Evaluation type	Measurement	Data collection methods and frequency	Frequency/time of collection	Responsible parties
Improved stakeholder engagement	Process evaluation	Qualitative count	focus groups Semi-structured Interviews	At the start and end of the project	Evaluation team

Data Collection

Semi-structured interviews will be conducted with study participants to systematically explore the BBC's collaborative processes, barriers, and facilitators. The participants will include 10-15 key informants actively involved in the BBC over the past five years. Purposive sampling will be used to ensure representation across various roles and perspectives. Recruitment will be conducted through email invitations, phone calls, and in-person meetings, emphasizing the importance of participation and the confidentiality of responses. The evaluator will use an interview guide to understand key informants' views and experiences (DeJonckheere & Vaughn, 2019). Interviews will be conducted either in person or through a web conferencing platform such as Zoom, based on the preferences of each participant. This approach aims to facilitate open discussions and enrich the depth of the collected data (DeJonckheere & Vaughn, 2019). Focus groups will be facilitated to gather qualitative data from participants and collaborators involved

in implementing BBC initiatives. Four focus groups with 7 participants in each group will be conducted. This will enable the evaluation team to explore group dynamics, generate discussions on key issues, and identify common themes related to facilitators and barriers. The focus group sessions will be audio-recorded and transcribed verbatim for analysis.

Document analysis will be an integral part of the evaluation process and will provide valuable insights into the implementation of BBC initiatives. Various materials will be examined, including program proposals, strategic plans, meeting minutes, progress reports, evaluation reports, and relevant policy documents. To access these materials, the FIMR/BBC program coordinator will be actively involved. These materials will be used to ensure a comprehensive understanding of the program's structure, goals, objectives, activities, and achievements.

Direct observation will also be employed as a data collection method. The evaluation team will request permission from the Douglas County Health Department to observe FIMR CRT meetings and BBC community action meetings in person to assess the adherence to established protocols, decision-making processes, and the level of engagement among participants. These observations will provide insights into the strengths, and areas for improvement in implementing the FIMR and BBC programs. Through direct observation, the evaluation team will be able to identify barriers, facilitators, and potential gaps in the programs' functioning. This method will also enable the team to assess the quality of communication, collaboration, and coordination among stakeholders involved in the programs.

Ethical Considerations

Ensuring ethical practice throughout the evaluation process is of utmost importance. The following considerations will be considered to adhere to the ethical guidelines. Obtain informed

consent from all participants, guaranteeing their voluntary involvement in the interviews and focus groups. Inform participants of the purpose of the evaluation, potential risks and benefits, and their right to withdraw at any time. Confidentiality and anonymity should be maintained by protecting participants' personal information and responses, with data anonymization employed as necessary.

All data can be securely stored in compliance with relevant data protection regulations, with access restricted to authorized evaluation team members. Before initiating data collection, ethical approval should be sought from appropriate institutional review boards (IRB) or ethics committees to determine if oversight is necessary. If necessary, the IRB will ensure the evaluation aligns with established ethical standards and principles. By adhering to these ethical considerations, the evaluation protects participants' rights and promotes transparency and integrity in the research process.

Roles and Responsibilities in the Process Evaluation

The evaluation of the program will be overseen by a team of experienced evaluators. The team will be responsible for designing the evaluation plan, selecting appropriate data collection methods, and developing data collection instruments such as interview guides and survey questionnaires. They will also collect and analyze data from various sources, synthesize evaluation findings, and generate recommendations. Additionally, the team will communicate findings and engage stakeholders in discussions about program improvement. FIMR CRT and BBC members will play a critical role in providing input and feedback throughout the evaluation process. Their responsibilities will include participating in the development of the evaluation plan and identification of key evaluation questions, providing access to relevant program documents and data sources, facilitating the recruitment of study participants, participating in

interviews and focus group discussions, and contributing to the interpretation of evaluation findings and prioritization of recommendations. Stakeholders such as healthcare providers and social service agencies will also be engaged in the evaluation process to ensure the evaluation reflects the community's needs and priorities. Their roles will include participating in focus group discussions and providing insights into the implementation and impact of the FIMR and BBC programs, contributing to the identification of barriers, facilitators, and potential areas for program improvement, providing feedback on evaluation findings and recommendations, and collaborating with the evaluation team and program staff to implement program improvement strategies.

Quality Assurance Mechanism

To ensure the methodological rigor and credibility of the process evaluation, regular check-in meetings will be organized by the evaluation team with the CRT and BBC members. These meetings will serve as a platform to discuss the evaluation's progress, address any challenges that arise during the data collection and analysis phases, and conduct data validation by reviewing and interpreting preliminary findings. Stakeholder feedback will be gathered during these meetings to inform the evaluation process, and necessary adjustments will be made to the evaluation plan to align with the objectives and needs of the FIMR and BBC programs. This collaborative approach will ensure that the evaluation remains focused and responsive to the stakeholders' priorities and promotes continuous quality improvement throughout the evaluation process.

Data Collection

Reflexivity

Reflexivity will be practiced throughout the research process to ensure the credibility and trustworthiness of the evaluation findings. This will involve the evaluation team reflecting on their assumptions, biases, and experiences that may influence data collection, analysis, and interpretation. By acknowledging and addressing these potential biases, the evaluation team will ensure that the findings accurately represent the participants' experiences and perspectives (Dodgson, 2019).

Data Analysis

Evaluators will use an inductive-deductive approach to analyze transcripts. The deductive analysis will employ a priori codes, considering the existing literature and frameworks regarding collaborative effectiveness and stakeholder engagement. Concurrently, inductive coding will identify new themes and patterns emerging directly from the data using an adapted Grounded Theory approach (Bingham & Witkowsky, 2021). An open coding process will be crucial for capturing emerging patterns that may contribute to a more nuanced understanding of collaborative facilitators and barriers to BBC implementation. All transcripts will be coded using qualitative software platforms such as Dedoose, NVivo, and Atlas.ti. among others.

Ensuring Reliability, Validity, and Triangulation

Reliability:

A multifaceted approach will be utilized to ensure reliability. Inter-coder reliability will be established by having multiple team members independently code a subset of transcripts and compare their coding to identify and resolve discrepancies. This process will foster consensus building among team members and enhance the consistency of data analysis. Additionally, the evaluation team will maintain consistency in data collection methods and procedures, ensuring

that the same protocols are followed across all interviews, focus groups, and document analyses (Noble & Smith, 2015).

Validity:

Descriptions, including verbatim quotes from participants, will be incorporated into reporting the findings to support themes summaries. This strategy will provide context and illustrate themes, helping ensure that the findings represent participants' experiences and perspectives. Member checking will be conducted by sharing preliminary findings with the participants and soliciting their feedback. This process will help to confirm that their perspectives are accurately represented in the findings, further strengthening the validity of the evaluation outcomes.

Triangulation:

Triangulation will be employed to strengthen the credibility and comprehensiveness of the evaluation findings. This will involve using multiple data sources and methods, including interviews, focus groups, and document analysis, to gather diverse perspectives on implementing BBC initiatives. By employing triangulation, the evaluation team will obtain a richer understanding of the program's facilitators and barriers. Comparing and contrasting findings from different data sources will enable the identification of convergence and divergence, which will help validate and refine the evaluation findings (Carter et al., 2014).

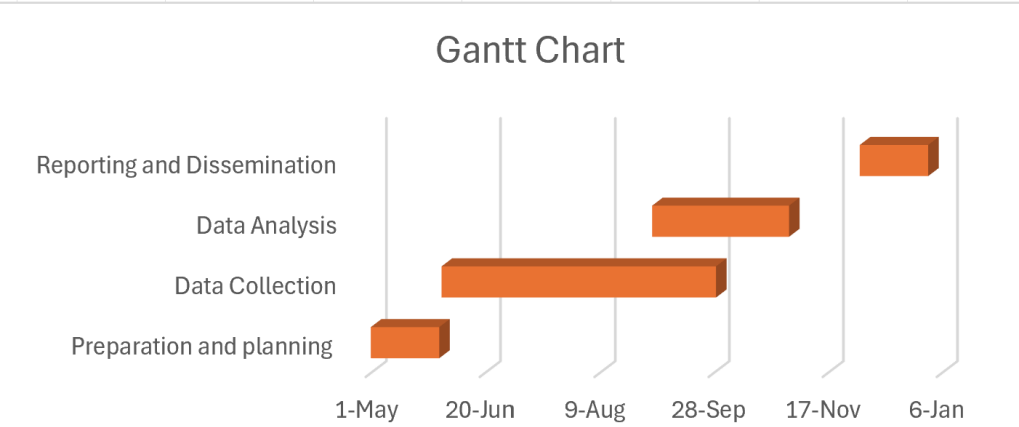
Reporting and Dissemination

The team will collaborate with key partners to create a dissemination plan to leverage the key partner's network. A comprehensive written report detailing the evaluation methods, findings, conclusions, and recommendations will be prepared and shared with stakeholders through various means, such as email, meetings, or workshops. Additionally, the team will

organize presentations and workshops to facilitate in-depth discussions on the findings, fostering a collaborative and interactive learning environment. Infographics and visual summaries will be developed to make the key findings easily understandable and shareable, enabling stakeholders to grasp essential information effectively.

The evaluation team will develop a detailed communication plan outlining the target audiences, communication channels, key messages, and timelines to ensure a well-planned dissemination process. Stakeholders will receive regular updates throughout the evaluation process, ensuring they remain informed and engaged. The evaluation report will be structured in a clear, concise, and accessible manner to cater to the needs of various stakeholders. Presentations and workshops will be tailored to different stakeholder groups' specific needs and interests, encouraging active participation and dialogue. Infographics and visual summaries will be designed to focus on clarity, visual appeal, and effective communication of key findings. The evaluation findings will be shared through various channels, including meetings, newsletters, social media, and professional networks, reaching a wider audience and maximizing the impact of the results.

Timeline for Data Collection, Analysis, and Reporting



	Preparation and planning	Data Collection	Data Analysis	Reporting and Dissemination
Start date	1-May	1-Jun	1-Sep	1-Dec
Days to complete	30	120	60	30

Data collection will span 17 weeks and will involve conducting interviews with FIMR CRT members and BBC Key informants. Focus group discussions with stakeholders will also be facilitated, and relevant documents will be collected and reviewed. The data analysis phase will last for 9 weeks and will include transcribing interview and focus group recordings, coding qualitative data, and iteratively analyzing and refining the data. The evaluation team will synthesize findings, write memos, and develop preliminary conclusions and recommendations. Lastly, the reporting and dissemination stage will cover 4 weeks and will involve drafting evaluation reports, incorporating stakeholder feedback, finalizing reports, and preparing dissemination materials. Findings will be shared with stakeholders and broader audiences through meetings, workshops, newsletters, and other appropriate channels.

Justify Conclusions

The evaluation will focus on evidence-based conclusions, drawing upon qualitative data. This will involve synthesizing and analyzing the information to extract meaningful insights that reflect the actual experiences of the participants. To ensure the relevance of these insights, the

team will collaborate with stakeholders to identify and clarify the values and standards most important for assessing the implementation and effectiveness of BBC initiatives, providing a solid foundation for the conclusions, and ensuring alignment with the program's goals and objectives.

To provide context and perspective, the findings will be compared with appropriate standards or benchmarks, such as program objectives, national norms, or previous performance data, enabling the evaluation of the program's performance and identification of areas for improvement. Furthermore, alternative explanations for the findings will be considered, and sound reasoning will be provided for discounting them, while actionable recommendations that align with the conclusions will be offered to promote data-driven decision-making and program refinement.

Ensuring Use and Sharing lessons learned

The final stage of the CDC framework for the process evaluation of BBC in Douglas County will focus on ensuring that stakeholders are aware of the evaluation procedures and findings, and that these findings are considered in decisions or actions that affect the program. To achieve these goals, the evaluation will be designed with the intended users and uses in mind, emphasizing its relevance and utility for stakeholders. This user-centered approach will ensure that the evaluation is tailored to the specific needs and priorities of those involved in the BBC's implementation and decision-making processes.

Throughout the project, stakeholders will be engaged by rehearsing how different kinds of conclusions might impact program operations. This ongoing dialogue will help prepare them for the eventual use of the findings, fostering a sense of ownership and investment in the evaluation process. To maintain transparency and open communication, continuous feedback

will be provided to stakeholders regarding interim findings, provisional interpretations, and decisions that may influence the likelihood of the evaluation's use. By keeping stakeholders informed at every step, trust can be built and a collaborative approach to program improvement can be facilitated.

Follow-up meetings with intended users will be scheduled to facilitate the transfer of evaluation conclusions into appropriate actions or decisions. These meetings will serve as an opportunity to discuss the implications of the findings, answer any questions, and guide stakeholders in applying the recommendations to their work. Lastly, tailored communication strategies will be developed to disseminate both the evaluation procedures and the lessons learned to stakeholders. By catering to their specific needs and preferences, the accessibility and usefulness of the findings can be maximized, ensuring that the evaluation achieves its primary purpose of informing program improvements and promoting better maternal and infant health outcomes in Douglas County.

IRB APPROVAL

IRB approval for this study may not be necessary because it does not meet the regulatory definition of research involving human subjects, as defined in 45 CFR 46.102(e)(1). According to this definition, a human subject is "a living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information." In this study, there will be no intervention or interaction with living individuals and identifiable private information will not be obtained. Therefore, the evaluation may not require IRB review or approval. However, adherence to ethical guidelines for handling and analyzing program documents and materials will be ensured to maintain confidentiality and integrity throughout the evaluation process.

Chapter 5: Discussion

Process evaluation of BBC in Douglas County plays a critical role in understanding the implementation and efficacy of this initiative. By conducting a process evaluation, key partners can identify barriers and facilitators that have a significant impact on the success of BBC, providing invaluable insights into the degree to which the program is being delivered as intended and whether it is reaching the intended target population.

The process evaluation's findings can serve as a catalyst for continuous program improvement, enabling key partners to identify areas that require refinement and subsequently implement strategies to optimize the delivery of BBC. This can substantially contribute to the overarching goal of reducing infant mortality rates in Douglas County, as it ensures that BBC is tailored to address the unique factors contributing to infant mortality.

Furthermore, process evaluation generates insights that promote better communication and collaboration among FIMR/BBC members, community members/families, and key partners. By fostering stronger partnerships, BBC can cultivate a comprehensive, multidisciplinary strategy to reduce infant mortality rates, as it facilitates the integration of diverse perspectives and expertise, ultimately leading to more holistic and effective solutions.

The findings of process evaluation also provide a robust evidence base upon which stakeholders can make informed decisions regarding the refinement, scaling, or sustainability of BBC. By illuminating what works and what does not, decision-makers can strategically allocate resources toward the most effective strategies, thereby optimizing the impact of BBC on infant health outcomes. This ensures that the BBC remains responsive to the evolving needs of the community. Additionally, process evaluation can shed light on the influence of external factors, such as local policies or community-specific challenges, on the implementation of BBC.

Understanding these contextual factors is crucial, as it enables key partners to better address the unique needs of Douglas County, thereby enhancing the program's responsiveness and relevance to the local community.

The process evaluation of the FIMR/BBC program in Douglas County will aim to identify barriers and facilitators to implementing BBC initiatives, assess implementation fidelity, monitor program activities, and provide feedback for continuous program improvement. Through a combination of document review, direct observation, focus groups, and interviews, evaluators will gather valuable insights from various stakeholders, including BBC team members, community members, and healthcare providers. Our findings will inform recommendations to enhance the implementation and effectiveness of BBC initiatives.

Strengths and Limitations

The evaluation's main strength will lie in its comprehensive approach, which will involve multiple data collection methods and diverse stakeholders. However, limitations may include the potential for selection bias in focus group participants and reliance on self-reported information. Other limitations include recall bias, reactivity as well and researcher bias.

Recommendations

Our findings will likely suggest several recommendations to improve the implementation and effectiveness of BBC initiatives:

1. Strengthen communication and collaboration between stakeholders.
2. Address identified barriers to program participation
3. Improve data collection and monitoring processes to better track progress and outcomes.

Resource Implications

Implementing these recommendations may require additional resources, including funding, personnel, and training. Stakeholders should carefully consider the potential resource implications and prioritize recommendations based on feasibility and potential impact.

Dissemination Plan

Evaluation findings will be disseminated through a detailed report that outlines the evaluation methods, key findings, conclusions, and recommendations. The report will be shared with BBC stakeholders, including program staff, community partners, and local public health officials. Additionally, we plan to present our findings at relevant conferences and workshops to further promote the use of evaluation results in improving maternal and infant health programs.

Public Health Competencies

MPH Foundational Competencies and their application to capstone proposal

MPH2: Select quantitative and qualitative data collection methods appropriate for a given public health context.

The study will use qualitative methods (semi-structured interviews, focus groups, and observations) to gain information from the lived experiences of key partners.

MPH11: Select methods to evaluate public health programs

The study will use process evaluation to assess the barriers and facilitators of BBC

Concentration Competencies: Maternal and Child Health

MCHMPH1: Examine the historical development of MCH public policies and practices in the U.S. for federal, state, and local agencies and programs serving MCH populations and analyze the current gaps in MCH services and programs.

Review key policies and initiatives at the federal, state, and local levels that have influenced infant mortality programs, such as the Healthy Start program and Title V Maternal and Child Health Services Block Grant.

Conduct interviews with key stakeholders involved in the development, and implementation, of BBC to understand the program's goals, objectives, and implementation process

MCHMPH3 Identify the key public health issues for MCH populations at the local, state, national, and global levels.

FIMR process evaluation identifies factors influencing infant mortality in Douglas County (local), informing interventions and policies to improve MCH outcomes.

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