MomsFirst

Local Evaluation 2017

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Table of Contents

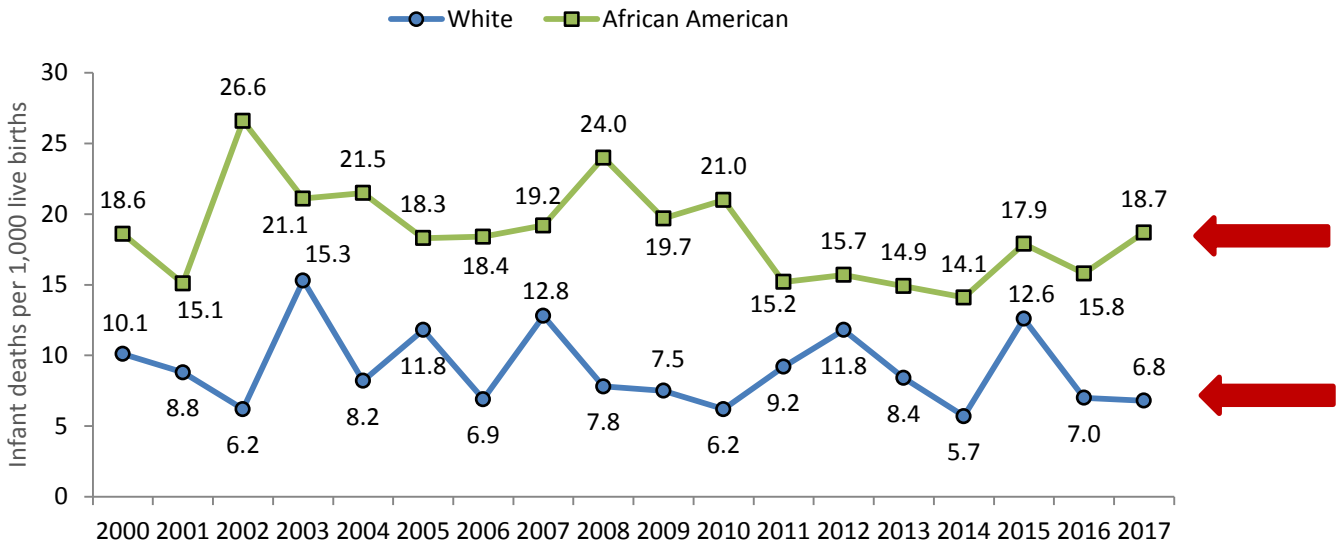
Tables and Figures

Tables

Figures

The Problem

Infant mortality rates (IMR) reflect how well a community takes care of the most vulnerable among them. Cleveland, Ohio continues to be a city with an alarming infant mortality rate and an even more disappointing racial disparity in infant mortality. These health disparities are the result of powerful, complex relationships that exist between health and biology; genetics and individual behavior; and between health and health services, socioeconomic status, physical environment, discrimination, racism, literacy levels, and legislative policies. The gap between the green and blue lines represents the racial disparity in infant mortality in Cleveland.



MomsFirst Project

MomsFirst is a Community Health Worker (CHW), home-visiting, education and support program for pregnant women living in the City of Cleveland. The MomsFirst Project's purpose is to reduce the disparities in infant mortality and poor birth outcomes experienced by African Americans in the City of Cleveland. MomsFirst services consist of outreach, case management, interconceptional care, and health education; these services are provided until the child's second birthday.

MomsFirst 2017 Objectives

- To achieve an infant mortality rate of 5.0 infant deaths per 1,000 live births by December 31, 2017
- To reduce low birth weight births (<2,500 grams), of all live singleton births, to 11.0%
- To reduce very low birth weight births (<1,500 grams), of all live singleton births, to 1.7%

How Did We Do?

- 6.3 per 1,000 live births
- 13.0% born at a low birth weight
- 3.6% born at a very low birth weight

Snapshot

While the one year IMR for all served participants decreased from 7.25 in 2016 to 6.3 in 2017, MomsFirst did not meet the IMR Performance objective of 5.0. The IMR for participants who received a visit after the birth of their babies was 6.6 compared to 5.4 in 2016. The difference in the IMRs between 6.3 and 6.6 reflects participants' varying levels of engagement in the program. We see that MomsFirst retained more participants who eventually experienced an infant death in 2017 compared to 2016. However, in the City of Cleveland where our participants live, the IMR in 2017 for unserved births was 13.3 and 11.7 in 2016; both rates are significantly higher than the MomsFirst rate.

IMR Comparisons for…	Cleveland		All MomsFirst Participants Enrolled*		MomsFirst Participants with a Visit After Delivery**	
	2016	2017	2016	2017	2016	2017
Births	5,477	5,275	689	789	557	604
Deaths	64	70	5	5	3	4
IMR	**11.7**	**13.3**	**7.25**	**6.3**	**5.4**	**6.6**

*Women with at least one home visit prior to delivery

**Women served pre-delivery and women with at least one home visit after delivery

MomsFirst 2017 Federal Benchmarks

	2017 Goal*	2017 Data
% of women with health insurance	90.0	92.7
% of women with a reproductive life plan (RLP)	80.0	98.0
% of women who received a postpartum visit	90.0	73.4
% of women, infants, and children who have a usual source of care	80.0	89.3
% of women with a well woman visit	60.0	61.4
% of participants who engage in safe sleep practices	70.0	79.8
% of infants ever breastfed or fed breastmilk	75.0	71.9
% of infants who were breastfed or fed breastmilk at 6 months	45.0	29.8
% of prenatal participants who abstained from smoking in their 3rd trimester	75.0	86.5
% of pregnancies conceived within 18 months of a previous live birth	40.0	34.7
% of well child visits for child participants	85.0	83.0
% of women screened for depression	88.0	86.2
% of women who screened positive for depression and received a referral	100.0	100.0
% of women who received an intimate partner violence screening	50.0	82.1
% of women that had father and/or partner involvement during pregnancy	80.0	72.9
% of women that had father and/or partner involvement with child 0-24 months	70.0	77.9
% of children aged 6-23 months who are read to 3 or more times per week	35.0	74.1

*Benchmark goals are staged – we increase the goal each year in the five year cycle

This report examines the progress of the MomsFirst Project (MFP) in achieving 2017 objectives with 1,627 participants, who are at high risk of a poor birth outcome. The significant local and national challenges of racial disparities in birth outcomes are also presented along with ways the MFP collaborated with other organizations in providing services and combating infant mortality in 2017.

For more information about the data, please refer to the Technical Notes section on page 24.

Background and Purpose

MomsFirst is a home visitation program that helps mothers succeed during and after pregnancy. It was established in 1991 as the City of Cleveland's Healthy Family/Healthy Start program and is currently funded by Healthy Start, Cuyahoga County Invest in Children, Ohio Department of Medicaid, and the City of Cleveland General Fund. There are 8 MomsFirst Neighborhood Outreach Sites with 31 CHWs and 8 Case Managers who service pregnant women and teens in the City of Cleveland. Women or teens that have experienced a pregnancy loss, are incarcerated, reside in shelters, or are enrolled in inpatient chemical dependency treatment programs are also served by the program. MomsFirst services consist of outreach, case management, interconceptional care, and health education; these services are provided from the prenatal period until the child's second birthday. The primary goals of the MomsFirst project are to reduce the number of African American families who experience the death of a baby before their first birthday and to improve birth outcomes for all families.

Healthy Start was enacted in 1991 by the Maternal and Child Health Bureau to address and reduce disparities in infant mortality experienced in high risk communities across the United States. In its 26th year of existence, Healthy Start currently funds 100 organizations in 37 states and the District of Columbia; MomsFirst is one of these organizations. The current 2014-2019 grant cycle introduced the Healthy Start 3.0 Five Pillar Approaches (Figure 1). These evidence-based approaches are linked to improving poor birth outcomes and reducing infant mortality.

Figure 1. *Healthy Start 3.0 Five Pillars*

Healthy Start 3.0 included three levels of funding with increased responsibilities at each level. Those with Level 1 funding are expected to impact the health of women, infants, children, and their families at the individual level. Level 2 funding awardees expand beyond Level 1 with enhanced services for wider, community level effects. The leadership and mentoring Level 3 grantee is to serve as the backbone for the establishment of collaborative networks. Level 3 grantees are a resource site for state, regional, and national action in support of other Healthy Start grantees and organizations working to improve perinatal outcomes through program and policy development. The Cleveland MomsFirst Project (MFP) is a Level 3 grantee and started its fourth year of a five year federal grant cycle in 2017.

MomsFirst Collaborations and Collective Impacts

MomsFirst Highlighted Collaborations and Collective Impacts

- Community Action Network (CAN)
  - Ohio Equity Institute (OEI)
    - Cleveland-Cuyahoga County Partnership (CCP)
- Invest in Children (IIC)
- Cleveland Regional Perinatal Network (CRPN)
- First Year Cleveland (FYC)
- Greater University Circle Community Health Initiative (GUCCHI)

Figure 2. *MomsFirst Highlighted Collaborations and Efforts*

MomsFirst has partnered with a number of different state, regional, and local organizations to combat infant mortality (Figure 2). These collaborations have led to leveraging funds, expansion of resources, and greater efforts in working to reduce poor birth outcomes. MomsFirst provided the foundation for the current Healthy Start Community Action Network (CAN). The CAN brings a cross sector of individuals and organizations together; in this case, to focus on reducing disparities in perinatal outcomes through information sharing, collaboration, and linkages. The Cleveland-Cuyahoga County Partnership (CCP) to Improve Birth Outcomes was started in 2014 and serves as the MomsFirst CAN with 60 organizations committed to improving birth outcomes. This partnership developed out of the state-wide effort to reduce infant mortality by the Ohio Department of Health, the Ohio Equity Institute (OEI)[1].

Invest in Children (IIC), a regional leader in early childhood services, has collaborated with MomsFirst since 2006. IIC is a community-wide partnership of public and private agencies working together to increase the development and impact of early childhood services regionally. The financial support of IIC

of over $4.7 million in the past eleven years has allowed MomsFirst to expand capacity and reach increasing numbers of high risk mothers during the prenatal period.

The Cleveland Regional Perinatal Network (CRPN) joined MomsFirst in working to ensure a coordinated system of perinatal depression in northeastern Ohio. CRPN has taken the lead in training our Case Managers and CHWs on perinatal depression screenings and building awareness of perinatal depression among medical professionals. CRPN has expanded their role to train MomsFirst CHWs and direct service staff in addressing toxic stress, intimate partner violence, and substance abuse among participants.

Additional Medicaid funding was made available to the County through First Year Cleveland (FYC) to support creative approaches to reducing infant mortality. FYC developed a county/city framework that is focused on data-driven priorities to align and coordinate systems to decrease infant deaths. From 2017-2020, FYC and its partners will focus on coordinating across agencies to reduce racial disparities, address extreme prematurity, and eliminate sleep-related infant deaths, ensuring synergy with MomsFirst's work in direct service and as a Healthy Start (HS) backbone agency. In October 2017, all MomsFirst staff attended the 3-day Florida State University *Partners for a Healthy Baby* curriculum training funded by Medicaid funds through FYC. Also as a result of this Medicaid funding, MFP was able to add 3 CHW positions and 6 Community Liaison workers. Community Liaisons conduct outreach and recruitment for the MFP sites and form partnerships with community agencies to build awareness of prevention strategies.

Other MomsFirst collaborations include the Case Western Reserve University (CWRU) Center on Urban Poverty and Community Development at the Jack, Joseph, and Morton Mandel School of Applied Sciences. CWRU assists MomsFirst with local evaluation activities, presenting findings, and utilizing data to improve program operations and outcomes. CWRU played a large role in our monthly and quarterly reporting and data analysis in 2017.

MomsFirst State, Regional, and Local Efforts

Due to MomsFirst's collaborations with the various organizations mentioned above, the Project was able to accomplish a number of different activities in 2017. In Fall of 2017, MomsFirst co-led a collective impact effort to submit an application for a Housing Assistance pilot program designed to expand housing opportunities to impact infant mortality by demonstrating the effectiveness of a time-limited

rental subsidy targeted to households that include pregnant women, new mothers, or infants within the first year of life. The goal of the program was to assess the potential impact of a rental subsidy to reduce the risk factors for infant mortality and increase housing stability of low-income households with children. Eligible participants would be provided case management services via home visiting programs. Our community was not selected to receive funding, but is looking forward to learning the outcome of the pilot for potential replication.

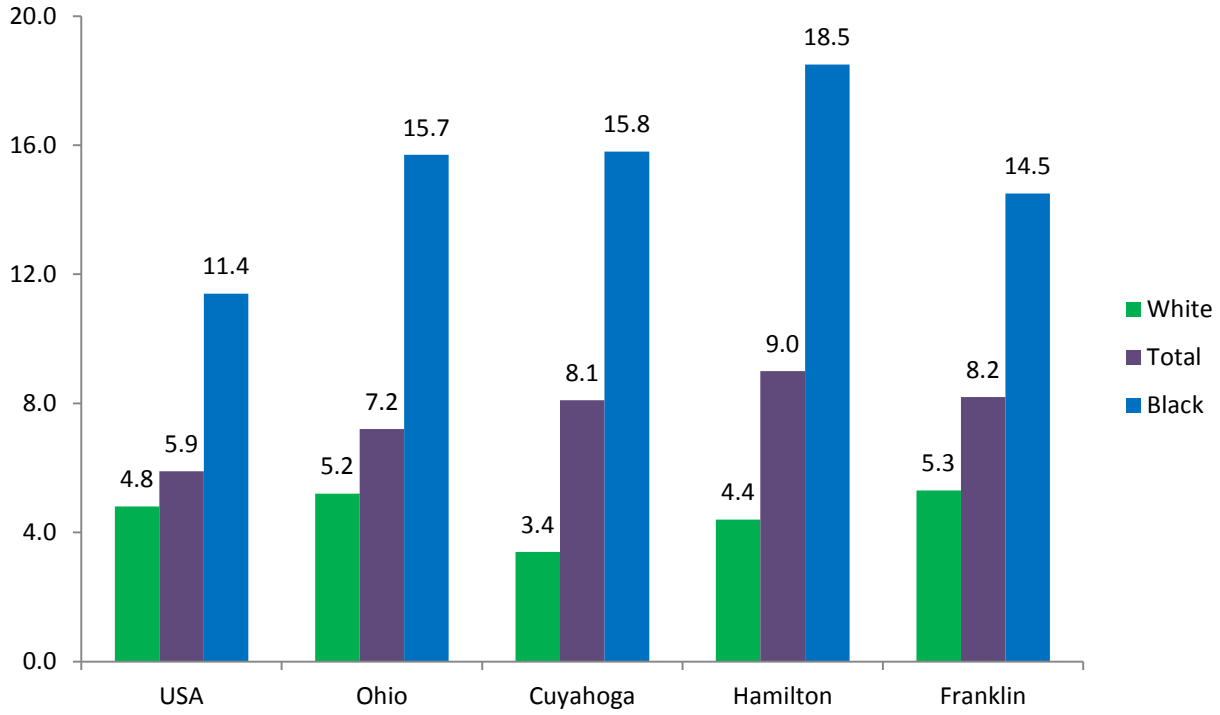
MFP continued its role in CCP to monitor the completed upstream and downstream activities of increasing access to Long Acting Reversible Contraceptives (LARCs)[2] and CenteringPregnancy[3] through OEI's three year agenda. In 2017, CCP embarked on a community engagement strategy targeting the 44128 zip code--a zip code with a high IMR. This strategy is working to address inequities in policies and services to ensure opportunities for optimal health and birth outcomes. The primary strategies specific to addressing quality and access to care are the OEI/CCP's Choice Project (same day access to LARCs at clinics) and CenteringPregnancy, which includes cultural competency training for clinical providers. In December 2017, OEI hosted a training called, *Effective Strategies to Reduce Infant Mortality*, which was for professionals and paraprofessionals across Cuyahoga County who work with maternal and child health populations. This cross-training addressed clinical interventions to reduce premature births, specifically the use of 17P (progesterone therapy to prevent prematurity). A tool kit is in development for CHWs to use in explaining the benefits of 17P to participants.

Lastly, MomsFirst has partnered with a number of other organizations including the Social Determinants of Infant Mortality Advisory Group of the Health Policy Institute of Ohio and the Greater University Circle Community Health Initiative (GUCCHI). The Social Determinants of Infant Mortality Advisory Group studies the social determinants of health and infant mortality by contributing content expertise, providing feedback on preliminary findings, and making recommendations for policy changes that will be shared with Ohio's Governor to improve the social, economic, and physical environments. MomsFirst remains active in helping to advise GUCCHI, which is the leading infant mortality and lead poisoning reduction initiative aimed at the low-income population in and around Cleveland's University Circle.

Infant Mortality Overview

Infant mortality rates reflect how well a community takes care of the most vulnerable among them. It is considered a sensitive index for the health of a community. A live born baby that dies before 365 days of life is an infant mortality. An infant death is categorized as either a neonatal death (death within the first 28 days of life – typically due to preexisting health conditions and prematurity), or a post-neonatal death (death from 28 days to one year – more reflective of living conditions, quality of care, medical care, etc.). An infant mortality rate (IMR) is calculated by dividing the number of infant deaths in a community by the number of live births. This result is multiplied by 1,000 and represents the number of infant deaths per 1,000 live births. The Healthy People 2020 goal for infant mortality is 6.0 and Ohio ranked 43rd in the US with an IMR of 7.4 in 2016.

Figure 3 *Black, White, and Total Infant Mortality Rates – USA (2016 data) Ohio and Largest Counties (2017 Data)*[4]



While infant mortality continues to be an issue in the nation, the challenge we have not been able to overcome is reducing the racial disparity in infant mortality. Figure 3 presents infant mortality rates for

the United States, Ohio, Cuyahoga, and other like counties in Ohio; each geographical region shows the African American IMR as at least two times higher than the White IMR.

Cleveland mirrors the region, state, and nation with a large racial disparity in infant mortality. The three year IMR for Cleveland, 2015-2017, was 13.0 infant deaths per 1,000 live births. However, we see a large disparity between African American and White IMRs with a White IMR of 8.2 infant deaths per 1,000 live births compared to the African American IMR of 16.9 from 2015-2017. To illustrate this disparity, Figure 4 presents the IMR for the City of Cleveland from 2000 through 2017. The highest IMRs are for African Americans at the top of the figure, depicted with the green line. The lowest IMRs are for Whites, depicted with the blue line. The gap between the green and blue lines represents the disparity in infant mortality. In 2017, African American babies died at almost three times the rate of White babies in Cleveland, a slight increase from 2016.

Figure 4 *Racial Disparity in Infant Mortality, Cleveland 2000-2017*

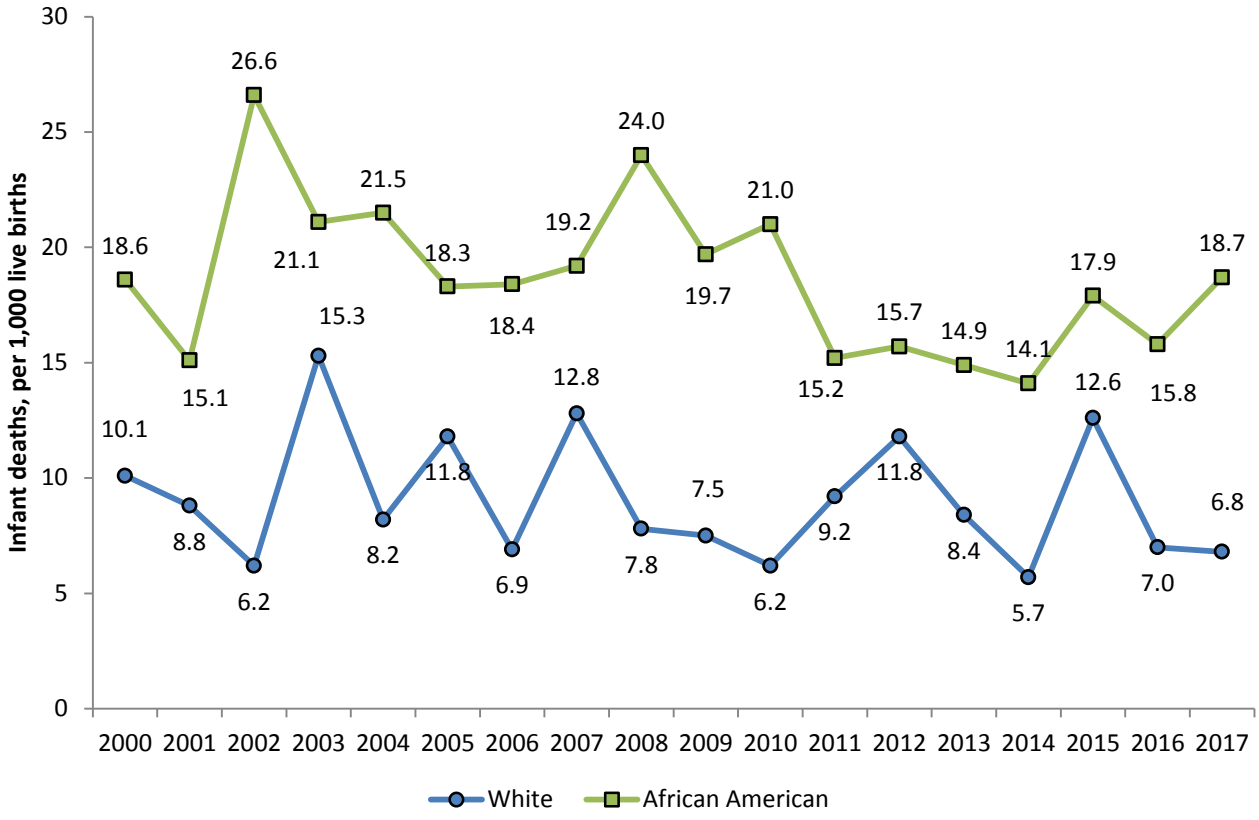
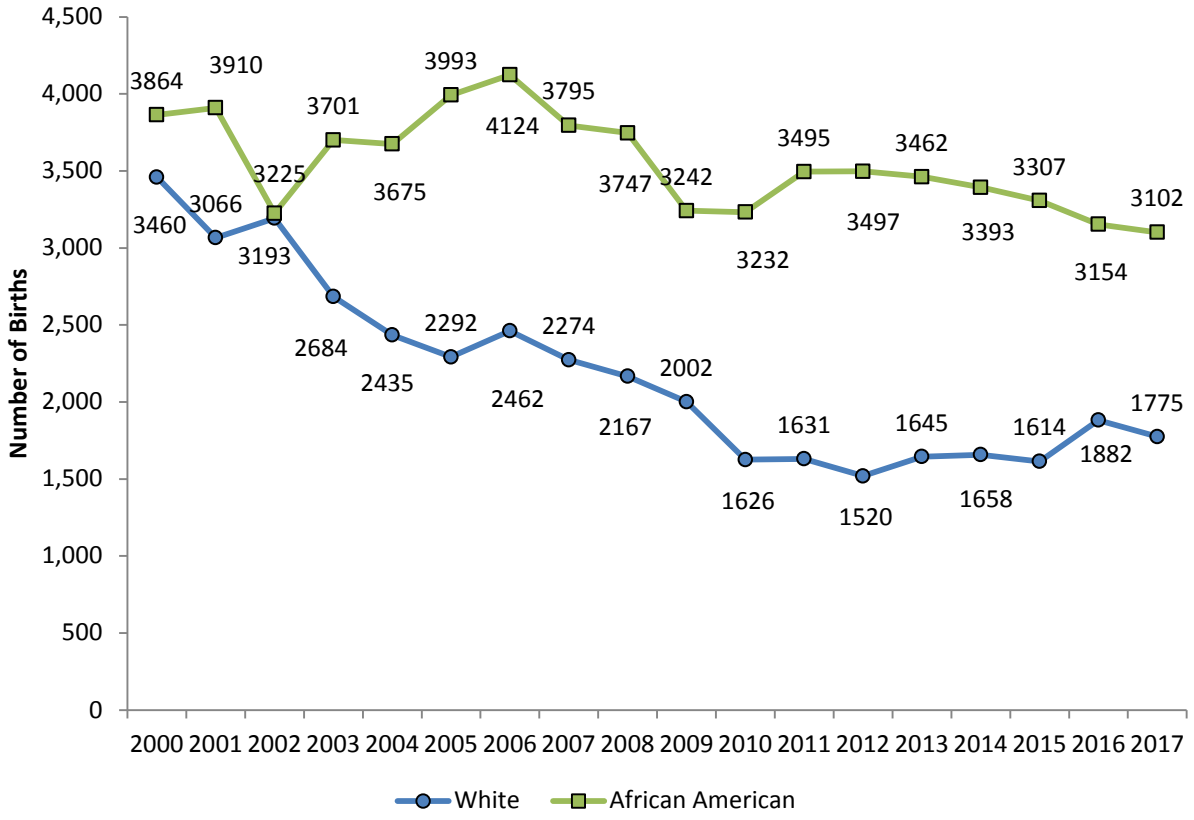


Figure 5 presents the differences in the number of births between African American and White women living in the City of Cleveland, as well as a decreasing number of births for both racial groups. In 2017, Cuyahoga County was home to 23% (5,755/24,542) of African American births in Ohio while Cleveland was home to 13% (3,102/24,542) of the African American births in Ohio; yet, African American babies are dying at an alarmingly higher rate than White babies. Historically, racial disparities in perinatal outcomes have been addressed by MomsFirst through a concerted effort toward enrolling African American women living in neighborhoods with consistently poor birth outcomes.

Figure 5 *Cleveland Births, 2000 – 2017*



Social Determinants of Health and Health Equity Overview

Social determinants of health play a defining role in population health and infant mortality (Figure 6a). The racial disparity in infant mortality is the result of powerful, complex relationships that exist between health and biology; genetics and individual behavior; and between health and health services, socioeconomic status, physical environment, discrimination, racism, literacy levels, and legislative policies. The World Health Organization definition[5] is widely used, including by the Centers for Disease Control and Prevention[6].

> "The social determinants of health are the conditions in which people are born, grow, live, work, and age, including the health system. These circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels. The social determinants of health are mostly responsible for health inequities – the unfair and avoidable differences in health status seen within and between countries."

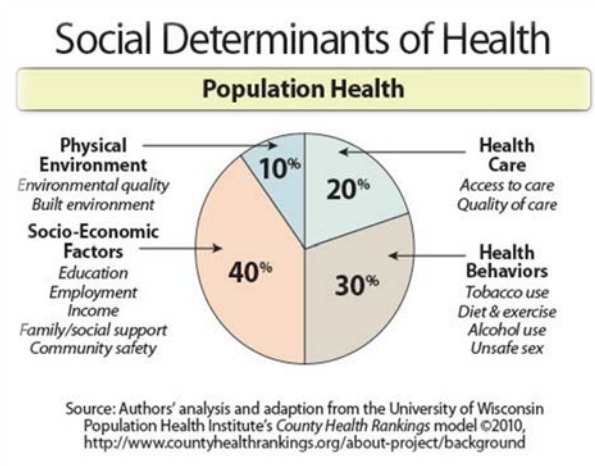
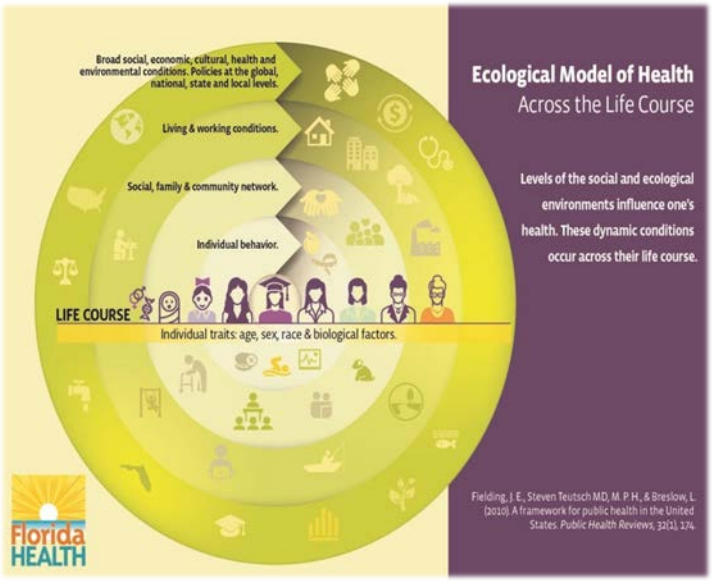


Figure 6a: Social Determinants of Health

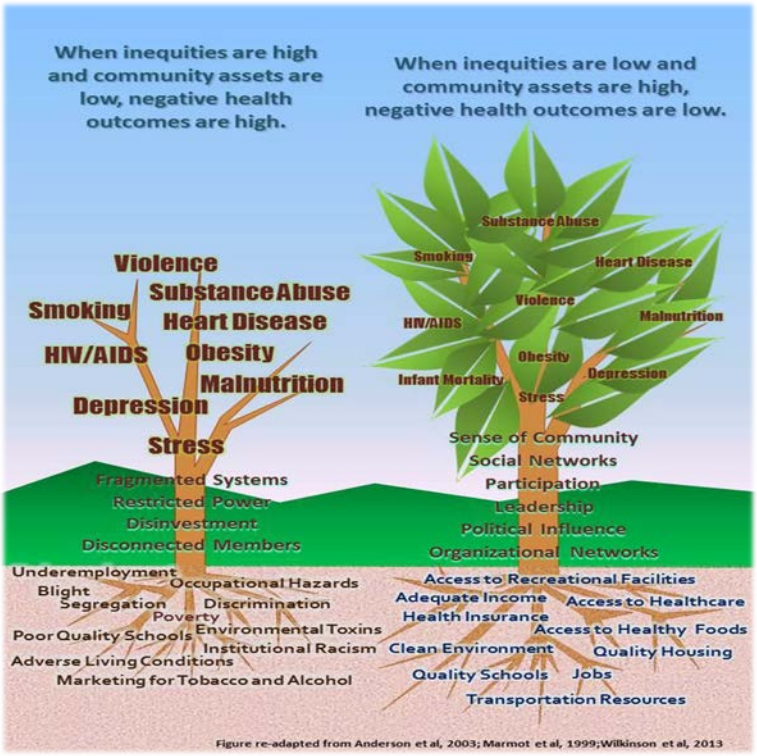
In the past, traditional interventions used prenatal care almost exclusively to increase healthy birth outcomes. Although these intervention strategies improved earlier access to care, there was no significant decline in the racial disparity in infant mortality between African American and White women[7]. Various studies have presented data that even when controlling for socio-economic status, racial and ethnic disparities are still prevalent. For example, an African American woman with a college degree is more likely to experience a poor birth outcome compared to a White woman without a high school diploma[8-9]. It is now understood that contributing factors in infant mortality are complex. In addition to the social determinants of health that we study the most (i.e., poverty, inadequate housing, and lack of quality education), it is also important to address racism and toxic stress as having adverse effects on health and birth outcomes.

Figure 6b: Ecological Model – Life Course



Social determinants of health are also related to the Life Course Perspective (LCP). In order to eliminate racial disparities, LCP focuses on more targeted interventions during sensitive development periods that mitigate risk factors and positively influence ones health[10] (Figure 6b). Behaviors and living conditions during pregnancy represent only a snapshot of the influences on a family prior to conception. It is important to consider the social, economic, cultural, and environmental conditions which impact the way people live, grow, work and age. African American mothers have multiple risk factors that contribute to their health outcomes due to stress from structural racism and inequitable conditions (i.e., segregated neighborhoods, discrimination, and poverty)[11]. Putting resources into social determinants of health at these sensitive developmental periods and promoting policy changes to address inequitable conditions will have a greater impact on reducing the racial disparity in infant mortality.

Figure 7: Social Determinants of Health Tree



MomsFirst has always provided support to address the social determinants of health during the life course by providing referrals and linkages to needed services and resources. MomsFirst offers assistance in: peer-to-peer education; referrals on smoking cessation, mental health services, education preparation, and job skills readiness; and self-esteem and toxic stress education. The potential for improving the health of neighborhoods is found when communities and people in power take action to address the inequities in the roots of the tree (Figure 7).

MomsFirst Goals and Population

MomsFirst 2017 Objectives

- To achieve an infant mortality rate among participants of 5.0 infant deaths per 1,000 live births by December 31, 2017.
- To reduce low birth weight births (<2,500 grams) of all live singleton births to 11.0%.
- To reduce very low birth weight births (<1,500 grams) of all live singleton births to 1.7%.

MomsFirst Targeted Population

The target area for the Cleveland MomsFirst Project (MFP) is the entire City of Cleveland. When enrolled in MomsFirst, a woman must be pregnant (or experienced a recent loss) and at high risk for a poor birth outcome based upon the MomsFirst Risk Assessment Instrument. Some of the highest risk participants are recruited from high schools and jails. MomsFirst has an adolescent component that works with high schools and parents to ensure very young women have a healthy pregnancy and baby, as well as make successful plans for the future. The jail component serves incarcerated pregnant women. These women and families have increased complexity and health risks for themselves and their pregnancies such as re-integrating into their communities and staying in school.

Table 1 *Regional Demographics Compared to MomsFirst Participants*

	Cuyahoga County	**Cleveland**	**MomsFirst**					
	U.S. Census Popn. Est. 2010	U.S. Census Popn. Est. 2010	2012	2013	2014	2015	2016	2017
Population	1,280,122	396,815	2,042	1,955	1,920	1,823	1,709	1,627
African American	30%	53%	83%	82%	83%	83%	81%	81%
White	64%	37%	8%	8%	7%	8%	9%	9%
Other	6%	10%	5%	5%	9%	8%	10%	10%
Ethnicity Hispanic	5%	10%	7%	7%	7%	7%	7%	8%

*For additional data information, refer to the Technical Notes section at the end of the report

A demographic breakdown for the region is presented in Table 1. The population figures from the U.S. Census[12] for Cleveland reported 396,815 residents as of 2010; predominantly African American 53% and White 37% with other racial groups at 10%. Hispanic ethnicity was reported by ten percent of residents.

Table 1 also presents race/ethnicity data for MomsFirst participants from 2012 through 2017. More than 80% of participants identified as African American between 2012 and 2017. Our participants have exacerbated circumstances compared to the general city of Cleveland, Cuyahoga County, and Ohio populations.

Table 2 illustrates that notion, in comparison to unserved residents of Cleveland and Cuyahoga County; MFP served proportionately more families that are dealing with circumstances that place them at higher risk for a poor birth outcome. For example, 23% of babies born to MomsFirst participants had teenage mothers compared to 11% of babies in the City of Cleveland and 7% in Cuyahoga County. In addition, fewer MomsFirst participants received adequate prenatal care. As illustrated by the percentage of participants receiving public assistance benefits in the first year of their child's life (including food and cash assistance), MomsFirst serves proportionately more families living in poverty. Compared to other City and County residents, families served by MomsFirst are also more likely to be involved with child welfare. Lead levels are similar across all three groups. Table 2 confirms that MomsFirst serves a high risk clientele.

Table 2 *Profile of 2014-2016 Births to MomsFirst Participants Compared to Other Cleveland and Cuyahoga County Residents*

	MomsFirst	**Other Cleveland**	**Cuyahoga County**
% Teen Births, mother's age 15 – 19	23%	11%	7%
% of Mothers over age 18 without H.S. diploma	31%	23%	12%
% Mothers w/ adequate prenatal care (Kessner Index)	46%	50%	62%
% Children in households receiving food assistance within 12 months after birth	88%	72%	45%
% Children in households receiving cash assistance within 12 months after birth	31%	19%	10%
% Children with any report of abuse/neglect by age 1, including substantiated and unsubstantiated	14%	11%	6%
% Children with a substantiated or indicated report of abuse/neglect by age 1	4%	3%	2%
% Children with an open child welfare case (at least 30 days) before age 1	23%	16%	9%
% elevated blood lead level (>=5mg/dl) by age 1	<1%	<1%	<1%
% any confirmed non-zero blood lead level by age 1	4%	3%	3%

*For additional data information, refer to the Technical Notes section at the end of the report

Table 3 highlights two important services received by young children and their families. MomsFirst families are more connected to supportive services than unserved families in the City of Cleveland and Cuyahoga County. For example, 20% of MomsFirst families received a Newborn Home Visit compared to 10% of Cleveland residents and 8% of County residents. Similarly, 34% of MomsFirst participants were receiving publicly funded child care in the first year of their child's life compared to only 24% of Cleveland residents and 15% of County residents.

Table 3 *2014-2016 Profile on the use of Public Services to Young Children & Their Families*

	MomsFirst	Other Cleveland	Cuyahoga County
% receiving Newborn Home Visit (by June 30, 2017)	20%	10%	8%
% receiving publicly funded child care in first 12 months after birth	34%	24%	15%

*For additional data information, refer to the Technical Notes section at the end of the report

Lastly, Table 4 compares birth outcomes between these groups. By actively seeking out and working with high risk women who are predisposed toward a poor birth outcome, higher rates of infant mortality and low birth weight are expected among MomsFirst participants compared to other groups. However, the percentage of women delivering low birth weight and premature low birth weight babies is similar for the MomsFirst population and other unserved residents of Cleveland. Compared to other pregnant women in Cleveland, approximately 5% fewer MomsFirst participants had a healthy birth. The healthy births indicator has stringent criteria (refer to Technical Notes section) with more MomsFirst babies falling short on this measure.

Table 4 *2014-2016 Birth Outcomes*

Child & Birth Outcomes	MomsFirst	Other Cleveland	Cuyahoga County
% low birth weight	16%	14%	11%
% premature low weight births	10%	9%	7%
% healthy births	40%	45%	54%

*For additional data information, refer to the Technical Notes section at the end of the report

Benchmarks/Performance Measures

In 2017, MomsFirst worked with 1,627 Cleveland women and their families to provide guidance, peer-to-peer education, and referrals to outside community agencies. Of those participants 56.5% were less than 25 years old. Of participants 18-years old and older, 65.1% had obtained a high school diploma, GED, or post-secondary education. At enrollment, most participants were not working (67.3%) and had never been married (86.7%); although, nearly half had a partner. Just over 60% of women served (n=1,030) were pregnant in 2017. Of the pregnant women served, 24.8% were teens. The remaining 597 women had delivered their babies prior to 2017 and were still engaged with the program. Twenty-four percent of women were recruited through outreach activities while another 19% were self-referred.

MFP Case Managers and CHWs took part in the implementation of the new standardized, evidence-based Healthy Start Screening Tools[13] to document participants' needs for care coordination, effective January 1, 2017. All staff participated in training on the screening tools, the benchmarks for the use of the tools, and new data collection requirements for the national evaluation. Since 2017 was the first year implementing these screening tools, nearly all data indicators were reported and calculated differently than past years. This year, also marked the beginning of the Healthy Start National Evaluation. This evaluation required a separate consent form for participants to share their data with the national evaluation. MomsFirst had 1,453 participants (89.3%) that signed consent forms to participate in the national evaluation.

Additionally, the federal Healthy Start program requires sites to monitor and report on progress related to benchmarks. The benchmarks and performance measures are categorized into the 5 Healthy Start Approaches: Improving Women's Health, Promoting Quality Service, Strengthening Family Resilience, Achieving Collective Impact, and Increasing Accountability. MomsFirst's reported benchmarks and performance measure fall under the following 3 Healthy Start approaches: Improving Women's Health, Promoting Quality Services, and Strengthening Family Resilience. Figures 9-11 presents 2017 data to demonstrate the 2017 goals that MomsFirst and the federal Healthy Start program established; this year, MomsFirst met 11 out of 17 benchmark goals.

Improving Women's Health

Improving women's health before, during, and after pregnancy is essential to improve perinatal outcomes and reduce infant mortality. MomsFirst focused on ACA outreach and enrollment; participant knowledge and awareness, and staff training; coordinating access to health coverage/comprehensive assessment and case management; supporting prevention through community wide education; and supporting and monitoring clinical prevention services. In 2017, MomsFirst aimed to promote women's health by:

- All newly enrolled participants received Affordable Care Act educational information and access to referral within sixty days of enrollment.
- The MFP employs a comprehensive family planning component. Prenatally, family planning education is provided a minimum of two times and reproductive life planning is completed.
- After administering the new Healthy Start screening tools, prenatal care, preventative care, educational level, and employment are all explored; if it is discovered that a participant is not receiving prenatal care, or does not have a medical home, CHWs provide the participant with a referral to obtain services.
- Developing a Mother's Wellness Packet to assist participants with being informed consumers when looking for a medical provider as well as chronic disease prevention and management information.

Figure 8. *2017 Federal Benchmarks and Performance Measures – Improving Women's Health*

	2017 Goal	2017 Data
% of women with health insurance	90.0%	92.7%
% of women with a reproductive life plan (RPL)	80.0%	98.0%
% of women who received a postpartum visit	90.0%	73.4%
% of women and children with a usual source of medical care	80.0 %	89.3%
% of women who have a well-woman visit	60.0%	61.4%

	2016 Data	2017 Data
% of women who received prenatal care beginning in their first trimester	77.4%	79.5%

Promoting Quality Services

Promoting quality services encourages access to and delivery of high quality health and social services to women, infants, and families. MomsFirst focused on service coordination and systems integration; health education and promotion; core competencies of program staff; and staff training in a standardized curriculum. In 2017, MomsFirst promoted quality services by:

- MomsFirst is a member of the Northeast Ohio Breastfeeding Coalition. In 2017, a Breastfeeding Resource Guide was developed for Ohio which included MFP information.
- MFP subcontractors are an important linkage for service coordination, leveraging existing resources across several sectors and avoiding duplication of services. Each provider offers in-house connections to clinical and supportive services.
- Through community events, such as health fairs, church events, and Neighborhood Consortia, community members learn about the steps to remember to safely put a baby to sleep and the local resources for creating a safe sleep environment; smoking cessation; and substance abuse prevention.
- MFP co-led a family planning training for Home Visitors across Cuyahoga County in August 2017. The training was designed to ensure that home visitors and other who work with families understand the impact of unplanned pregnancy on infant mortality and the importance of birth spacing.

Figure 9: *2017 Federal Benchmarks and Performance Measures – Promoting Quality Services*

	2017 Goal	2017 Data
% of children placed to sleep following safe sleep practices	70.0%	79.8%
% of children who were ever breastfed or fed breast milk	75.0%	71.9%
% of children who were breastfed or fed breast milk at 6 months	45.0%	29.8%
% of women that abstain from smoking cigarettes in their 3rd trimester	75.0%	86.5%
% of women who conceive within 18 months of the previous live birth	40.0%	34.7%
% of children who receive well child visits	85.0%	83.0%

	2016 Data	2017 Data
% of women who abstain from smoking	--	84.1%

Strengthening Family Resilience

Strengthening family resilience focuses on engaging both parents in the future of their child, and helps address the toxic stress that underlies many disparities in birth outcomes. MomsFirst focused on toxic stress and trauma informed care; tools to support mental and behavioral health; father involvement; and collaboration on parenting education. In 2017, MomsFirst strengthened family resilience by:

- MomsFirst works with the Cleveland Regional Perinatal Network (CRPN) to provide behavioral health services and carepaths. In 2017, the carepaths were updated to address discrimination and stress; screens for substance abuse; and domestic violence. Each of these carepaths resulted in a referral to one of the five mental health agencies, Recovery Resources, or the Domestic Violence and Child Advocacy Agency.
- MomsFirst, in collaboration with CRPN, University MacDonald Women's Hospital (UMWH) CenteringPregnancy program, and OhioGuidestone, supports *Enhancing the Mental Health and Wellbeing of UMWH CenteringPregnancy Patients*. This project focuses on: implementing universal perinatal depression screening for all patients; improving care coordination; expanding access to community mental health services; incorporating stress reduction techniques into the CenteringPregnancy curriculum; and offering a MomsFirst referral to all patients enrolled.
- The MomsFirst Project compiled multiple resources to create a "Welcome to Fatherhood" binder which is presented to fathers involved with their partners during pregnancy and includes information on: caring for and bonding with the baby; legal consultation; employment; and, family planning.

Figure 10: *2017 Federal Benchmarks and Performance Measures – Strengthening Family Resilience*

	2017 Goal	2017 Data
% of women who received depression screening	88.0%	86.2%
% of women who screened positive for depression and received a referral	100.0%	100.0%
% of women who receive intimate partner violence screening	50.0%	82.1%
% of women that demonstrate father and/or partner involvement during pregnancy	80.0%	72.9%
% of women that demonstrate father and/or partner involvement with infant <24 months	70.0%	77.9%
% of children age 6-23 months who are read to 3 or more times per week, on average	35.0%	74.1%

Leading Causes of Infant Deaths

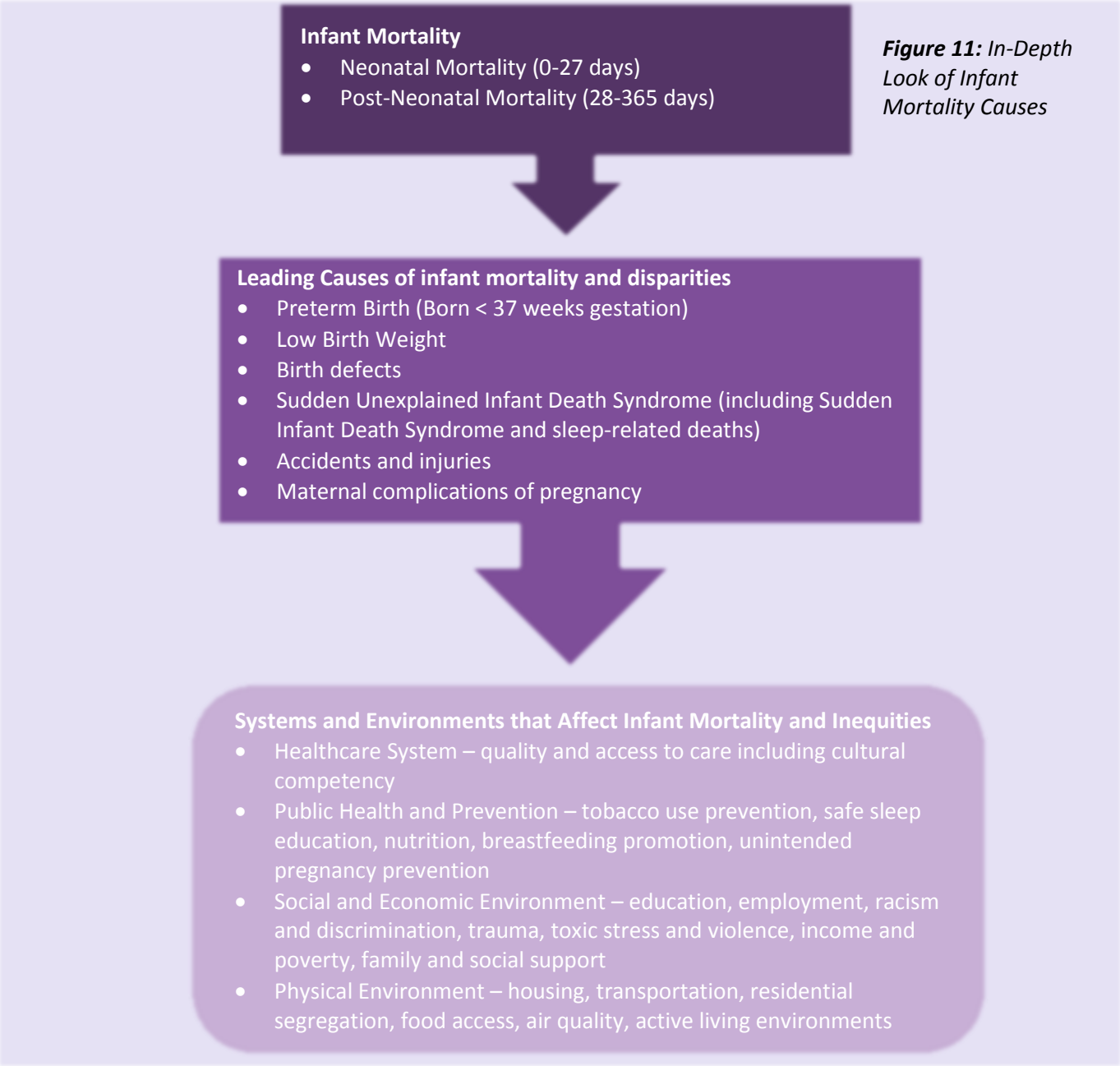


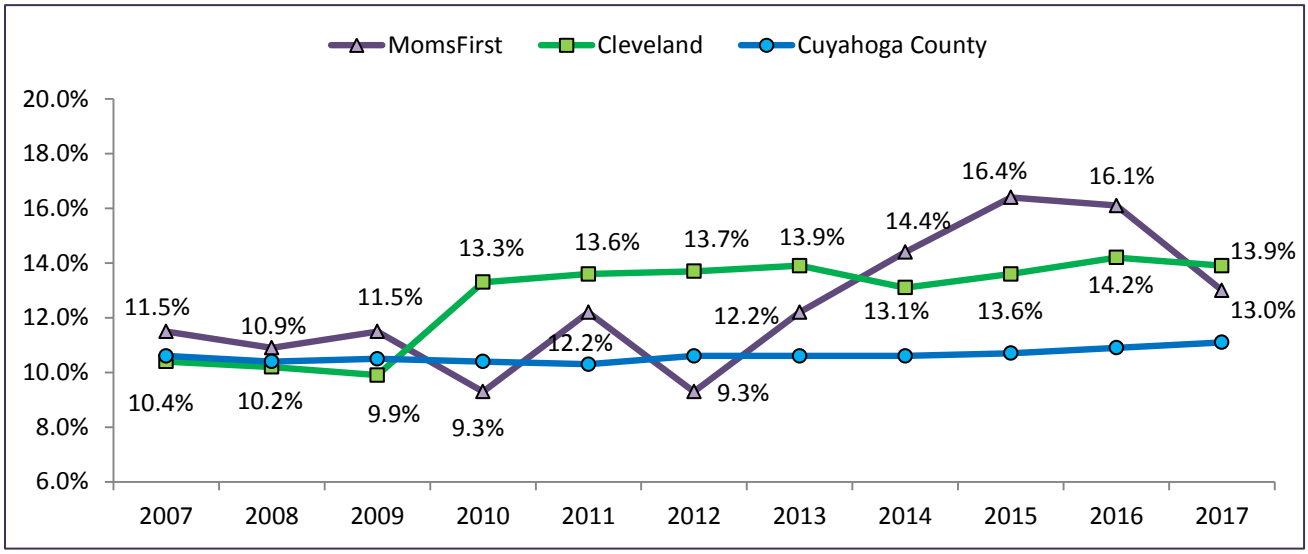
Figure 11: *In-Depth Look of Infant Mortality Causes*

https://www.lsc.ohio.gov/documents/reference/current/SDOIM_FinalCombined.pdf

The top five leading causes of infant mortality are preterm births, low birth weight, birth defects, Sudden Unexplained Infant Death Syndrome (SUIDS), and accidents and injuries. Many of these causes are preventable, and most are due to inequities in systems and environments; therefore, we have to

promote change in the way our systems and environment work together to benefit some groups and marginalize others. Our MomsFirst participants and their families experience many of these inequities in the systems and environments in which they live, work, and grow. We can see the effects of these lived experiences in birth outcomes.

Figure 12 *Low Birth Weight*



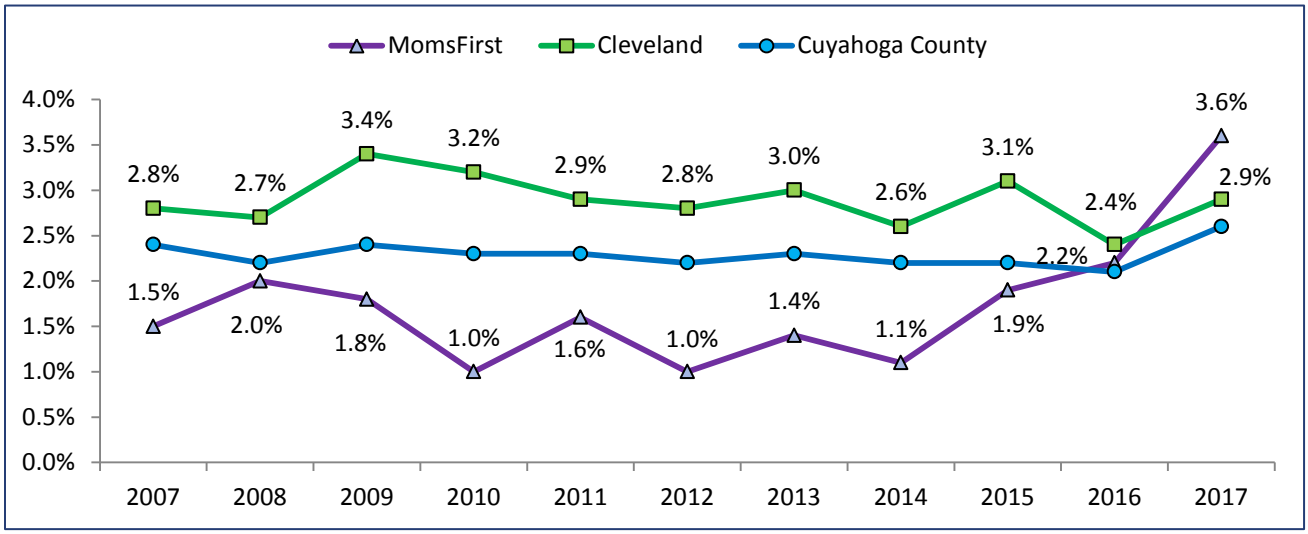


Figure 13 *Very Low Birth Weight*

Figures 12-13 present the percent of low birth weight and very low birth weight for MomsFirst, Cleveland, and Cuyahoga County. Unfortunately, the MFP did not meet the objectives for low birth weight and very low birth weight. After plateauing for two years, low birth weight births declined in

2017. Although the MFP very low birth weight births increased slightly since 2016, low birth weight births were below Cleveland's. This is the first time the MFP low birth weight prevalence was lower than Cleveland's since 2013. While low birth weight births declined, very low birth weight births increased for MomsFirst participants and were the highest they have been over the past decade. MomsFirst has always been below the City for this objective in the past. We also see that very low birth weight births increased among Cleveland Cuyahoga County residents as well.

Table 5 *IMR with Births and Deaths among MomsFirst Participants*

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007 Through 2017
IMR (Infant Deaths / Live Births)* 1,000	14.9	5.3	8.5	2.6	1.3	6.2	5.6	5.9	8.6	7.25	6.3	6.91
Number of Infant Deaths	17	6	8	2	1	5	4	4	6	5	5	63
Births	1,143	1,134	944	761	772	803	712	675	695	689	789	9,117

In 2017, there were five infant deaths (out of 789 births) among MomsFirst participants. Prematurity was the primary cause of death for one infant (with an estimated gestational age of 21 weeks), three were sleep-related, and the last was an infection. However, two of the sleep-related infants and the infant with an infection were all born prematurely (<31 weeks) and one of the sleep-related and the infant with an infection were both born at a low birthweight (880 grams and 620 grams, respectively).

While the one year infant mortality rate for all served participants decreased from 7.25 in 2016 to 6.33 in 2017, MomsFirst did not meet the IMR performance Objective of 5.0. However, the IMR of 6.3 is lower than it has been since 2014, and is lower than the City (13.3), the County (8.2) and the State (7.2) IMRs. Beginning in 2016, MomsFirst began calculating our IMR two different ways reflecting participants' varying levels of engagement in the program. The IMR of 6.3 includes all women who received at least one home visit whereas the IMR of 6.6 includes only those women who were engaged with the program pre- and post-delivery. MomsFirst retained more participants who eventually experienced an infant death in 2017 compared to 2016. Because the number of deaths and births are so small, each small change in number can influence the data. A better representation of the MomsFirst population would the combined IMR of 6.91 per 1,000 live births for 2007-2017.

Impacts & Recommendations

Impacts

- Ten year combined IMR of 6.91 infant deaths per 1,000 live births – lower than Cleveland, Cuyahoga County, and Ohio
- 26th year as a federal Healthy Start site to reduce racial disparities in birth outcomes
- HealthMobile Initiative (aka "Mom Mobile") provided clinical preventive services to 1,579 Cleveland residents including: 12 referrals to MFP; 66 pregnancy tests; 16 women received birth control; 13 pap tests; 196 STD/STI tests; 240 HIV tests; 10,000 condoms distributed; 160 physicals; 163 vision tests; 254 blood pressure screenings; 15 lead poisoning tests; 163 height/weight assessments; 2,186 immunizations; 71 flu shots; and 27 triaged for emergency care.
- In August 2017, the Cuyahoga County Partnership's *One Life, One Community* event was held in the 44128 community with over 300 in attendance to learn about the prevention of infant death and supporting maternal health.
- The Project's annual Baby Buggy Walk to commemorate National Infant Mortality Awareness Month took place in September 2017. Almost 100 men and women attended the event (10% dads) with their children (approximately an additional 100). There were 27 vendor tables. Workshops addressed: *A Healthy Relationship/Love Triangle, Change Starts Here/Sexual Assault Awareness, Are you o.k.?/Maternal Depression and Meal Planning on a Budget*
- In October 2017, all MomsFirst staff began training to become certified Community Health Workers through the Ohio Board of Nursing. The course consists of 100 hours of classroom training and a 130-hour externship.

Recommendations

Benchmarks:

- MFP did not meet the benchmark of women who received a postpartum visit in the 4-6 week period. Adjusting to a newborn takes time and it is not always feasible for our participants, who have high risk circumstances, to make an appointment 4-6 weeks after giving birth. Our CHWs continue to follow-up with participants to ensure they are taking care of themselves and keeping their appointments.
- Although MFP missed both breastfeeding benchmarks, MFP understands the importance of breastfeeding. MomsFirst has plans to revamp our breastfeeding education materials. We also plan

to collaborate with other organizations, specifically the Milk Mission, to promote breastfeeding in our participants.

- MFP did not meet the benchmark of children who attended well-child visit in the designated period. To increase this benchmark, MFP plans to update our website to include educational materials around child development and immunizations. Our participants will have 24/7 access to these materials.
- MomsFirst aims to increase the number of women screened for depression. Our staff will continue to be trained on perinatal depression and will ensure that all women are screened for depression.
- The benchmark for father and/or partner involvement during pregnancy went unmet. MomsFirst is adding more fatherhood involvement initiatives and updating resources in the program. We hope to meet that goal in the future.

Process:

- New Healthy Start Screening Tools introduced in 2017 produced a learning curve for MomsFirst staff and affected our process in the way we collected, reported, and evaluated data. We also had to make changes to our quality improvement and quality assurance processes. This new practice caused incomplete tools and missing data. By the end of 2017, MomsFirst staff had a better grasp on the tools and new processes have been put in place to prevent missing data in the future.
- MomsFirst had staff turnover in both the administration office and the 8 outreach sites. Turnover causes gaps in administrative processes and in continuity of providing participant services. By the end of 2017, MomsFirst's administration office filled all positions and CHW positions are currently being filled.

Collaborations:

- All of MomsFirst infant deaths were born either premature and/or low birth weight. Prematurity rates continue to be a concern; especially in African American women. In order to address the root cause, MomsFirst will engage in collective impact work focused on raising awareness and eliminating racism in the medical community through continued involvement in the Healthy Neighborhoods sub-committee of the Healthy Cleveland Initiative. The committee is working on a script and securing funding for a film project to highlight the stress associated with the lived experience of being a woman of color and how that stress contributes to poor birth outcomes, including infant death. The film will be used, along with a discussion guide, to train medical providers on implicit bias and culturally competent care.

Technical Notes/References

New Screening Tools

The federal Healthy Start initiative sought to standardize the way Healthy Start Grantees collect, report, and evaluate data. This update called for implementation of new evidence-based screening tools. The tools were adapted from existing evidence-based screening tools and address comprehensive risks for each perinatal period (preconception, prenatal, postpartum, and interconception). Launched in January 2017, these tools helped standardize data collection across all Healthy Start programs, gauging participant risk(s) and strengths, indicating whether further evaluation or assessment is necessary, and indicating which services or referrals may be most appropriate. We also saw a decrease in the number of women in the MomsFirst population compared to previous years (Table 1). The decrease is due to a number of changes that occurred in 2016-2017. The program had staff turnover causing gaps in workers consistently having full caseloads. In addition, population and birth numbers declined during this time period in the City.

MomsFirst Objectives and Data

The MomsFirst objectives were set to challenge the Project, and to be realistically achievable, within the scope of the Project. Vital statistics, such as infant mortality and low birth weight, naturally fluctuate from one year to the next due to the size of the population being studied. The rates generated from vital statistics data are considered estimates for the true rates in the population. These rates are subject to random error or the chance that unknown factors influence the numbers used in the rates. For example, over or under counting of infant deaths or births due to chance would greatly influence the rates (we see this in the difference between MomsFirst participants with a visit after delivery compared to MomsFirst participants ever served). The potential for random error is related to the amount of data available. Smaller groups are subject to much higher random error than larger groups. This is relevant to MomsFirst due to the relatively small number of births studied each year. The reliability of small group rates can be improved by combining several years of data which increases the stability of the reported estimate. A confidence interval can test the reliability of the estimates. A narrow confidence interval indicates greater reliability while a larger interval indicates that the estimate may be inaccurate, or reflect wide variation, compared to the actual rate in the population.

The MomsFirst data may have limitations due to errors in self-reporting by participants, errors in documentation by staff, and missing data. MomsFirst has several quality assurance procedures in place to ensure the validity of the data. The contractual agreements with community agencies include the data collection protocols and mandated services for participants. Another important component is the internet based data system that stores the participant information. MomsFirst has used this system for a number of years for data analysis and reporting of our programmatic efforts.

The relatively large amount of data MomsFirst gathers by 31 Community Health Workers necessitates an active quality assurance process. Quality assurance is a dynamic process with large and small adjustments over the course of a calendar year. Changes in policy, practice, and personnel, are addressed through two functions of quality assurance; training and monitoring. New staff are trained on the perinatal health curriculum (Partners for a Healthy Baby, Florida State University), the referral process, data collection, and using the data system. Follow-up trainings on standard practices or changes in policy occur at individual community agencies and at the monthly Administrative Management Group meetings. For monitoring of actual performance, quality assurance reviews are conducted at each community partner agency 2-4 times per year based on audit performance. The reviews become an opportunity to provide technical assistance on standard practices.

There were 1,648 participants in our data system. Once data analysis commenced, it was discovered that 21 participants did not have any other information included and therefore, were not included in the analysis leaving us with n=1,627. In calculating the benchmarks and performance measures, if data were missing for a participant, they were not included in the denominator. Lastly, because the implementation of the screening tools was not consistently used until approximately April 1st, merging had to be completed from old tools and assessments which filled in a lot of missing data for certain indicators.

Tables and Figure Notes

Tables 2-4, pgs. 13-14: Data housed in the ChildHood Integrated Longitudinal Data (CHILD) System at the Center on Urban Poverty and Community Development, Jack, Joseph and Morton Mandel School of Applied Social Sciences, Case Western Reserve University (Poverty Center), were used to conduct a regional comparison of served women to other City of Cleveland and County residents. The tables use three years of combined data, 2014-2016, from MomsFirst participants, other women who resided in

Cleveland at the time of their baby's birth but were not enrolled in the program, and residents of Cuyahoga County for comparison. Birth and Lead data provided by Ohio Department of Health. This should not be considered an endorsement of this study or these conclusions by the ODH. Food Assistance, Cash Assistance, and Publicly-Funded Child Care data provided by Cuyahoga County Jobs and Family Services. Newborn Home Visiting data provided by Cuyahoga County Board of Health. Child Maltreatment data provided by Cuyahoga County Division of Children and Family Services.

Table 2, pg.13 – MomsFirst: Based on 1,868 live births in 2014-2016, whose family received at least one visit from MomsFirst and whose case was open at the time of birth, and who were included in the ChildHood Integrated Longitudinal Data (CHILD) System. Birth statistics are based on 1,820 of these children who had matching birth certificate data. Those not matched to birth certificate data may have been non-Cuyahoga County residents at the time of birth, or born outside of Ohio, or had missing or inaccurate identifying information such as child's name or date of birth, making matching more difficult.

Table 2, pg.13 – Other Cleveland: Based on 16,886 Cleveland resident births in 2014-2016, matched to CHILD and not included among the MomsFirst births column.

Table 2, pg.13 – Cuyahoga County: Based on 44,583 Cuyahoga County resident births in 2014-2016, matched to CHILD.

Table 2, pg.13 – Kessner Index: Adequate prenatal care is determined using the Kessner Index, which defines adequate prenatal care as beginning in the 1st trimester and the total number of additional visits must meet or exceed that which would be expected for the child's gestational age.

Table 2, pg.13 – Child Maltreatment: data provided by Cuyahoga County Division of Children and Family Services. CHILD System only contains child welfare data through the first half of 2017. Thus, for children born in the second half of 2016, their child welfare involvement is only through the first 6 months of life, not the first year.

Table 3, pg.14 – Newborn Home Visit: data provided by Cuyahoga County Board of Health. At time of this report, CHILD System only contained Newborn Home Visiting data through the first half of 2017.

Table 4, pg.14 – Low Birth Weight: defined as <2500 grams.

Table 4, pg.14 – Premature Low Weight Births: defined as less than 37 weeks gestation and birth weight <2500 grams.

Table 4, pg.14 – Healthy Births: defined as 5 minute Apgar of 9 or 10, receipt of prenatal care in 1st trimester, gestational age >=37 weeks and birth weight >=2500 grams. Source: National Center for Health Statistics (1999).

Note: All reported infant mortality numbers from 2015, 2016, and 2017 are preliminary and subject to change. IMRs were calculated using matched birth and death certificates based on provisional data received January 2018. Black and African American were used interchangeably.

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Mission Statement

To implement an integrated, comprehensive, neighborhood-based, indigenous outreach program which includes: case finding, care coordination, health education, and disease prevention by fostering personal empowerment of individuals and families.

Cleveland Department of Public Health

We are committed to improving the quality of life in the City of Cleveland by promoting healthy behavior, protecting the environment, preventing disease, and making the city a healthy place to live, work, and visit.

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