Report on Use of $1.575M for Evidence-Based Programs for Infant Mortality Reduction

Session Law 2021-180, Section 9L.1. (bb)

Report to the

House of Representatives Appropriations Committee on Health and Human Services

and

Senate Appropriations Committee on Health and Human Services

and

Fiscal Research Division

By

North Carolina Department of Health and Human Services

June 16, 2023

BACKGROUND

In state fiscal year (SFY) 2015-2016, the North Carolina General Assembly appropriated one million five hundred and seventy-five thousand dollars ($1,575,000) in the Maternal and Child Health Block Grant Plan to the Department of Health and Human Services' (DHHS) Division of Public Health (DPH) for each year of the 2015-2017 fiscal biennium to be used for evidence-based programs in North Carolina counties with the highest infant mortality rates. The North Carolina General Assembly repeated this appropriation at the same level to be used for the same purposes within each following biennium of 2017-2019, 2019-2021 and 2021-2023.

Session Law 2021-180, Section 9L.1.(bb) requires the Division of Public Health to report on (i) the counties selected to receive the allocation, (ii) the specific evidenced-based services provided, (iii) the number of women served, and (iv) any impact on the counties' infant mortality rate. The legislation requires DPH to report its findings no later than December 31of each year to the House of Representatives Appropriations Committee on Health and Human Services, the Senate Appropriations Committee on Health and Human Services, and the Fiscal Research Division.

ACTIONS AND RESULTS TO DATE

In June 2021, the Division of Public Health allocated funding for the Infant Mortality Reduction program to local health departments (LHDs) in counties that experienced the highest infant mortality rates during the five-year period of 2010-2014. The funding distribution was based on the number of infant deaths per county during the 5-year period. Counties that had 75 or more deaths received an allocation of $113,750; counties with 20 – 74 deaths received $63,500; and counties with fewer than 20 deaths received $38,500. In SFY 2021-2022, the total number of LHDs who received funding was 21, with Anson County Health Department and Rockingham County Department of Health and Human Services declining funds. With no counties selecting Doula Services with the original request, Granville-Vance Health District were provided additional funds to continue their existing Doula pilot program.

The following table lists the 21 LHDs who received funding in state fiscal year 2021-2022:

Local Health Department/District	Funding Amount
Alamance	$113,750
Albemarle Regional Health District	$77,000
Beaufort	$63,500
Caldwell	$63,500
Cherokee	$38,500
Cleveland	$63,500
Columbus	$63,500
Forsyth	$113,750

Local Health Department/District	Funding Amount
Granville-Vance	$102,000 (includes $38,500 for Doula Services Program)
Halifax	$63,500
Lee	$63,500
Lenoir	$63,500
Montgomery	$63,500
Pitt	$113,750
Richmond	$63,500
Robeson	$113,750
Sampson	$63,500
Scotland	$63,500
Swain	$38,500
Warren	$63,500
Wilkes	$63,500

All LHDs were required to implement or expand upon at least one evidence-based strategy (EBS) that is proven to lower infant mortality rates. The following selected strategies are all considered an effective means to improve birth outcomes through addressing pregnancy intendedness, preterm birth, and/or infant death.

Evidence-Based Strategy	Description
CenteringPregnancy®	CenteringPregnancy® is a model of group prenatal care which incorporates three major components: assessment, education, and support. This model of group prenatal care promotes greater patient engagement, personal empowerment and community building, and has been shown to improve birth outcomes, including the disparities in infant mortality.
Doula Services Program	A doula is a trained professional that provides pregnant individuals with continuous physical, emotional, and informational support before, during, and shortly after birth to achieve a healthy and positive birth experience. The local health department shall hire a doula coordinator whose responsibilities include recruiting and coordinating the trainings for community members to serve as doulas; conducting outreach and education; developing procedures and educational materials; matching doulas with pregnant individuals; conducting follow-up and birth satisfaction surveys with program participants; and tracking and reporting data.

Infant Safe Sleep Practices	The American Academy of Pediatrics (AAP) has issued an expansion of previous guidelines on infant safe sleep that have been reviewed as evidence-based strategies to reduce the risk of Sudden Infant Death Syndrome (SIDS) and sleep-related deaths. The local health department shall designate staff to be trained in infant safe sleep practices to provide group and/or individual education sessions to parents and caregivers.
Nurse Family Partnership (NFP)	Nurse-Family Partnership (NFP) is an evidence-based, home visiting program that helps vulnerable pregnant individuals with their first child. Each individual served by NFP is partnered with a registered nurse within the first 28 weeks of their pregnancy and receives ongoing nurse home visits that continue through their child's second birthday.
Reproductive Life Planning Services	The local health department shall provide an assessment of each client's reproductive life plan which includes contraceptive counseling and education using a client-centered approach presenting information on all accepted and medically approved birth control methods. Increasing access to long-acting reversible contraception (LARC) provides uninsured/underinsured individuals with birth control methods that are effective for long periods of time, easy to use, and do not require any action on the part of the user.
Tobacco Cessation and Prevention	The local health department shall provide tobacco use screening (inclusive of electronic nicotine delivery systems) and counseling to all youth and adults present at health care visits. LHD staff shall be trained in the evidence-based 5A's (Ask, Advise, Assess, Assist, Arrange) method of tobacco cessation counseling. The LHD shall designate a staff person to become a certified tobacco treatment specialist to provide tobacco cessation counseling services to clients. Clients should be referred to QuitlineNC (1-877-QUIT-NOW) and/or appropriate community resources. The LHD should counsel clients on, and engage in evidence-based policy support efforts, limiting their exposure to tobacco products including secondhand smoke.

Many of the EBSs were already being implemented within some LHDs, and this funding served as an opportunity for expanding the reach in addressing infant mortality in these counties. They were selected based on their ability to have the greatest impact within the communities served and have proven to be effective through local health department implementation, particularly for those where the capacity for execution already exists.

Due to the continued COVID pandemic, LHDs were limited in their ability to provide as many services under each EBS. LHD staff were redirected to provide administrative and clinical support for COVID testing, vaccine administration and support, and not as many clients were coming to the LHDs for services. Dependent upon the EBS, some LHDs had the capacity to provide services virtually, but encountered issues such as limited internet connection and decreased patient engagement.

LHDs have reported that through the Infant Mortality Reduction program, they are able to provide additional resources, education and services to the individuals, families, and communities they serve. Pregnant individuals have continued to receive services through **Centering Pregnancy** and **Doula Services** even through the challenges of the COVID pandemic. The **Nurse Family Partnership** continued to provide home visiting services to pregnant individuals while experiencing some staff turnover. The **Reproductive Life Planning (RLP) services** strategy has provided individuals with comprehensive education on all birth control methods and an individual reproductive life plan. Individuals who have chosen long-acting reversible contraception (LARC) but were unable to receive a LARC because they were uninsured or underinsured, were able to receive them through this program. The **Tobacco Cessation and Prevention** strategy provided tobacco cessation counseling services to individuals and 61% served reported they either quit using or reduced their use of tobacco/smoking.

The LHDs continued to provide education and resources under the **Infant Safe Sleep Practices** strategy. Individuals who would otherwise be unable to obtain a safe sleep crib or pack ‘n play for their infant are provided with one after receiving safe sleep education. Due to the COVID pandemic, LHDs conducted safe sleep education sessions through a virtual format, as well as in person during the year. Three-month follow-up surveys are conducted with participants who receive infant safe sleep education to obtain information on their infant safe sleep practices, breastfeeding initiation and maintenance, and tobacco use. The LHDs that implemented Infant Safe Sleep Practices conducted 488 surveys in SFY 2021-2022. Participant reported data includes:

- 84.8% reported always laying their baby down to sleep on their back
- 64% reported initiating breastfeeding, out of those who initiated breastfeeding:
    - 39% reported breastfeeding their infant between one and three months
    - 38% reported breastfeeding their infant three months or more
- 96% reported not allowing smoking or electronic nicotine products use inside the home

The following is a summary of program activities, including the number of individuals served under each evidence-based strategy during the time-period of June 2021 to May 2022:

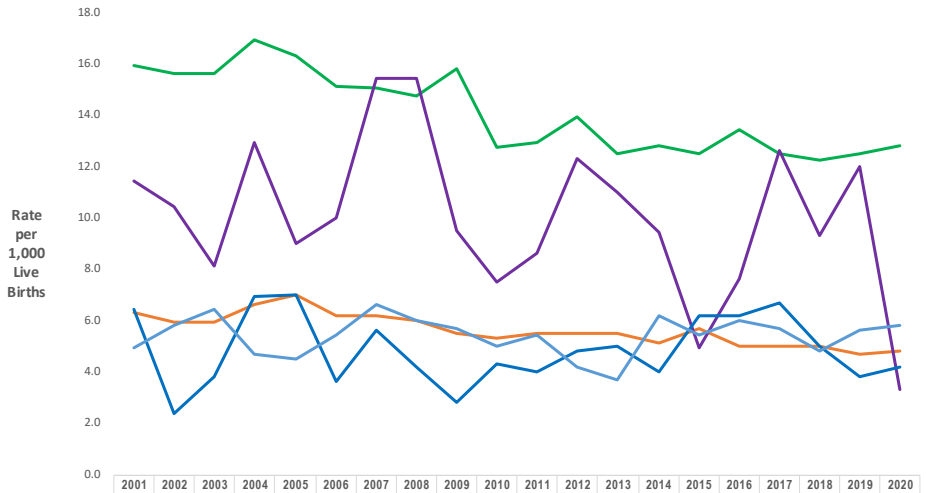
Evidence-Based Strategy (EBS)	# LHDs that Implemented EBS	# Patients Received Services	# Patients Educated	# Staff Trained	# Home Visits Conducted
CenteringPregnancy®	1	61	N/A	3	N/A
Doula Services Program	1	3	N/A	0	N/A
Infant Safe Sleep Practices	13	1,420	799 (educational sessions)	23	N/A
Nurse Family Partnership (NFP)	3	265	N/A	3	1,658
Reproductive Life Planning Services	11	599	9,713	17	N/A
Tobacco Cessation and Prevention	3	21 counseled; 66 QuitlineNC referrals made	10,152 (screened)	18	N/A

Infant mortality is impacted by multiple factors for which there is no one solution. It is influenced by the health of an individual before, during, after and between pregnancies. It is also further shaped by determinants of health, including the social, economic, geographical, and physical environments in which people are born, grow, live, work, and age.

Another key element in supporting improved birth outcomes is whether the individual has health insurance, and if they have access to a healthcare provider or facility. The importance of access to health insurance has been demonstrated in research. Specifically, studies have shown a greater decline in the infant mortality rate in states that have expanded Medicaid and even greater decline in rates for African American births.[i] Ultimately, expanding Medicaid can be a critical tool to reducing infant mortality rates.

North Carolina's infant mortality rate for 2020 was 6.9 deaths per 1,000 live births. This represents a 1.5% change from the overall 2019 rate of 6.8. As noted in the table below, racial disparities have persisted.

Infant Death Rates by Race/Ethnicity: NC 2001-2020



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White NH	6.3	5.9	5.9	6.6	7.0	6.2	6.2	6.0	5.5	5.3	5.5	5.5	5.5	5.1	5.7	5.0	5.0	5.0	4.7	4.8
Af. Am. NH	15.9	15.6	15.6	16.9	16.3	15.1	15.0	14.7	15.8	12.7	12.9	13.9	12.5	12.8	12.5	13.4	12.5	12.2	12.5	12.8
Am. Ind. NH	11.4	10.4	8.1	12.9	9.0	10.0	15.4	15.4	9.5	7.5	8.6	12.3	11.0	9.4	4.9	7.6	12.6	9.3	12.0	3.3
Other NH	6.4	2.4	3.8	6.9	7.0	3.6	5.6	4.2	2.8	4.3	4.0	4.8	5.0	4.0	6.2	6.2	6.7	5.0	3.8	4.2
Hispanic	4.9	5.8	6.4	4.7	4.5	5.4	6.6	6.0	5.7	5.0	5.4	4.2	3.7	6.2	5.4	6.0	5.7	4.8	5.6	5.8

Source: NC State Center for Health Statistics

** NH=Non-Hispanic*

The Division of Public Health is focusing on these disparities while addressing the overall infant mortality rate. Elimination of health disparities is a priority for DHHS and a key area of emphasis in developing programming.

The following table lists the baseline 2010-2014 infant mortality rates along with the 2016-2020 rates (per 1,000 live births) for the state and the 21 LHDs who received funding for the Infant Mortality Reduction program in 2021-2022:

- Fifteen (15) of the twenty-one (21) counties funded (71.4%) experienced lower rates in 2016-2020 compared to 2010-2014 rates (represented in green).
- Six (6) of the twenty-one (21) counties funded (28.6%) experienced higher rates in 2016-2020 compared to 2010-2014 rates (represented in blue).

Residence	2010-2014 Infant Mortality Rates[1]	2016-2020 Infant Mortality Rates[1]	Evidence-Based Programs Implemented in FY22					
			Centering Pregnancy	Doula Services Program	Safe Sleep	NFP	RLP	Tobacco Cessation & Prevention
North Carolina	**7.1**	**7.0**						
Alamance	8.5	5.7	♦		♦		♦	
Beaufort	10.5	9.6			♦		♦	
Caldwell	10.4	7.5			♦			♦
Cleveland	9.0	8.2				♦		
Columbus	10.9	9.1				♦	♦	
Granville-Vance Health District (Vance County)	9.7	9.3	♦	♦				
Halifax	10.9	10.5			♦			
Lee	8.8	8.4			♦			
Lenoir	9.2	8.8			♦			
Montgomery	13.5	10.1			♦		♦	
Robeson	12.0	10.1					♦	
Sampson	8.9	6.3					♦	
Scotland	11.7	9.3			♦		♦	
Warren	10.7	8.4*			♦			
Wilkes	9.2	7.1			♦		♦	
Albemarle Regional Health District (Bertie/Hertford counties)	10.8/15.1	11.4/12.0					♦	
Cherokee	10.0	11.4					♦	♦
Forsyth	8.5	8.9					♦	
Pitt	10.8	11.0			♦	♦		
Richmond	8.7	11.0			♦			♦
Swain	10.2	11.4*			♦			

[1]Source: North Carolina State Center for Health Statistics (2010-2014, 2016-2020)
*Technical note: Rates based on small numbers (fewer than 10) are unstable

The impact on infant mortality is a multifactorial health issue rooted in so many factors. It is difficult to determine the impact of these evidence-based programs alone within each county along with the challenges LHDs faced during the COVID pandemic. The $1.575M is only one source of funding for the state's infant mortality efforts, and the impact on infant mortality should be determined in the full context of the counties' resources, given many counties have been experiencing other reductions related to their maternal and infant health funding.

One of the priorities of DHHS is child and family wellbeing, including a specific focus on maternal and infant health. These efforts are connected to the work of the Perinatal Health Equity Collective. This Collective provides oversight and guidance for the implementation of the Perinatal Health Strategic Plan (PHSP). The selected evidence-based strategies as part of the Infant Mortality Reduction Program allocation are included as part of this statewide PHSP. The DPH has aligned infant mortality reduction initiatives with other efforts including the State Health Improvement Plan, and continues coordinating with other DHHS programs supporting maternal, child and family well-being.

Beginning in state fiscal year 2023-2024, the DPH will award funding for the Infant Mortality Reduction program to LHDs through a competitive request for applications (RFA) process instead of distributing funds to all counties within the top twenty-five percentile. This will allow LHDs the time and resources needed to develop a more comprehensive approach to improving birth outcomes while simultaneously partnering with their community to address racial disparities. Funding will be awarded to LHDs for a 3-year period to include strengthening the focus on the infant mortality disparities. LHDs in counties with the highest overall infant mortality rates and with the highest infant mortality disparity ratios during the five-year period of 2016-2020 will be eligible to apply.

¡ Bhatt, C. B., & Beck-Sagué, C. M. (2018). Medicaid expansion and infant mortality in the United States. American Journal of Public Health, 108(4), 565–567. https://doi.org/10.2105/AJPH.2017