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

Session Law 2023-134, Section 9M.1.(dd)

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

December 29, 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 and for the same purposes for the fiscal biennium of 2017-2019, 2019-2021 and 2021-2023.

Session Law 2023-134, Section 9M.1.(dd) 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 31 of 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 2022, 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. Five-year data was utilized to account for small numbers in communities and to help to ensure that individuals are not identifiable. The funding distribution was based on the number of infant deaths per county during the five-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 2022-2023, 23 LHDs qualified for funding. The total number of LHDs who received funding was 20, with Anson County Health Department, Rockingham County Department of Health and Human Services and Swain County Health Department declining funds. The declined funds were redistributed to 16 LHDs ($7,844 each) to provide transportation assistance and incentive items to support client engagement in program services, and to Granville-Vance District Health Department to continue their existing Doula Services pilot program. Additional funds were not allocated to the three LHDs who already received the higher funding level ($113,750).

The following table lists the 20 LHDs who received funding in state fiscal year 2022-2023:

Local Health Department/District	Funding Amount
Alamance	$113,750
Albemarle Regional Health District	$84,843
Beaufort	$71,344
Caldwell	$71,344
Cherokee	$46,344
Cleveland	$71,344
Columbus	$47,843

Local Health Department/District	Funding Amount
Forsyth	$113,750
Granville-Vance District Health Department	$109,843 (includes $38,500 for Doula Services Program)
Halifax	$71,343
Lee	$71,344
Lenoir	$71,344
Montgomery	$71,344
Pitt	$113,750
Richmond	$71,344
Robeson	$113,750
Sampson	$71,344
Scotland	$71,344
Warren	$46,344
Wilkes	$71,344

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 LHD shall designate staff to be trained on infant safe sleep practices to provide group and/or individual education sessions to parents and caregivers.
Nurse Family Partnership Expansion	Nurse-Family Partnership is an evidence-based, home visiting program that helps vulnerable pregnant individuals with their first child. Each individual served by Nurse-Family Partnership 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 which presents information on all accepted and medically approved birth control methods. Increasing access to long-acting reversible contraception 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.

Some 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.

During this timeframe, LHDs also reported experiencing higher rates of staff turnover, which limited their capacity to provide services at full capacity during different time periods.

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**, **Doula Services**, and **Nurse Family Partnership**. 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 but were unable to receive a long-acting reversible contraception 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 50% 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 crib or pack 'n play for their infant are provided with one after receiving safe sleep education. 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 662 surveys in SFY 2022-2023. Participant reported data includes:

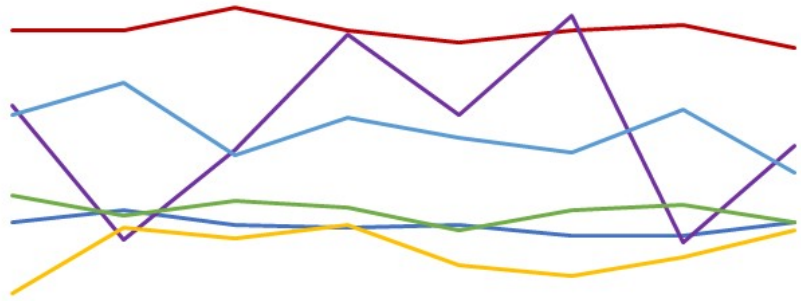
- 76% reported always laying their baby down to sleep on their back
- 71% reported initiating breastfeeding, out of those who initiated breastfeeding:
    - 31% reported breastfeeding their infant between one and three months
    - 45% reported breastfeeding their infant over three months
- 95% reported not allowing smoking inside the home
- 97% reported not allowing the use of electronic nicotine products 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 2022 to May 2023:

Evidence-Based Strategy (EBS)	# LHDs that Implemented EBS	# Patients Received Services	# Patients Educated	# Staff Trained	# Home Visits Conducted
CenteringPregnancy®	1	79	N/A	1	N/A
Doula Services Program	2	19	N/A	9	N/A
Infant Safe Sleep Practices	13	1,631	1,083 (educational sessions)	18	N/A
Nurse Family Partnership (NFP) Expansion	3	188	N/A	2	1,219
Reproductive Life Planning Services	10	658	9,525	33	N/A
Tobacco Cessation and Prevention	3	94 counseled; 48 QuitlineNC referrals made	12,152 (screened)	30	N/A

North Carolina's infant mortality rate for 2021 was 6.8 deaths per 1,000 live births. This represents a 1.4% decrease from the overall 2020 rate of 6.9. As noted in the table below, racial disparities have persisted.

Infant Death Rates by Race/Ethnicity, NC Residents 2014-2021



	2014	2015	2016	2017	2018	2019	2020	2021
NH White, single race	5.1	5.6	5.0	4.9	5.0	4.6	4.6	5.1
NH Black, single race	12.8	12.8	13.7	12.8	12.3	12.8	13.0	12.1
NH Am. Ind., single race	9.8	4.4*	8.0	12.6	9.4	13.4	4.3*	8.2
NH Asian/PI, single race	2.3	4.9	4.5	5.0	3.4	3.0	3.7	4.8
NH Multiracial	9.4	10.7	7.8	9.3	8.5	7.9	9.6	7.1
Hispanic	6.2	5.4	6.0	5.7	4.8	5.6	5.8	5.1

** Rates with an asterisk are based on a small number of deaths (< 10 deaths) and may be statistically unreliable – interpret with caution.*
Caution: Racial categories have changed from prior years and now reflect single race categories & multi-race. Comparisons with prior reports are not advised.

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 at the start of the program along with the 2017-2021 rates (per 1,000 live births) for the state and the 20 LHDs who received funding for the Infant Mortality Reduction program in 2022-2023:

- Thirteen (13) of the twenty (20) counties funded (65%) experienced lower rates in 2017-2021 compared to 2010-2014 rates (represented in green).
- Seven (7) of the twenty (20) counties funded (35%) experienced higher rates in 2017-2021 compared to 2010-2014 rates (represented in blue).

Residence	2010-2014 Infant Mortality Rates[1]	2017-2021 Infant Mortality Rates[2]	Evidence-Based Programs Implemented in FY23					
			Centering Pregnancy	Doula Services Program	Safe Sleep	Nurse Family Partnership	Reproductive Life Planning	Tobacco Cessation & Prevention
North Carolina	**7.1**	**6.9**						
Alamance	8.5	6.1			♦		♦	
Beaufort	10.5	10.0			♦		♦	
Caldwell	10.4	8.0			♦			♦
Cleveland	9.0	7.7			♦	♦		
Columbus	10.9	9.4				♦	♦	
Lee	8.8	7.7			♦			
Montgomery	13.5	9.0			♦		♦	
Pitt	10.8	10.6			♦	♦		
Robeson	12.0	10.5					♦	
Sampson	8.9	6.3					♦	
Scotland	11.7	9.5		♦	♦			
Warren	10.7	8.5*			♦			
Wilkes	9.2	7.1			♦		♦	
Albemarle Regional Health District (Bertie/Hertford counties)	10.8/15.1	13.0/13.5					♦	
Granville-Vance Health District (Vance County)	9.7	10.0	♦	♦				
Cherokee	10.0	12.4					♦	♦
Forsyth	8.5	8.7					♦	
Halifax	10.9	11.0			♦			
Lenoir	9.2	10.7			♦			
Richmond	8.7	11.7			♦			♦

[1]Source: NC Department of Health & Human Services State Center for Health Statistics, 26AUG2015
[2]Source: NC Department of Health & Human Services, Title V Office in Collaboration with the State Center for Health Statistics, 24JAN2023
*Technical note: Rates based on small numbers (fewer than 10) are unstable and should be interpreted with caution.

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] The expansion of Medicaid in our state will be a critical tool to reducing infant mortality rates.

It is difficult to determine the impact of these evidence-based programs alone within each county. 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, as well as the

socioeconomic and other factors facing individuals and families, 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 plan. 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.

In state fiscal year 2023-2024, DPH awarded funding for the Infant Mortality Reduction program (newly entitled Reducing Infant Mortality in Communities program) to LHDs through a competitive request for applications process instead of distributing funds to all counties within the top twenty-five percentile. This allows LHDs additional resources and a defined timeframe to enhance or develop a community-driven, more comprehensive approach to improving birth outcomes and addressing the associated disparities. Funding was awarded to eight LHDs for a three-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 were eligible to apply for the request for applications. Details of this change will be shared with the next Legislative Report.

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[i] 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