

# Back to the Future: Reflecting on Three Decades of Healthy North Carolina Infant Mortality Goals

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Decreasing infant mortality has been a key objective of Healthy North Carolina task forces since the inaugural 1990 objectives, but the state has frequently failed to reach its infant mortality goal. Minimal infant mortality reductions continue, as does an unacceptable Black-White disparity ratio. More focused efforts are required.

## History of the Healthy North Carolina Infant Mortality Objective

The death of an infant within the first year of life serves as a sentinel measure of the general health of a population, indicative not only of the health of an infant, but of the overall well-being of birthing persons and the availability of factors supporting health in the broader community. For this reason, since its inception in 1990, every decennial iteration of “Healthy North Carolina” (Healthy NC) has included a reduction in infant mortality among the key health objectives for the state. In recent reports, Healthy NC has also specifically highlighted a reduction in health disparities as a statewide goal [1, 2]. As we move forward toward Healthy NC 2030 goals, it is important to reflect upon how the state fared in achieving prior Healthy NC 2000, 2010, and 2020 infant mortality objectives.

Upon initial examination, North Carolina’s decline in infant mortality over the last three decades appears to be impressive. Since the first Healthy NC infant mortality objective was created in 1990, infant death rates have decreased substantially, in both the United States as well as in North Carolina. From 1990 to 2020, North Carolina’s infant mortality rate declined 34.9%, compared to a decrease of 41.3% in the United States overall. As presented in Figure 1, North Carolina’s infant mortality remained higher than the US average throughout the course of the last three decades. North Carolina typically ranks among the 10 states with the highest infant death rates in the country [3, 4].

Despite impressive reductions over the last 30 years, the pace of North Carolina’s decline in infant mortality has decelerated and has been approaching stagnation over the last decade (Table 1). During the inaugural Healthy NC decennial objective period from 1990 to 2000, North Carolina’s infant mortality rates decreased at a slightly slower pace than the United States overall, with a decrease of 18.9% in North Carolina compared with a 25.0% decrease in the US

**TABLE 1.**  
Trends in Infant Mortality: US and North Carolina, 2000-2030

	US	NC
Decrease 1990–2000	-25.0%	-18.9%
Decrease 2000–2010	-10.1%	-18.6%
Decrease 2010–2020	-12.9%	-1.4%
<b>Overall decrease 1990–2020</b>	<b>-41.3%</b>	<b>-34.9%</b>

North Carolina State Center for Health Statistics; CDC.

infant death rate during this time period (Table 1). In the second decennial period, from 2000 to 2010, North Carolina’s rate of decline of 18.6% outpaced the US reduction of 10.1%. Yet, during the third and most recent Healthy NC decennial period from 2010 to 2020, North Carolina’s infant mortality rate decreased minimally (-1.4%) while the United States overall experienced a 12.9% decline in infant mortality [3, 4].

## Has North Carolina Achieved Past Healthy NC Goals for Overall Infant Mortality?

As presented in Table 2, only once over the last three decades and iterations of Healthy NC objectives has the state met the proposed decennial Healthy NC infant mortality goal within the targeted time period. The first Healthy NC infant mortality objective proposed a goal of achieving a rate

**TABLE 2.**  
Healthy North Carolina (HNC) Infant Mortality Objectives, 2000-2030

HNC Target Year	HNC Infant Mortality Goal	Actual Infant Mortality Rate	HNC Infant Mortality Goal Met?
2000	7.4	8.6	No
2010	7.4	7.0	Yes
2020	6.3	6.9	No
2030	6.0	TBD	TBD

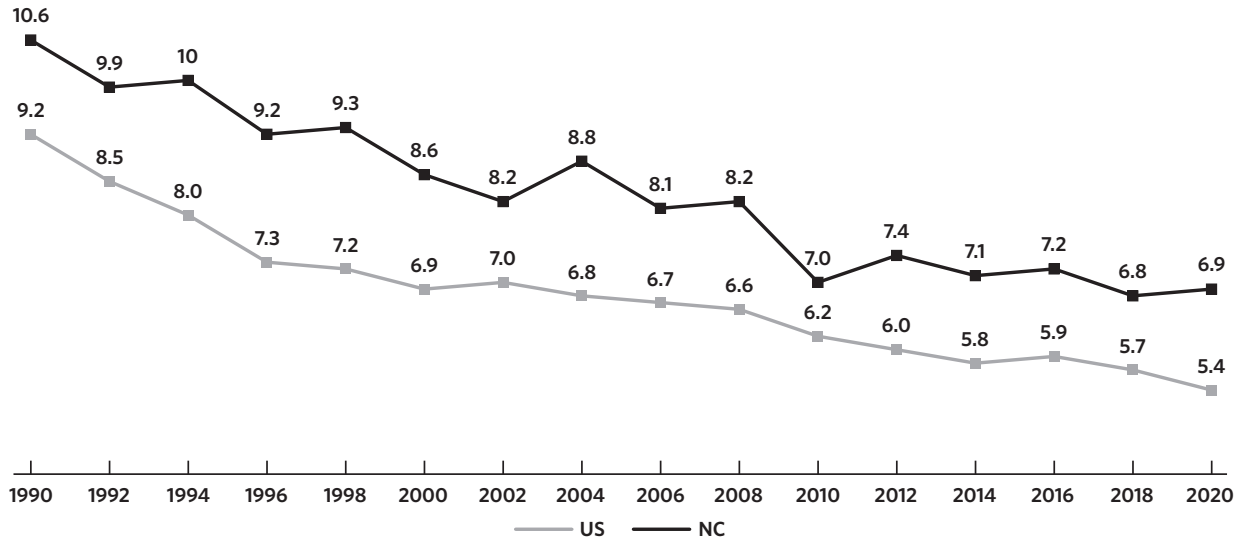
Source. Healthy North Carolina 2010, 2020, and 2030.

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**FIGURE 1.**  
**Infant Mortality Rate per 1000 Live Births, US and North Carolina, 1990-2020**



Source. North Carolina State Center for Health Statistics, CDC/National Center for Health Statistics

of 7.4 infant deaths per 1000 live births [5]. However, the actual infant mortality rate in 2000 was significantly higher, at 8.6 [3]. The goal for 2010 was an infant death rate of 7.4 and the state exceeded expectations with an actual rate of 7.0 in 2010 [3]. In 2020, the goal was an infant death rate of 6.3 and the state again failed to meet this objective with a rate of 6.9 in 2020 [1].

### Has North Carolina Met Past Healthy NC Goals for Reducing Racial Disparities in Infant Mortality?

Key to attaining overall Healthy NC infant mortality goals is eliminating racial disparities in infant death in the state, as illustrated by the persistent disparity between non-Hispanic Black (Black) and non-Hispanic White (White) infant death rates. Healthy NC 2020 represented the first time that disparity goals were officially highlighted as a separate objective, with a goal of reducing the Black/White ratio to 1.92 [1]. With Healthy NC 2030, the disparity goal was further reduced to 1.5 [2]. As shown in Figure 2, while the infant mortality rates for both White and Black decreased from 1990 to 2020, the groups declined at different rates. White infant death rates were reduced 41.5%, compared with a decline of only 22.4% among Black infant death rates during this period. The disparity ratios between Black infant mortality rates and White rates remained above 2.0 every year from 1990 to 2020 (Figure 2). In fact, rather than improving throughout the Healthy NC periods, the disparity ratio between the Black and White rates actually increased from a ratio of 2.01 in 1990 to a ratio of 2.67 in 2020 [3].

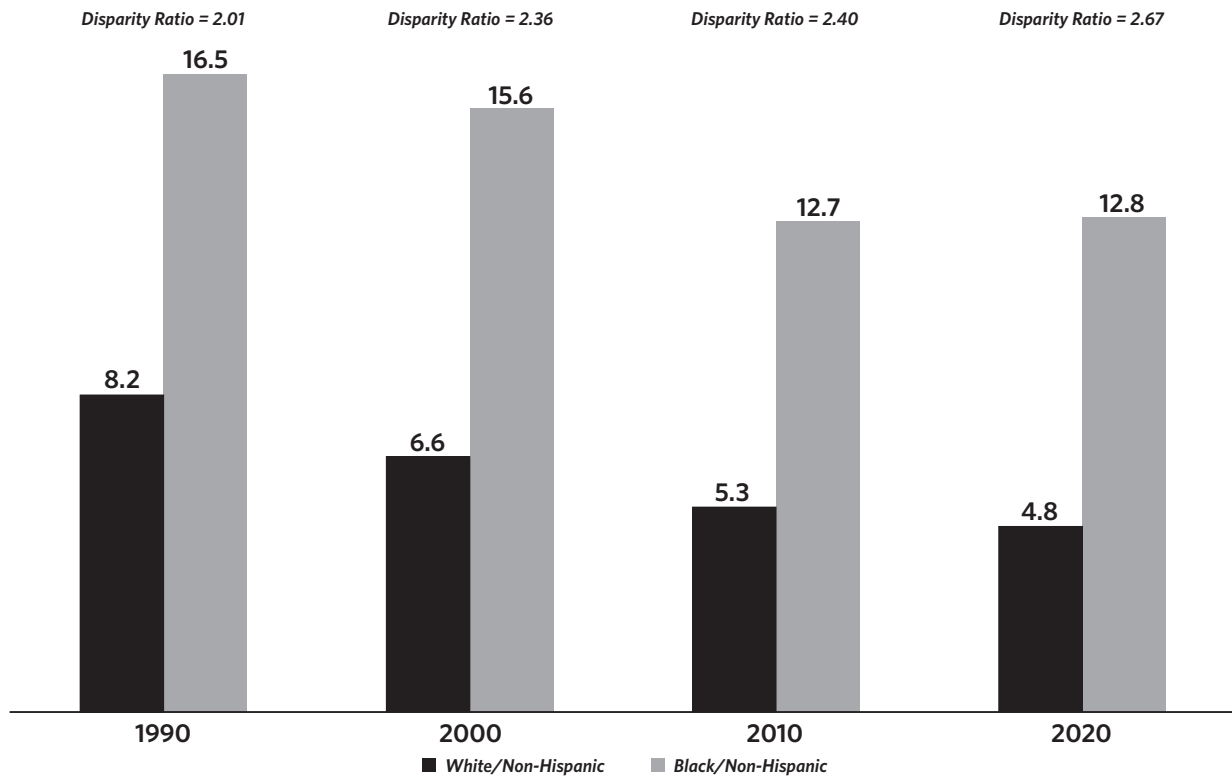
### What Can North Carolina Do to Attain Healthy NC 2030 Infant Mortality Goals?

Disparate reductions in infant mortality and increasing disparities in Black and White infant death rates must

not continue through 2030. In order to achieve and sustain downward trajectories in infant mortality and eliminate disparities in infant death, we all need to consciously focus on health equity and the long-term impact of systemic racism on the health of birthing persons and infants. North Carolina should prioritize additional statewide efforts to research and improve disparities in infant outcomes, such as the Perinatal Health Strategic Plan, the Early Childhood Action Plan, the North Carolina Child Fatality Prevention System (including fetal and infant mortality review), Safe Sleep NC, and the Perinatal Quality Collaborative of North Carolina [6-10]. Further, as North Carolina extends Medicaid coverage for pregnant women further into the postpartum period and considers overall Medicaid expansion, researchers should focus on surveillance of infant mortality disparities to ensure that expected improvements in infant death observed in full Medicaid expansion states are equally achieved across all racial and ethnic groups in North Carolina [11].

Infant outcomes are inextricably tied to the health and well-being of birthing persons. North Carolina is unlikely to achieve Healthy NC 2030 infant mortality objectives without further investment in programs and initiatives that improve maternal outcomes, as well as a strategic focus on maternal health equity and reproductive justice, which is defined as “the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities” [12]. Therefore, additional efforts are necessary to improve access to reproductive life planning; increase equitable access to quality prenatal and perinatal services by increasing the Medicaid bundled maternal payment rate; implement additional payment for group visits and annual doula service; increase access to appropriate level of care for newborns and pregnant/postpartum women; and implement

**FIGURE 2.**  
**Infant Mortality Rate per 1000 Live Births, North Carolina Residents, 1990-2020**



Source. North Carolina State Center for Health Statistics

Healthy Opportunities Pilots evidence-based home visiting and parent education services. Moreover, additional support is needed to enhance surveillance of maternal mortality and morbidity through the North Carolina Maternal Mortality Review Committee and the Maternal Health Innovation Program [13, 14]. NCMJ

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