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# Child Health Disparities in the 21st Century



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The topic of persistent child health disparities remains a priority for policymakers and a concern for pediatric clinicians. Health disparities are defined as differences in adverse health outcomes for specific health indicators that exist across sub-groups of the population, frequently between minority and majority populations. This review will highlight the gains that have been made since the 1990s as well as describe disparities that have persisted or have worsened into the 21st century. It will also

examine the most potent social determinants and their impact on the major disparities in mortality, preventive care, chronic disease, mental health, educational outcomes, and exposure to selected environmental toxins. Each section concludes with a description of interventions and innovations that have been successful in reducing child health disparities.

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## Introduction: Disparities, Determinants, Equity, and Social Justice

**H**ealth is a state of complete physical, social, and mental well-being and not merely the absence of disease or infirmity.<sup>1</sup> Health is influenced by social, economic, and environmental factors in the context of community as well as by individual behaviors and biology. When serious social, economic, and environmental disadvantages exist, health disparities are common.<sup>2</sup> Pediatric health disparities are defined as differences in adverse health outcomes for specific health indicators that exist across sub-groups of the population. These disparities in health outcomes are frequently driven by a number of social determinants that include race/ethnicity and income but also by other factors such as access to care, housing instability, food insecurity, geography, transportation, and the built environment.<sup>3</sup> Hence, persistent health disparity for children is a complex issue that is influenced by the ability of families with children to meet their basic needs and secure an adequate level of shelter, nutrition, and health care. It is also influenced

by the increased risk of detrimental influences faced by families living in poverty, such as marital conflict, violence, psychological distress, depression, and low self-esteem. Therefore, the epidemiology of childhood health disparities needs to be examined from the perspective of adverse health outcomes and the disproportionate burden it places on minority families.

Inherent in the persistence of health disparities is the issue of racism. Jones<sup>4</sup> postulates that racism operates at three levels such as structural or institutional, personally mediated by those in power, and internalized by those who are being discriminated against. Structural racism is the normalization of an array of historical, cultural, institutional, and interpersonal dynamics that routinely favor white people while producing cumulative and chronic adverse outcomes for people of color. Structural racism is deeply embedded in American society and is a potent factor leading to inequities in all major indicators of success and wellness. Structural racism is perpetuated when policies are instituted without examining the unintended consequences of such changes that may reinforce or compound existing inequities and health disparities.<sup>5,6</sup> There is a growing awareness that the elimination of child health disparities will require an effort to strive for and achieve health equity. It is this focus on equity that may attenuate the impact of the most salient social determinants as well as the influence of racism.<sup>7</sup>

This review examines a number of major child health disparities that have persisted into the 21st century.

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This review celebrates the gains that have been made since the 1990s and describes disparities that still exist. This article examines the most potent social determinants and their impact on the major themes of mortality, preventive care, chronic disease, mental health, educational outcomes, and exposure to selected environmental toxins. Each section highlights interventions and innovations that have been successful in reducing child health disparities.

## Disparities in Infant Mortality

Infant mortality is defined as the number of infants who die prior to their first birthday per 1000 live births. The infant mortality rate (IMR) is often used as a public health indicator on the global health of a community and nation.<sup>8</sup> The Health People 2020 national health objective identifies the IMR as a leading health indicator (LHI) and sets a target of 6.0 infant deaths per 1000 live births to be met by 2020.<sup>9</sup> During the 20th century, the United States made remarkable gains in reducing infant deaths. In the 30-year time span between 1968 and 1998, the country witnessed a significant reduction in the rate from 21.8/1000 down to 7.2/1000 live births.<sup>10</sup> In addition, in 2013, the IMR had dropped below the Health People 2020 target with a rate of 5.96/1000 or a 13% decrease from the 2005.<sup>11</sup> This signifies for the first time that the IMR had dropped below the Health People 2020 threshold.

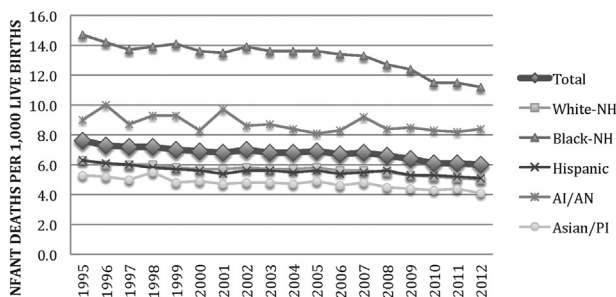
However, a closer examination of the IMR stratified by race and ethnicity reveals a disturbing pattern. **Figure 1** depicts data from Federal Interagency Forum on Child and Family Statistics. The Healthy People 2020 target has not been achieved for infants of black non-Hispanic descent with an infant death rate of 11.2/1000, more than double the rate for white non-Hispanic infants (5.0/1000). The rate for American

Indian/Alaska Native infants is also above the 2020 target with a rate of 8.4/1000. The racial group with the lowest infant death rate is infants of Asian descent with a rate of 4.1/1000 in 2012.<sup>12</sup> However, it is of some interest that infants of Hispanic descent have an IMR not statistically different from white non-Hispanic with a rate of 5.1/1000. This epidemiologic finding has come to be known as the “Hispanic Paradox.” Despite lower family incomes, less educational attainment, and lack of consistent health coverage, the Latino population in the United States consistently has better birth outcomes than expected based on these sociodemographic variables. There is ongoing debate regarding the reason, but researchers have speculated that it may be attributable to traditional cultural practices about childbearing, better nutrition, and the presence of strong social networks that help to promote more favorable birth outcomes.<sup>13</sup>

### Low Birthweight and Prematurity

Low birthweight is defined as an infant at birth weighing less than 5 pounds 8 ounces (2500 g) and results from either a preterm birth and/or inadequate growth in utero. This may be related to factors such as maternal hypertension, tobacco smoke exposure, or inadequate weight gain during pregnancy as well as the presence of multiple birth pregnancies. As the birthweight of the infant decreases, the risk of infant mortality increases.<sup>14</sup> Specifically, there is a stepwise increase in mortality for infants who are born with very low birthweight (VLBW) weighing less than 1500 g, and for extremely low birthweight (ELBW) infants, weighing less than 1000 g.<sup>15</sup>

The percent of LBW infants actually *increased* throughout the last decade of the 20th and into the 21st century. The rate increased from an overall rate of 7.0% in 1990 to 8.3% in 2006.<sup>16</sup> Since then, the overall rate has remained essentially unchanged for the past 10 years. Not evident from the overall rate is a persistent disparity based on race and ethnicity. In **Figure 2**, black non-Hispanic women were significantly more likely to have a low birthweight infant in 2013 (13.1%) compared to Asian/Pacific Islander (8.3%), American Indian/Alaska Native (7.5%), Hispanic (7.1%), and white non-Hispanic (7.0%). In fact the rate for black non-Hispanic remains almost twice the rate of the white non-Hispanic population.<sup>17</sup> Reasons for the increase in low birthweight may include increases in obstetric interventions due to perinatal complications,



**FIG 1.** Infant mortality by race/ethnicity, 1995–2012.

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