

Valuing Infant Health in the United States

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In this issue of *Pediatrics*, Goldstein et al¹ present new findings on state and local government expenditures and infant mortality in the United States. How much a society and/or individuals are willing to pay for something reflects its importance and monetizes its value.² Nevertheless, investing wisely (eg, assessing the “return on investment” and domains of investing in medicine versus health) has been and continues to be challenging.

Infant mortality statistics, like all vital statistics, are concerned with real people. They describe events and provide information about characteristics related to individuals entering or leaving life or changing their civil status.³ It is important to go behind those numbers and remember that each one represents a significant moment in life.

The first recorded “vital statistics concerned with people” indicated that, in 1915, for every 1000 live births, ~100 infants died before their first birthday.³⁻⁷ In 2018, the US infant mortality rate declined to 5.67 deaths per 1000 live births, making that year’s infant mortality rate the lowest reported in US history.⁸ Maternal mortality, as well, has fallen to a fraction of the first measured rate of 17.4 maternal deaths per 100 000 live births.⁹ Yet infant mortality and maternal mortality in the US continue to vary by race. In 2018, infants born to Black women had the highest mortality rate (10.75), followed by Hispanic (4.86) and white (4.63) infants. The maternal mortality rate for Black women was 37.1 deaths per 100 000

live births, compared with white (14.7), and Hispanic (11.8) women.

The United States spends more per capita on health care than any other country in the world,¹⁰ and we outperform many of our peer countries in preventive measures.¹¹ Yet we lag behind most other industrialized nations in both infant mortality, in which we rank 22nd,¹² and maternal mortality, in which we rank 48th.¹³

In the first half of the 20th century, reductions in infant mortality were primarily attributable to public health and social welfare interventions.^{6,7} Improvements in medical care were the main reasons for declines in infant mortality during the second half of the century. These advancements included the development of antibiotics, fluid and electrolyte replacement therapy, safe blood transfusions, neonatal intensive-care units with advanced technologies to improve the survival of low birth weight and preterm infants, access to prenatal care paid by Medicaid, artificial pulmonary surfactant to treat respiratory distress syndrome, infants sleeping on their back, immunizations, and fetal surgery.^{5,14-22} Today, infant survival is associated with an array of factors, including maternal health, quality of and access to medical care (prenatal and hospital), socioeconomic conditions, public health practices, birth defects, preterm birth and low birth weight, and pregnancy complications and injuries.⁵ Many of these are known as the social determinants of health.^{23,24} The differential consequences of many of

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these factors significantly contribute to the persistent difference in maternal and infant health among various racial and/or ethnic groups, particularly between Black and white women and for infants likely to be the result of systemic racism.²⁵⁻³⁰ Social inequality created by systemic racism is an influential predictor for infant and maternal mortality.³¹ There is a strong association between the mother's health before pregnancy,³² during pregnancy, during delivery, and in the postpartum period that can affect birth outcomes and infant vulnerability. The mother's health and well-being are, in turn, affected by investments in health services and supportive "non-health care" services and in advancing science (basic and applied).

Goldstein et al¹ affirm the relationship between essential non-health care services and improved pregnancy outcomes and infant mortality. They also quantify the benefit of these investments for reducing infant mortality, especially for specific high-risk populations. In many ways, their results augur for a substantial investment with adequate funding for the combined strategies from the first and latter half of the 20th century (public health and medicine). The challenge is to appreciate the importance of these investments without the overt political acrimony.

The miracle of birth is a significant life-affirming event for all of humankind. A healthy infant is a biological phenomenon, an expected outcome for individual families, and an essential indicator of the health of a nation and its commitment to the well-being of all citizens.^{33,34}

Today, we face numerous challenges, including a virus that is killing and harming many thousands of people, racism that is still killing and harming thousands of people, and blatant government abuse of children at our borders and in our communities.

Even those born healthy suffer from the ills of poverty, poor housing, food insecurity, and an epidemic of gun violence. We cannot ignore fully investing in what we value: our children!

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