Childhoods in America are safer and healthier than ever before, but the health of the nation’s young children continues to lag behind that of other developed countries. Similarly, the survival of American mothers is improving, but early deaths and disability caused by pregnancies among American women continue to be markedly high among developed countries. Improving gaps in child and maternal well-being in the United States may indeed transform the trajectory of American health.

Children under the age of 18 make up about 23% of the American population. Of those, nearly 20 million are under the age of 5, which is about 6.2% of the nation’s population. Since the 1970s, the number of children under 5 has steadily increased, along with general increases in the nation’s population. In the context of a growing population, the rate of uninsured children has fallen significantly since 2008, reaching an all-time low of 6% (a decline of 2.5 million children) in 2014.

In this report, we offer a data-rich reflection on the health of children in America. We additionally focus on the health of American mothers, as the well-being of young children is highly affected by the health of mothers and by the environment in which they are born. Early death and disability of mothers due to pregnancy directly impacts the survival of newborns. In the United States, the health of expectant mothers is especially crucial, as child health trends are largely driven by the survival of newborns.
HIGHLIGHTS

• Since 1990, the health of children in the United States has steadily improved. Fewer deaths of children under the age of 5 are occurring than ever before, dropping from 45,352 in 1990 (2.33 per 1,000) to 28,012 (1.33 per 1,000) in 2013.

• Child deaths continue to be greater than in other high-income countries. For example, the rate of young child deaths in the US was more than double Japan's rate in 2013.

• Progress in reducing child deaths is due in large part to improved survival in children less than 1 month old; between 1990 and 2013 deaths of children less than 1 month old decreased by almost 41% for children aged 0-6 days, and by 29% for children aged 7-27 days.

• Health loss due to injuries among young children is higher in the United States than in other high-income countries. For example, in 2013 the rate of injury-related deaths among young children in the United States was more than double the rate in the United Kingdom.

• Maternal mortality in the United States is the highest among developed countries, with substantial and growing health loss due to complications from pre-existing conditions as well as obstetric problems resulting from blood clots and heart problems.

About IHME
The Institute for Health Metrics and Evaluation (IHME) is an independent global health research center at the University of Washington that provides rigorous and comparable measurement of the world’s most important health problems and evaluates the strategies used to address them. IHME makes this information freely available so that policymakers have the evidence they need to make informed decisions about how to allocate resources to best improve population health.

About this report
This report draws from the Global Burden of Disease (GBD) study, which provides estimates of premature death and disability due to more than 306 diseases and injuries and 79 risks and risk factor groups for 20 age groups and both sexes since 1990 for 188 countries.

The GBD study provides information on the health problems that affect populations, quantifying not only the diseases that cause early death, but also the conditions that cause disability. By using comparable health metrics across countries and over time, the GBD study provides comparisons between conditions that kill, like cancers, and conditions that disable, like iron-deficiency anemia. Using data from the GBD study, we examine the landscape of child health in America and consider how it compares to other high-income countries.

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American children in a global context

Deaths of children under the age of 5 have been steadily falling since the 1990s. Though the rate of death among children in the US is much lower than the global average, the rate of death among children under the age of 5 is higher in the US than in many high-income countries and has remained notably higher since the 1990s (Figure 1).

Greater mortality among males than females

In terms of both total deaths and disability and rates of early death and disability, males have poorer outcomes than females (Figure 2). Among children under 5, the greatest proportion of deaths occur in the newborn (i.e., children under 1 month old) period. Sudden infant death syndrome (SIDS) is a higher contributor to health loss for males compared to females. Additionally, health loss due to injury is higher among male children than female children.

Studies have found that in the US (and globally), male infants have higher mortality than females. There are many hypotheses for why this is so. Male infants are more likely to die of infections and respiratory diseases. Males are also more likely to experience preterm births. These gender differences in infant survival are poorly understood.

The first year of life

Deaths of children under the age of 5 have been steadily falling since the 1990s. This progress is due in large part to improvements in the survival of newborns. Notably, very low birthweight (less than 3.3 pounds) infants account for only 2% of all births in the US, but account for the greatest proportion of infant deaths.

Death during the first week of life (referred to here as the early neonatal period) accounted for 44% of all deaths of children under 5 in 2013 (Figure 4). The most significant contributor to deaths and disability during this critical time of life are preterm birth complications, which result in a greater proportion of deaths among males than females. The number of deaths from preterm births in the United States is substantially lower than the global average, but it remains higher than other high-income countries like the United Kingdom, Canada, and Italy (Figure 3).

Beyond the first week of life, there have been decreases in deaths among children 7 days to 1 month old (referred to as the late-neonatal period) (Figure 4). This reflects better survival of low birthweight infants. Post-neonatal deaths (1 month to 1 year) account for a large proportion of under-5 deaths; the number of deaths has decreased substantially from 1990.
Leading causes of death among all children under 5

The greatest amount of death in early childhood occurs during the first month of life. Preterm birth of infants is the long-time leading cause of early death and disability among children under the age of 5 in the US. Birth defects (congenital anomalies) and SIDS are also leading causes of early death and disability among children under 5. These conditions largely affect children under the age of 1. Between the ages of 1 and 4, lower respiratory infections, injuries and non-communicable disorders like cancers, neurological disorders (e.g., epilepsy, muscular dystrophy, spina bifida), and cardiovascular disorders account for a greater proportion of deaths.

Figure 5: Trends in health loss from congenital anomalies in the United States between 1990 and 2013 for both sexes

A closer look: Birth defects

Birth defects, which include congenital heart anomalies, neural tube defects, and chromosomal imbalances, accounted for more than 20% of all lost health among children under 5. Congenital heart anomalies account for a great proportion of these deaths (Figure 5). Health loss from heart defects, both in terms of deaths and years lived with disability, has fallen since the 1990s, but remains markedly higher than other major birth defects.

Figure 6: Health loss due to injury (DALYs per 100,000) for children under 5 in the United States, Australia, Canada, France, the United Kingdom, Germany, and Italy between 1990 and 2013

A closer look: Injuries

American children suffer more early death and disability due to injury than those in high-income European countries and Australia (Figure 6). For example, injury-related health loss among American children is nearly 150% higher than for children in the United Kingdom and more than 300% higher than Italian children. Though health loss due to injury has decreased by nearly 40% since 1990 for children in all countries, health loss from injuries in the United States remains consistently high.
A closer look: Injuries (cont.)

Beyond the first year of life, injuries account for more than 40% of under-5 deaths in the US (Figure 7). In 2013, unintentional suffocation, drowning, and motor vehicle injuries combined accounted for more than 46% of all injury-related early death and disability among children under the age of 5 (Figure 8). Health loss due to unintentional suffocation has increased rapidly between the 1990s and present day.

Health of mothers in the United States

The health and well-being of young children is heavily influenced by the health of their mothers. Deaths and injuries related to pregnancy have direct implications on the survival of newborns. In the early 1990s, rates of maternal death (deaths from any cause related to or aggravated by pregnancy or its management) were high but relatively comparable to other high-income countries (Figure 9). However, by the late 1990s, rates of maternal death in the United States began to exceed rates observed in other high-income countries.
Maternal mortality, as measured by the maternal mortality ratio, increased from 1990 to its peak in 2009, due to growth in maternal complications related to pre-existing medical conditions and obstetric complications such as blood clots and heart failure. There was also an increase in the number of maternal deaths occurring well after pregnancy ended (Figure 10). Notably, the rate of maternal deaths due to abortion, ectopic pregnancy, hemorrhage, hypertensive disorders of pregnancy, obstructed labor, and infections has remained relatively stable since 1990.

*Maternal mortality ratio is the ratio of the number of maternal deaths during a given time period per 100,000 live births during the same time period.

Figure 10: Maternal mortality ratio in the United States, by cause of death

Notes

8. Zeitlin et al., “Fetal Sex and Preterm Birth.”

*Cover image, “i got dizzy,” via the guilherme jofili flickr photostream, August 22, 2010

For more information

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There you may access a variety of data visualization tools and explore health trends in the United States and around the world.

If you would like to learn more about IHME’s work and impact, please contact [engage@healthdata.org](mailto:engage@healthdata.org).