

# Child Health and Survival in a Changing World



Donna M. Denno, MD, MPH<sup>a,b,c,\*</sup>, Shadae L. Paul<sup>b</sup>

## KEYWORDS

- Global child health • Low and middle-income countries
- Sustainable development goals • Child mortality • Socio-political-economic factors
- Health interventions • Social determinants

## KEY POINTS

- The vast majority of child deaths occur in low and middle-income countries; most are preventable with interventions already available and recommended for implementation.
- If the Sustainable Development Goal child health target is to be met, increased investment in scaling up lifesaving interventions, with proactive attention to reaching the most vulnerable and marginalized populations, is needed.
- Tracking national mortality levels (and other outcome indicators and coverage rates) is important but insufficient; within-country disaggregation also is necessary to monitor equity in intervention coverage and health outcomes.
- Addressing the determinants of health, including limited maternal education, absolute poverty, and relative poverty, is needed for deeper and sustained gains in child survival and health. This will require attention to socio-political-economic policies that drive health and their determinants.

## INTRODUCTION

Each year, millions of children die, the vast majority in poor countries. Tragically, most of these deaths are preventable with technologies that are currently available and recommended for universal implementation. Progress is being made: 5.9 million children younger than 5 years died in 2015, down from 12.4 million in 1990. This reduction,

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<sup>a</sup> Department of Pediatrics, University of Washington School of Medicine, Box 354920, 6200 Northeast 74th Street, Suite 110, Seattle, WA 98115, USA; <sup>b</sup> Department of Global Health, University of Washington School of Public Health, Box 357965, Harris Hydraulics Building, 1510 Northeast San Juan Road, Seattle, WA 98195, USA; <sup>c</sup> Department of Health Services, University of Washington School of Public Health, Seattle, WA 98195, USA

\* Corresponding author. Department of Pediatrics, University of Washington, Box 354920, 6200 Northeast 74th Street, Suite 110, Seattle, WA 98118.

E-mail address: [ddenno@uw.edu](mailto:ddenno@uw.edu)

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although substantial, was insufficient to meet Millennium Development Goal (MDG) 4: reduce child mortality by two-thirds between 1990 and 2015. In 2000, 189 countries endorsed the MDGs, which consisted of 8 specific goals to reduce poverty and improve health and development. In addition to MDG4, the other 2 health-related goals, MDG3 (reduce maternal mortality) and MDG6 (reduce infectious diseases), were not met. The “post MDG era” has ushered in the Sustainable Development Goals (SDGs), a much broader array of 17 ambitious goals with 169 targets. One of the 17 SDGs specifically relates to health: SDG3, and its 9 targets cover a much wider scope of problems (eg, injuries, mental health, and chronic noncommunicable diseases) than was tackled by the MDGs. SDG3.2, the target related to child health, calls for ending “preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births” by 2030.<sup>1</sup>

This article provides an overview of the scope and causes of childhood deaths, interventions currently recommended to combat these killers, trends in child mortality, and potential reasons for these trends through the lens of the global potential to meet SDG3.

### SCOPE OF THE PROBLEM

Health is defined by the World Health Organization as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”<sup>2</sup> Health is clearly more than just survival; however, as a starting point, it is hard to avoid the fact that more than 16,000 children are estimated to die each day.<sup>3</sup> “Child,” as used in this article and as typically defined in the global health field, includes persons younger than 5 years because of their particular biologic and social vulnerability. The under-5 mortality rate (U5MR), defined as the number of deaths among children younger than 5 years per 1000 live births, is often used as an indicator of the health of a population more broadly. If conditions favor the health and welfare of this vulnerable group, the situation generally can be considered favorable for the overall society.

Age-specific mortality rates decline appreciably beyond 5 years. Ninety-nine percent of child deaths occur in low-income and middle-income countries (LMICs). A child born in sub-Saharan Africa (SSA) faces a 1 in 12 chance of dying before his or her fifth birthday compared with 1 in 140 for a child born in the United States and 1 in 167 for high-income countries (HICs) on average. The global child health community has started to focus on the broader picture of health, including morbidity, developmental disability, and long-term impacts on adult chronic disease and economic capacity. Unfortunately, child mortality remains as a tenacious problem requiring confrontation.

### MAJOR CAUSES OF CHILD MORTALITY

Forty-five percent of child mortality occurs in the neonatal period (first 28 days of life) (Fig. 1). These deaths are largely preventable and their causes are discussed in detail in the article by Zulfiqar A. Bhutta and colleagues, “Neonatal and perinatal infections,” in this issue. Four problems are responsible for approximately 60% of postneonatal deaths: pneumonia, diarrhea, injuries, and malaria. Mortality from these causes is also mostly preventable with sustainable implementation of available interventions as described later in this article. Undernutrition, including lack of sufficient macronutrients (eg, protein, calories), micronutrient-deficient diets (eg, vitamin A, zinc, iron), and suboptimal breastfeeding practices, contributes to 45% of all child deaths.<sup>4</sup> Undernutrition increases susceptibility to infectious diseases, reduces recovery from

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