Levels and trends in child mortality estimation

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In March, the United Nations (UN) Inter-Agency Group for Child Mortality Estimation released their 2023 report which contains data on trends in child mortality in all countries and regions from 1990 through to 2022.[1] This is a very important document. The report includes mortality estimates in neonates, infants and children under 5 years, and a strong focus on school-aged children, adolescents and young people in the age categories 5–14 and 14–24 years. This is an advance on UN reports prior to 2017, which focused only on children under 5 years.

The 2023 report documents the substantial progress from 1990 to 2010, and from 2010 to 2022, and outlines the distance countries are from the targets of the Sustainable Development Goals (SDG). This is timely, coming after 3–4 years when the energy for the SDGs has fallen away.

The report highlights a global health landmark reached in 2022 of less than 5 million deaths in children under 5 in a year (4.9 million; CI 4.6 to 5.4 million), an unacceptable figure given the high number of preventable deaths in this 5 million, but about half of the estimated number of deaths in 2000 (10.8 million). In 2022, the report estimates there were 2.3 (2.2–2.6) million deaths in the neonatal period, 2.6 (2.4–2.9) million deaths among children aged 1–59 months, and 2.1 (2.0–2.3) million deaths among those aged 5–24 years, including 0.9 (0.9–1.0) million deaths among adolescents aged 10–19 years.

Globally, there has been recent slowing of decline in under-5 and neonatal mortality compared with the Millennium Development Goal era (1990–2015). The report points out that 59 of 200 countries are now not on track to achieving the universal SDG target of child mortality less than 25 per 1000 live births, and that 64 countries will fall short of the target of neonatal mortality of less than 12 per 1000 live births by 2030, unless progress is accelerated in the next 7 years. Of the 59 countries at risk of missing the under-5 mortality target, 75% are in sub-Saharan Africa and 44% are classified as having fragile and conflict-affected situations. Reductions in neonatal mortality have been slower than for mortality in children 1–59 months, and the reasons can be found partly in the percentage declines in disease-specific mortality, higher between 2000 and 2022 for pneumonia, diarrhoea, and measles than for conditions affecting newborns, which include prematurity, birth asphyxia, birth trauma and congenital anomalies. There are other health system reasons, including access to antenatal care and facility-based delivery by a skilled birth attendant, which means the newborn period remains the most hazardous time of life.

However, substantial progress is possible in even low-income settings. Many low-income and lower-middle-income countries have reduced under-5 mortality by over two-thirds since 2000. These include Malawi, Democratic People's Republic of Korea, Cambodia, Mongolia, Sao Tome and Principe, Uzbekistan, Burundi, Ethiopia, Uganda, Angola, Bhutan, Bolivia, India, Iran, Morocco, Nicaragua, Senegal and Tanzania.

Basic services remain the most essential. The report highlights the need for an increase in births attended by skilled health personnel; an increase in the number of community health workers; greater access to and use of antenatal and postnatal care services; care for small and sick newborns; preventive services, including vaccination; improved diagnosis and timely treatment of key causes of childhood illness and death; and holistic approaches to reducing malnutrition, including improved water and sanitation, and reduction of environmental risks.

The striking statistic that, relartive to children aged 5-9 years, the risk of mortality rises in most regions in the 10–14 age group, and universally in the 15–19 age group. This is partly a manifestation of the causes of death in adolescents, which include drowning, road traffic accidents, interpersonal violence, self-harm, tuberculosis and chronic non-communicable conditions. There is a notable gender disparity in adolescent deaths, for example, deaths from interpersonal violence and self-harm being more common in females, and road trauma and drowning more common in males. Overall, all regions record higher adolescent deaths in males.

The report highlights inequality in survival outcomes, within countries and between countries, and how children from poor households remain particularly vulnerable to premature, preventable death, and that the circumstances of a child's birth and the circumstances of their lives influence mortality risk, especially those living in communitiees grappling with crisis, fragility and conflict. Household poverty, low maternal education, rural residency and other vulnerabilities continue to 'cast a long shadow over under-5 mortality'. For children, adolescents and youth aged 5–24 years, the chance of survival and good health is dependent on the regions and countries where they reside, with the highest risks to these living in sub-Saharan Africa and Oceania (excluding Australia and New Zealand) in 2022. The intersectionality of risks is difficult to identify in data, but is surely present: poverty, low education, poor environments and unstable housing, climate change and its consequences for heat-related deaths, infectious diseases, malnutrition and displacement, mental health, and family violence all contribute to child and adolescent deaths and poor health, thus the need to refocus on the SDGs and the social determinants of health and development.

The report is based on high-quality data in a a quarter of countries; only 51 countries (all upper-middle-income and high-income) had high-quality data for 2022. In the remaining countries, estimates are

Box 1

- ⇒ Emphasise local action.
- ⇒ Elevate the level of ambition and investments for mothers and newborns.
- ⇒ Scale up high-impact interventions to target mortality among children aged 1–59 months.
- ⇒ Build synergies along the continuum of care.
- ⇒ Invest in community health workers.
- ⇒ Strengthen data and statistical systems.
- ⇒ Allocate appropriate resources to reduce under-5 deaths.

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extrapolated from data mostly collected in the past 5 years. This leads to gaps in the data and wider uncertainty, especially regarding the effect of the pandemic on trends in child mortality in the least resourced countries. However, this report has impressively made the most of what data are available, and acknowledged where and why there is uncertainty in the areas where children are most affected by crises. We urgently need to improve on that, to tell the story properly of child mortality trends. The effects of ongoing conflicts in Yemen, Sudan, Gaza and Ukraine have resulted in excess mortality that are not likely to be evident from routine data, not reflected in extrapolated estimates, and only addressed by a sustained peace, again demonstrating why the world needs to refocus on the SDG targets.

The report outlines key actions needed to accelerate progress in child survival and improve child health and welfare. These are listed in Box 1. They need expanding, to respond to the challenges of mortality and health issues among school-age children and adolescents, and to address actions beyond the health sector.

This UN report should be a stimulus for paediatricians and child health workers worldwide to better understand the SDGs and their relevance to us all, and consider what we can do where we live and work, and in our spheres of influence, to accelerate progress in all the SDG targets for children.

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