

## Global Under 5s Childhood Mortality: Improving But A Way To Go

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Over the 22 year period 2000 -2022 the global mortality rate in children under 5 years of age has decreased by 51%. It has now reached a historic low<sup>1</sup>. The mortality rate has fallen from 76 per 1000 live births to 37 per 1000 live births. The aim is to achieve a reduction to 25 per 1000 live births by 2030. Some countries have achieved even greater declines. Since 2000, Cambodia, Malawi, Mongolia, and Rwanda have reduced their under 5s mortality by 75%. In comparison the rate in western Europe countries is 3.8-3.9 per 1000 live births<sup>2</sup>.

The intensive investment and targeted actions of the global health community have helped to combat the main causes of mortality in young children. The key interventions have been access to immunisations, nutrition and micronutrients, skilled personnel at birth, and expanded access to safe water, sanitation, and hygiene.

There is concern, however, that the rate of mortality reduction has slowed down from 3.8% annually (2000-2015) to 2.1% annually (2015-2022).

In 2022 there were 4.9 million under 5s deaths – 2.3 million in babies <1 month, 2.6 million in children aged 1 month – 59 months. The basic statistics are that 1-in-27 children died before their fifth birthday. The leading causes of death are- prematurity 18%, pneumonia 14%, birth asphyxia 12%, malaria 9%, and diarrhoea 9%.

The entrenched inequalities remain. A child in Sub-Saharan Africa is 18 times more likely to die before the age of 5 years than a child born in Australia. Southern Asia is the other area with an exceptionally high childhood mortality.

We now have a clear understanding of how to save children's lives globally. The high impact interventions include- skilled personnel at birth, newborn care, vaccinations, access to prompt diagnosis and treatment of common serious illnesses in childhood. Increasingly, under 5s deaths are proportionately greater in the neonatal period as other childhood causes of death improve. This discrepancy is due to the main causes of death differing in the two age groups - < 1 months and 1-59 months. There needs to be improved quality of care in the antenatal period, at birth, and for small and sick infants. The WHO states that birth asphyxia accounts for 900,000 births globally each year. The rates of birth asphyxia are ten times higher in developing countries. Standard obstetric care and effective resuscitation at birth can prevent many of these deaths<sup>3</sup>.

The operational processes that need to be established are – local action implementation, investment in maternity services, the scaling up of high value interventions, the building of synergies, and the development of data systems.

The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 are to promote healthy lives and well-being for all children. The aim is to reduce neonatal mortality to <12 per 1000 live births and under 5s mortality to < 25 per 1000 live births. By 2020, 125 countries had already met the SDG target and a further 16 countries are expected to reach it by 2030. One of the strategies is to end all forms of malnutrition as it is a frequent contributing cause of death in children who contract an intercurrent infection.

Pneumonia is the leading infectious cause of death in the under 5s, accounting for 700,000 deaths annually. It is totally preventable with prompt diagnosis- fever, cough, tachypnoea, grunting- and appropriate use of antibiotics. The WHO has recommended the use of age-specific cut-offs for rapid respiratory rate and the presence of chest wall indrawing as signs of severe pneumonia. World Pneumonia Day is a yearly reminder of the life-threatening nature of this disease. The Hib, pneumococcal, measles, and pertussis vaccines play an important preventative role. These vaccines have been introduced in 159 member states but while the WHO European region has 90% cover, the WHO Western Pacific region has 30% cover.

In Ireland, the National Office of Clinical Audit (NOCA) was established in 2012 to create sustainable clinical audit programmes. One of its workstreams is the National Paediatric Mortality Register<sup>4</sup>. Its 2023 report states that the infant mortality in Ireland decreased from 8.2 per 1000 live births (1990) to 3.1 per 1000 live births (2021). This significant reduction in mortality is due to the major advances in neonatal care and also to the reduction in the SIDS cases from 160 per year in the late 80s to the 30 per year currently. It is pointed out that currently the greatest number of deaths post-infancy are due to injury. One-in-five deaths in children aged 1-14 years are due to accidents.

NOCA recommends that all childhood deaths should be reported to a central database, where details of all cases are captured. A national child mortality review panel is also recommended. This would provide learning opportunities that may help to prevent similar adverse events in the future.

The UN report demonstrates that there has been good progress in child mortality even in low and lower-middle income countries. There are high returns when investments are made in maternal and child health. It is further stated that greater attention and resources should be directed to Sub-Saharan Africa and Southern Asia given their persistently high child mortality rates. Fifty four per cent of the global under 5s population live in these regions. It has been pointed out on numerous occasions that under 5s mortality is a proxy for the economic, social, and health care systems into which children are born.

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Editor

**References:**

1. Levels and Trends in Child Mortality. Estimates Developed by the United Nations Inter-Agency Group for Child Mortality Estimation. Report 2023.
2. Sharrow D, Hug L, You D et al. Global, regional and national trends in under-5 mortality between 1990 and 2019 with scenario-based projections until 2030: a systematic analysis by the UN inter-agency group for child mortality. *Lancet Global Health* 2022;10:e195-206
3. Guidelines on Basic Newborn Resuscitation. WHO 2012
4. National Paediatric Mortality Register. A Review of Mortality in Children and Young People in Ireland. NOCO (national office of clinical audit) 2023