World Health Organization

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Newborn mortality

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Key facts

- **The first month of life is the most vulnerable period for child survival, with 2.3 million newborns dying in 2022.**
- **Neonatal deaths have decreased by 44% since 2000. Yet in 2022, nearly half (47%) of all deaths in children under 5 years of age occurred in the newborn period (the first 28 days of life), which is among the most vulnerable periods of life and requires intensified quality intrapartum and newborn care.**
- **In 2022, sub-Saharan Africa accounted for 57% (2.8 (2.5–3.3) million) of total under-5 deaths but only 30% of global live births. Sub-Saharan Africa had the highest neonatal mortality rate in the world at 27 deaths per 1000 live births, followed by central and southern Asia, with a neonatal mortality rate of 21 deaths per 1000 live births.**
- **Premature birth, birth complications (birth asphyxia/trauma), neonatal infections and congenital anomalies remain the leading causes of neonatal deaths.**
- **Children who die within the first 28 days of birth suffer from conditions and diseases associated with lack of quality care at birth or skilled care and treatment immediately after birth and in the first days of life.**
- **Women who receive midwife-led continuity of care (MLCC) provided by professional midwives, educated and regulated to internationals standards, are 16% less likely to lose their babies and 24% less likely to experience a pre-term birth.**

Overview

Globally 2.3 million children died in the first 28 days of life in 2022. There are approximately 6500 newborn deaths every day, amounting to 47% of all child deaths under the age of 5 years.

The world has made substantial progress in child survival since 1990. Globally, the number of neonatal deaths declined from 5.0 million in 1990 to 2.3 million in 2022. However, the decline in neonatal mortality from 1990 to 2022 has been slower than that of post-neonatal under-5 mortality. Moreover, the gains have reduced significantly since 2010, and 64 countries will fall short of meeting the Sustainable Development Goals target for neonatal mortality by 2030 unless urgent action is taken.

Children continue to face different chances of survival based on where they are born, with sub-Saharan Africa and southern and central Asia bearing the heaviest burden for newborn deaths. Sub-Saharan Africa had the highest neonatal mortality rate in 2022 at 27 deaths per 1000 live births, followed by central and southern Asia with 21 deaths per 1000 live births. In sub-Saharan Africa the risk of death in the first month of life is 11 times higher than that in the lowest-mortality region, Australia and New Zealand. At country level, NMRs in 2022 ranged from 0.7 death per 1000 live births to 39.4 deaths per 1000 live births, and the risk of dying before the 28th day of life for a child born in the highest-mortality country was about 60 times greater than in the lowest-mortality country.

Causes

Most neonatal deaths (75%) occur during the first week of life, and about 1 million newborns die within the first 24 hours. Among neonates, the leading causes of death include premature birth, birth complications (birth asphyxia/trauma), neonatal infections and congenital anomalies, which collectively account for almost 4 in every 10 deaths in children under 5 years of age. It is worth noting that although the rates for the leading causes of neonatal deaths have declined globally since 2000, they accounted for the same proportion of under-5 deaths – 4 in 10 – in 2000 and 2022. Access to and availability of quality health care continues to be a matter of life or death for mothers and newborns globally.

Priority strategies

The vast majority of newborn deaths take place in low and middle-income countries. Plans to improve newborn survival should be built on a strong foundation of essential newborn care and align with the Every Newborn Action Plan (ENAP) and Ending Preventable Maternal Mortality (EPMM) targets on antenatal care, postnatal care, skilled health personnel and emergency obstetric and newborn care. Increasing financing and allocating resources towards two very high-impact but high-cost interventions – care for small and sick newborns and emergency obstetric care – are critical, as these measures provide quadruple returns on investment by reducing maternal deaths, stillbirths, newborn deaths and both maternal and newborn morbidity. In settings with well-functioning midwife

programmes, the provision of midwife-led continuity of care (MLCC) can reduce preterm births by up to 24%. MLCC is a model of care in which a midwife or a team of midwives provide care to the same woman throughout her pregnancy, childbirth and the postnatal period, calling upon medical support if necessary.

With the increase in facility births (almost 80% globally), there is a great opportunity for providing essential newborn care and identifying and managing high risk newborns. However, few women and newborns stay in the facility for the recommended 24 hours after birth, which is the most critical time when complications can present. In addition, too many newborns die at home because of early discharge from the hospital, barriers to access and delays in seeking care. The four recommended postnatal care contacts delivered at health facility or through home visits play a key role to reach these newborns and their families.

Accelerated progress for neonatal survival and promotion of health and well-being requires strengthening quality of care as well as ensuring availability of quality health services or the small and sick newborn.

Essential newborn care

All babies should receive the following:

- **thermal protection (e. g. promoting skin-to-skin contact between mother and infant);**
- **hygienic umbilical cord and skin care;**
- **early and exclusive breastfeeding;**
- **assessment for signs of serious health problems or need of additional care (e.g. those that are low-birth-weight, sick or have an HIV-infected mother; and**
- **preventive treatment (e. g. immunization BCG and Hepatitis B, vitamin k and ocular prophylaxis).**

Families should be advised to:

- **seek prompt medical care if necessary (danger signs include feeding problems, or if the newborn has reduced activity, difficult breathing, a fever, fits or convulsions, or feels cold);**
- **register the birth; and**
- **bring the baby for timely vaccination according to national schedules.**

Some newborns require additional attention and care during hospitalization and at home to minimize their health risks.

Low-birthweight and preterm babies:

If a low-birth weight newborn is identified at home, the family should be helped in locating a hospital or facility to care for the baby. Care should include:

- **increased attention to keeping the newborn warm, including skin-to-skin care, unless there are medically justifiable reasons for delayed contact with the mother;**
- **assistance with initiation of breastfeeding, such as helping the mother express breast milk for feeding the baby from a cup or other means if necessary;**
- **extra attention to hygiene, especially hand washing;**
- **extra attention to danger signs and the need for care; and**
- **additional support for breastfeeding and monitoring growth.**

Sick newborns:

Danger signs should be identified as soon as possible in health facilities or at home and the baby referred to the appropriate service for further diagnosis and care.

If a sick newborn is identified at home, the family should be helped in locating a hospital or facility to care for the baby.

Newborns of HIV-infected mothers:

Care should include:

- **preventive antiretroviral treatment (ART) for mothers and newborns to prevent opportunistic infections;**
- **HIV testing and care for exposed infants; and**
- **counselling and support to mothers for infant feeding. Community health workers should be aware of the specialized issues around infant feeding. Many HIV-infected newborns are born prematurely and are more susceptible to infections.**

WHO response

WHO is working with ministries of health and partners to:

1. **strengthen and invest in primary healthcare, particularly around the time of birth and the first week of life as most newborns are dying in this time period;**
2. **improve the quality of maternal and newborn care from pregnancy to the entire postnatal period, including strengthening midwifery;**
3. **expand quality services for small and sick newborns, including through strengthening neonatal nursing;**
4. **reduce inequities in accordance with the principles of universal health coverage, including addressing the needs of newborns in humanitarian and fragile settings;**
5. **promote engagement of and empower mothers, families and communities to participate in and demand quality newborn care; and**
6. **strengthen measurement, programme tracking and accountability to count every newborn and stillbirth.**