



GOAL 3

Ensure healthy lives and promote well-being for all at all ages

TARGET 3.1

By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births

- Proportion of women aged 15-49 who received four or more antenatal care visits
- Proportion of women who have postpartum contact with a health provider within 2 days of delivery
- Proportion of births delivered in a health facility
- Proportion of births delivered by Caesarean section

Target overview

SDG monitoring

SDG Target 3.1 includes the following indicators, described in more detail in this briefing note:

- 3.1.1 Maternal mortality ratio
- 3.1.2 Proportion of births attended by skilled health personnel

Broader monitoring context

Identifying maternal deaths is challenging across countries at all levels of development and, even those with strong vital registration systems, resulting in sparse and inconsistent data worldwide. Maternal deaths are difficult to measure owing to many factors; for example, identifying cause of death requires medical certification and in some cases there may be reluctance on the part of family members to even report a death (in the case of an abortion-related death, for instance).

Due to the challenges of tracking maternal mortality, it is necessary to look across a broad range of indicators related to maternal health, both to better track progress on the target and also to inform programming. The indicators below go beyond the SDGs, but are recommended by key health initiatives harmonized with the SDGs, specifically the Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) and Ending Preventable Maternal Mortality (EPMM).

UNICEF's role in monitoring

UNICEF plays a leading role in monitoring Target 3.1, which is firmly linked to Goal 1 of UNICEF's Strategic Plan – Every Child Survives and Thrives – and specifically the result area of maternal and newborn care. Together with WHO, UNFPA and The World Bank and UN Population Division, UNICEF is a member of the United Nations Maternal Mortality Estimation Inter-agency Group (UN-MMEIG), which produces cross-country comparable estimates of MMR for global reporting.¹ UNICEF is the lead custodian for SDG indicator 3.1.2 and jointly with WHO maintains a database on births attended by skilled health personnel. MICS surveys, which provide high-quality, standardized data on a range of key maternal health indicators, are one direct way in which UNICEF supports countries to monitor maternal health.

General information and resources

- UNICEF data: <https://data.unicef.org/>
- UNICEF Multiple Indicator Cluster Surveys (MICS): <http://mics.unicef.org>
- SDG indicators: <https://unstats.un.org/sdgs/>

For further information, please contact the maternal health focal point at the Data & Analytics Section at UNICEF HQ via: data@unicef.org

¹ In addition to the maternal mortality ratio, the UN-MMEIG provides estimates for a number of related measures that provide insight into different aspects of maternal mortality, such as the maternal mortality rate and the adult lifetime risk of maternal death.



INDICATOR 3.1.1

Maternal mortality ratio

Description

Definition and key terms

The maternal mortality ratio (MMR) is defined as the number of maternal deaths per 100,000 live births during the same time period.

Key term:

- Maternal mortality refers to deaths due to complications from pregnancy or childbirth. This includes deaths of women while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management.

National data sources

Worldwide, the two most common sources of data are vital registration systems and population-based surveys. Estimates can also be obtained from a variety of other sources, including health facility-based data, censuses, and RAMOS (reproductive-age mortality surveys) and surveillance.

Vital registration: This is the preferred data source in countries with complete reporting of deaths and good cause of death attribution. These data can be used to track the indicator on an annual basis.

Population-based surveys: The most common approach for collecting maternal mortality data in population-based surveys is obtaining information by interviewing respondents about the survival of all their adult sisters. Population-based surveys are generally only recommended in the absence of data from another source. This is due to the large confidence intervals and retrospective estimates that generally refer to a period of time with a midpoint around 3-4 years before the survey.

Data collection innovation

There is a long history of maternal mortality data collection and methods are well-established. However, there is work underway on strengthening maternal and perinatal deaths surveillance, with one component being a baseline survey to gather information about the extent of Maternal Death Surveillance and Response implementation in low- and middle-income countries.

Using the indicator

Interpretation

Maternal mortality is widely acknowledged as a general indicator of the overall health of a population, of the status of women in society, and of the functioning of the health system. It is therefore useful for advocacy purposes, in terms both of drawing attention to broader challenges faced by governments and of safe motherhood. This indicator can show the magnitude of the problem of maternal death in a country as a stimulus for action. Where estimates can be reliably produced at a subnational level, these may help to set priorities.

The MMR measures the risk of a woman dying once she is pregnant. In populations with high levels of fertility, a woman will be exposed to this risk many times and thus is more likely to die from a maternal cause. Considering the MMR together with the indicator “adult lifetime risk of maternal death” (which also takes into account fertility) can provide more insight into maternal mortality in a country.

Although the *global target* for indicator 3.1.1 is less than 70, it should be noted that MMRs of less than 10 are common in countries with well-functioning health systems that provide a continuum of maternal care services during pregnancy, delivery, and the post-partum period.

Notably, maternal mortality is just “the tip of the iceberg” – for each woman that dies, many more suffer from serious conditions that can affect them the rest of their lives. Therefore, in order to identify where the major issue in the health system lies, it is important to monitor other relevant maternal health indicators such as the ones listed in the Target Overview above.

Disaggregation

MMR data may only be disaggregated if they are of sufficient quality and scope to robustly capture differences among subgroups. Generally speaking, disaggregation from household survey data is not advised.

Where appropriate, it is most useful to disaggregate data at a subnational level, for example into rural versus urban or administrative regions. Data may also be disaggregated by other characteristics of the mother, including age and other socioeconomic characteristics for which data are available.



Common pitfalls

Maternal mortality estimation is difficult across all countries irrespective of their level of development, resulting in this indicator being challenging to track over time and frequent discrepancies across data sources.

The maternal mortality ratio requires more information than just knowing that a death occurred. Accurate information is also needed on cause of death, pregnancy status, and timing of death. For example, cause of death may be misclassified if the woman was suffering from a preexisting condition. Similarly, a death may not be classified as maternal if the woman's pregnancy status was not known. Thus, available data suffer –in various degrees– from significant levels of misclassification and underreporting of maternal deaths. This is true even when reported from national vital registration systems that are considered strong.

Another measurement challenge is that maternal deaths are a relatively rare event. The MMR is measured per 100,000 live births, in contrast to the under-five mortality rate which is measured per 1,000 live births. This means that estimates are bracketed by wide ranges of uncertainty.

Monitoring and reporting

National

National Statistical Office, Ministry of Health

Global

Agencies: The Maternal Mortality Estimation Inter-agency Group (UN-MMEIG), composed of WHO, UNICEF, UNFPA and The World Bank and the UN Population Division.

Process: The UN-MMEIG compiles all available country-level maternal mortality data. Data are adjusted for underreporting and misclassification of deaths and then statistical modelling is undertaken to generate comparable country, regional, and global level estimates. UNICEF is involved at all stages of preparing the estimates, but has a particular role in compiling maternal mortality data from household surveys, as well as the skilled attendant at birth data used in the model. Before publishing the estimates, a country consultation is conducted, led by WHO, allowing countries to review the interagency results and provide feedback.

Timing: The UN-MMEIG produces new estimates every couple of years.

Discrepancies with national estimates: As noted above, global MMR estimates are derived from data adjusted for underreporting and misclassification of deaths. Therefore, discrepancies between global modelled estimates and unadjusted national estimates are common and often need to be clarified during country consultation. Academic groups such as IHME occasionally publish estimates using alternative modelling approaches which can cause confusion when countries are not consulted on the methods or the estimates.

Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <https://data.unicef.org/topic/maternal-health/maternal-mortality/>
- SDG metadata: <https://unstats.un.org/sdgs/metadata>

Tools and measurement guidance:

- MICS questionnaire for individual women: <http://mics.unicef.org/tools>
- DHS women's questionnaire: <https://dhsprogram.com/What-We-Do/Survey-Types/DHS.cfm>

Methodological information on global maternal mortality estimation:

- Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *The Lancet*, Volume 387, Issue 10017, 462 – 474



INDICATOR 3.1.2

Proportion of births attended by skilled health personnel

Description

Definition and key terms

Percentage of deliveries attended by skilled health personnel, generally doctors, nurses, or midwives.

Key terms:

- Skilled birth attendants are generally accredited health professional trained in providing lifesaving obstetric care, including giving the necessary supervision, care and advice to women during pregnancy, labour and the post-partum period, conducting deliveries on their own, and caring for newborns. The current definition is under revision by UNICEF, WHO and UNFPA. The revised definition will center around the competencies and enabling environment the skilled birth attendance should have in order to provide safe services to the mother and newborn.

National data sources

Routine service/facility records: This is the preferred data source in countries where a high proportion of births occur in health facilities and are therefore recorded. These data can be used to track the indicator on an annual basis.

Population-based surveys: This is the preferred data source in countries with a low utilization of delivery services, where private sector data are excluded from routine data collection, and/or with weak health information systems. In MICS, DHS and similar surveys, the respondent is asked about the last live birth and who helped during delivery for a period up to five years before the interview. The surveys are generally undertaken every 3 to 5 years.

Data collection innovation

A guidance document including a revised operational definition for skilled birth attendant will be released by WHO, UNICEF and other partners in 2018. This new guidance may be helpful in revising data collection instruments and interpreting results.

Using the indicator

Interpretation

Births attended by skilled health personnel is an indicator of health care utilization. It is a measure of the health system's functioning and potential to provide adequate coverage for deliveries. On its own, however, this indicator does not provide insight into the availability or accessibility of services. Neither does this indicator capture the quality of care received.

Unlike the MMR, this indicator can be reliably disaggregated and thus helps programme managers track progress at national and subnational levels by indicating whether safe motherhood programmes are on target in the utilization of professional assistance at delivery.

Disaggregation

In order to understand the utilization of services across a country, residence (both urban/rural and geographic regions) is the most important background characteristic to consider. When data are reported from household surveys, disaggregation is available for residence, household wealth quintiles, and maternal characteristics, such as age and education. When data are reported from administrative sources, disaggregation is more limited and tend to include only residence and age.

Common pitfalls

Data collection and data interpretation in many countries is challenged by lack of guidelines, standardization of names and functions of the provider, and by task-shifting. In addition, many countries have found that there are large gaps between international standards and the competencies of existing birth attendants who are able to correctly manage common obstetric and neonatal complications

Furthermore, with regard to data obtained from surveys, the validity of such data depends on the correct identification by the women of the credentials of the person attending the delivery, which may not be obvious in certain countries.

The most commonly used denominator is the number of live births; notably, this excludes stillbirths.



Monitoring and reporting

National

National Statistical Offices, Ministries of Health

Global

Agencies: United Nations Children's Fund (UNICEF), World Health Organization (WHO)

Process: UNICEF and WHO maintain joint databases on skilled attendant at delivery (doctor, nurse or midwife) and both collaborate to ensure the consistency of data sources. Before acceptance into the joint global databases, UNICEF and WHO undergo a verification process that includes correspondence with field offices to clarify any questions regarding estimates. During this process, the national categories of skilled health personnel are verified, and so the estimates for some countries may include a different set of personnel categories.

Timing: The joint databases are updated annually with data submitted by country offices or made publicly available by national information systems.

Discrepancies with national estimates: As noted above, the global-level verification of estimates will include a review of the qualifications of different personnel categories in the country and this may result in the exclusion or inclusion of certain health personnel from the 'skilled' category.

Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <https://data.unicef.org/topic/maternal-health/delivery-care/>
- SDG metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-03-01-02.pdf>

Tools and measurement guidance:

- MICS questionnaire for individual women: <http://mics.unicef.org/tools>