SUSTAINABLE DEVELOPMENT GOALS

CITIZEN SCIENCE GUIDE FOR UNITED NATION SDG INDICATORS

3 GOOD HEALTH AND WELL-BEING

INDICATOR 3.1.1

SDG 3- Ensure healthy lives and promote well-being for all at all ages.

Targets

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

3.2 By 2030, end preventable deaths of new-borns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.

3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.

3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.

3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.

3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

The Challenge

Commendable progress has been achieved in several areas – improving child and maternal health and reducing mortality, raising life expectancy, and improving the defence against several major communicable diseases. On the flip side, progress has slackened in fighting HIV/ AIDS, malaria, and tuberculosis. Maternal mortality has fallen by almost 50 per cent since 1990; measles vaccines have averted nearly 15.6 million deaths since 2000. The under-5 mortality rate has significantly come down to 39 deaths per 1,000 live births in 2017, a 6.7 per cent reduction since 2015, and an overall reduction of 49 per cent since 2000. The global neonatal mortality rate has also undergone a substantial decline of 41 per cent during the same period. On the other hand, the risk of dying from non-communicable diseases (i.e. cardiovascular diseases, cancers, diabetes and chronic respiratory diseases) remained high at 18 per cent. Risks of dying from road traffic injuries and air pollution are on the rise. The capacity of the health care system needs to increase.

Target: 3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.

Indicators

3.1.1 Maternal mortality ratio

3.1.2 Proportion of births attended by skilled health personnel.

3.1.1

A *maternal death* (as cited in International Classification of Disease or ICD-10, [WHO, 1992]) is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, and can stem from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Late maternal deaths refer to deaths caused by direct or indirect obstetric causes more than 42 days but less than one year after the termination of pregnancy.

Pregnancy-related deaths are deaths while pregnant or within 42 days of the termination of pregnancy, irrespective of the cause.

Maternal deaths fall into two groups, direct and indirect, as follows:

Direct obstetric deaths

Direct obstetric deaths result from obstetric complications of the pregnant state (pregnancy, labor, and puerperium), from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above.

Indirect obstetric deaths

Indirect obstetric deaths result from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy.

Rationale

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. High maternal mortality ratios are thus markers of wider problems of health status, gender inequalities, and health services in a country. The maternal mortality ratio is therefore useful for advocacy purposes, but lacks information on the causes of high maternal mortality or the interventions required to reduce maternal deaths.

Causes of maternal death

Haemorrhage remains the leading cause of maternal mortality, accounting for over one quarter (27 per cent) of deaths. Similar proportion of maternal deaths were caused indirectly by pre-existing medical conditions aggravated by the pregnancy. Hypertensive disorders of pregnancy, especially eclampsia, as well as sepsis, embolism and complications of unsafe abortion also claim a substantial number of lives.

The major complications that account for nearly 75% of all maternal deaths are:

- Severe bleeding (mostly bleeding after childbirth)
- Infections (usually after childbirth)
- High blood pressure during pregnancy (pre-eclampsia and eclampsia)
- Complications from delivery
- Unsafe abortion.

The complications leading to maternal death can occur without warning at any time during pregnancy and childbirth. Most maternal deaths can be prevented if births are attended by skilled health personnel – doctors, nurses or midwives – who are

regularly supervised, have the proper equipment and supplies, and can refer women in a timely manner to emergency obstetric care when complications are diagnosed. Complications require prompt access to quality obstetric services equipped with life-saving drugs, including antibiotics, and the ability to provide blood transfusions needed to perform Caesarean sections or other surgical interventions.
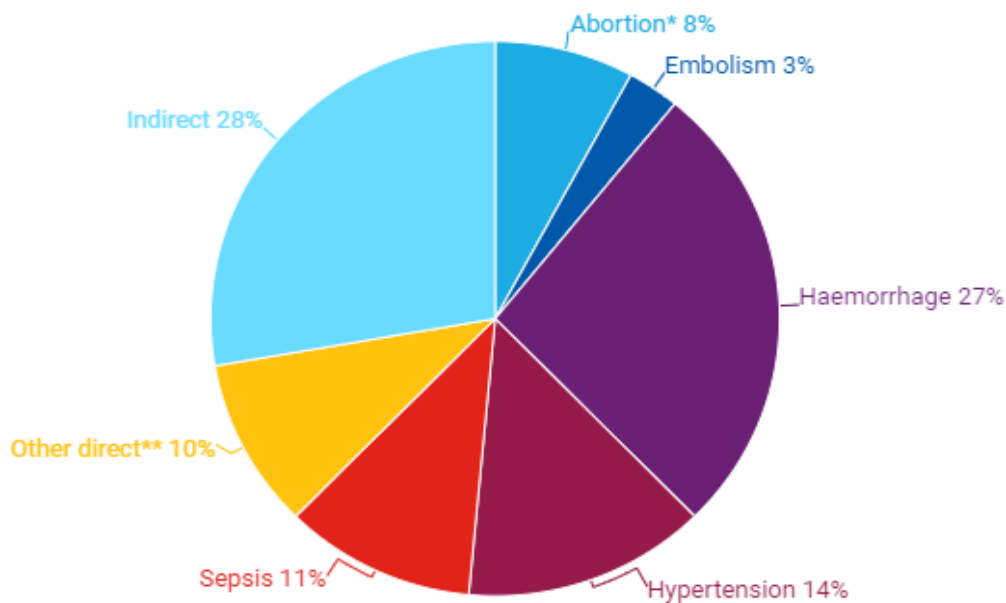

Figure 1: Causes of Maternal death

Note: *Nearly all (99 per cent) of abortion deaths are due to unsafe abortions. **Includes deaths due to obstructed labour or anaemia.

Lifetime risk of maternal death

The lifetime risk of maternal death is the probability that a 15-year-old girl will die from complications of pregnancy or childbirth over her lifetime; it takes into account both the maternal mortality ratio and the total fertility rate (average number of births per woman during her reproductive years under current age-specific fertility rates). Thus, in a high-fertility setting, a woman faces the risk of maternal death multiple times, and her lifetime risk of death will be higher than in a low-fertility setting. Similar to maternal mortality ratio, the lifetime risk of maternal death varies largely across countries.

Comments and limitations:

The extent of maternal mortality in a population is essentially the combination of two factors:

i. The risk of death in a single pregnancy or a single live birth.

ii. The fertility level (i.e. the number of pregnancies or births that are experienced by women of reproductive age).
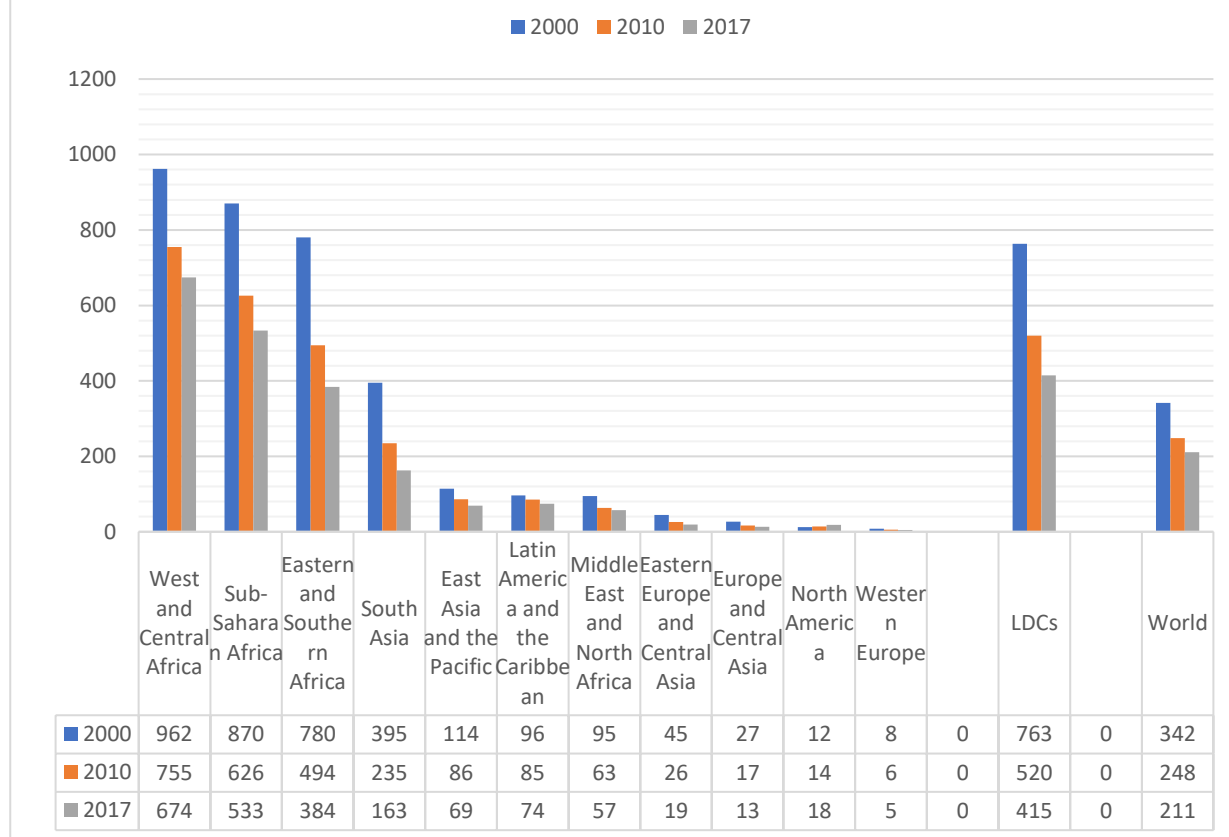
The MMR depicts the risk of maternal death relative to the number of live births and essentially captures (i) above. The maternal mortality rate (MM Rate) is calculated as the number of maternal deaths divided by person-years lived by women of reproductive age. The MM Rate captures both the risk of maternal death per pregnancy or per total birth (live birth or stillbirth), and the level of fertility in the population. In addition to the MMR and the MM Rate, it is possible to calculate the adult lifetime risk of maternal mortality for women in the population. An alternative measure of maternal mortality, the proportion of deaths among women of reproductive age that are due to maternal causes (PM), is calculated as the number of maternal deaths divided by the total deaths among women aged 15–49 years.

Alarming Statistics

- Two regions, sub-Saharan Africa and South Asia, account for 86 per cent of maternal deaths worldwide. Sub-Saharan Africans suffer from the highest maternal mortality ratio – 533 maternal deaths per 100,000 live births, or 200,000 maternal deaths a year.
- South Asia follows, with a maternal mortality ratio of 163, or 57,000 maternal deaths a year, accounting for 19 per cent of the global total.
- The lifetime risk of maternal death in high-income countries is 1 in 5,400, compared to 1 in 45 in low-income. The global lifetime risk of maternal death nearly halved between 2000 and 2017, from 1 in 100, to 1 in 190.
- Among regions, women in sub-Saharan Africa face the highest lifetime risk (1 in 38), followed by South Asia (1 in 240).
- The World Health Organisation estimated that more than 300,000 women died from pregnancy -related causes in 2015. That's 830 women every day.
- The five countries with the highest number of maternal deaths in 2015 were: Nigeria (58,000); India (45,000); Democratic Republic of Congo (22,000); Ethiopia (11,000); and Pakistan (9,700).

Figure 2: World Trends in MMR

	West and Central Africa	Sub-Saharan Africa	Eastern and Southern Africa	South Asia	East Asia and the Pacific	Latin America and the Caribbean	Middle East and North Africa	Eastern Europe and Central Asia	Europe and Central Asia	North America	Western Europe		LDCs		World
2000	962	870	780	395	114	96	95	45	27	12	8	0	763	0	342
2010	755	626	494	235	86	85	63	26	17	14	6	0	520	0	248
2017	674	533	384	163	69	74	57	19	13	18	5	0	415	0	211

Reference.: World Health Organization, UNICEF, United Nations Population Fund and The World Bank, *Trends in Maternal Mortality: 2000 to 2017 WHO*, Geneva, 2019.

Computation Method:

The maternal mortality ratio can be calculated by dividing recorded (or estimated) maternal deaths by total recorded (or estimated) live births in the same period and multiplying by 100 000. Measurement requires information on pregnancy status, timing of death (during pregnancy, childbirth, or within 42 days of termination of pregnancy), and cause of death.

The maternal mortality ratio can be calculated directly from data collected through vital registration systems, household surveys or other sources. There are often data quality problems, particularly related to the underreporting and misclassification of maternal deaths. Therefore, data are often adjusted in order to take these data quality issues into account. Some countries undertake these adjustments or corrections as part of specialized/confidential enquiries or administrative efforts embedded within maternal mortality monitoring programmes.

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For more information Regarding the different computation methodologies in calculating and predicting MMR please refer to: https://unstats.un.org/sdgs/metadata/files/Metadata-03-01-01.pdf

Why do women not get the care they need?

Poor women in remote areas are the least likely to receive adequate health care. This is especially true for regions with low numbers of skilled health workers, such as sub-Saharan Africa and South Asia.

The latest available data suggest that in most high income and upper middle-income countries, more than 90% of all births benefit from the presence of a trained midwife, doctor or nurse. However, fewer than half of all births in several low income and lower-middle-income countries are assisted by such skilled health personnel.

The main factors that prevent women from receiving or seeking care during pregnancy and childbirth are:

- Poverty
- Distance to facilities
- Lack of information
- Inadequate and poor-quality services
- Cultural beliefs and practices.

To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at both health system and societal levels.

How to reduce Maternal Mortality?

As defined in the Ending Preventable Maternal Mortality Strategy, WHO is working with partners in supporting countries towards:

- Addressing inequalities in access to and quality of reproductive, maternal, and new-born health care services;
- Ensuring universal health coverage for comprehensive reproductive, maternal, and new-born health care;
- Addressing all causes of maternal mortality, reproductive and maternal morbidities, and related disabilities;

- Strengthening health systems to collect high quality data in order to respond to the needs and priorities of women and girls; and
- Ensuring accountability in order to improve quality of care and equity.

Role as a citizen:

The community comprising of the father, family and neighbour, ensuring healthy measures around the pregnant women is the key factor to prevent any reason that could lead to maternal mortality.

- Educating oneself about pregnancy
- Maintaining a hygienic environment for the mother and new born pre and post birth
- Ensuring a balanced diet, the healthy food and adequate clean water
- Regular consultation with doctor
- Making a lively, positive atmosphere around the mother to avoid any kind of stress or anxiety
- Preparedness for a better health care service in case of any emergency

Such practices are the first step to ensure the birth of new healthy life, without making these fundamental practices mandatory the goal to achieve "the Target 3.1.1" would be a very difficult process.

Role as a citizen for collecting data on MMR:

Currently, only about one third of all countries/territories have reliable data available and do not need additional estimations. For about half of the countries included in the estimation process, country-reported estimates of maternal mortality are adjusted for the purposes of comparability of the methodologies. For the remainder of countries/territories – those with no appropriate maternal mortality data -- a statistical model is employed to predict maternal mortality levels. However, the calculated point estimates with this methodology might not represent the true levels of maternal mortality. It is advised to consider the estimates together with the reported uncertainty margins within which the true levels are known to lie.

So, to help the country in producing the true statistical data, each and every citizen should report any cases that happened around their neighbourhood to an NGO, hospital or any relevant organisation. In case, the citizen is unable to contact to any such organisation working for the collection of such data, he/she can write

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directly to UN in the form a document, satisfying all the guidelines, template, the relevance of the data laid by the UN on the website.

References:

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