Maternal health

A person’s health at each stage of life affects health at other stages and also can have cumulative effects for the next generation (1). Women who remain healthy during pregnancy and after birth are more likely to stay healthy later in life and have better birth outcomes, influencing infancy, childhood and adulthood (2). Therefore, the health and well-being of women matter to every person, society and country and are essential to the achievement of the Sustainable Development Goals (SDGs). Action is necessary across sectors and settings to eliminate avoidable maternal and perinatal mortality and morbidity.

Overview

Maternal health refers to the health of women before and during pregnancy, at childbirth and during the postpartum period (2).

- Before pregnancy, the overall health and lifestyle choices of parents can affect fertility, maternal health and their infants’ probability of developing chronic conditions later in life. People contemplating pregnancy should be screened for health problems, which need to be identified and managed.

- During pregnancy, high-quality antenatal care is essential to ensure not only a healthy pregnancy for mother and baby but also an effective transition to positive labour and childbirth. Services should include the provision of education and basic easily understood information on health care for expectant parents.

- During delivery, high-quality, evidence-based obstetric and neonatal care is one of the highest priorities to reduce illness and death in mothers and their newborn babies.

- In the postpartum period, it is critical to monitor maternal and newborn health as the risk of death is higher during the first week postpartum for both. Timely detection and management of symptoms reduce the risk of mortality and complications (2).
The European Region has made substantial progress in improving maternal health, with an average official reported maternal mortality rate of 11 per 100,000 live births in 2014. However, data should be interpreted carefully, since regional averages frequently hide substantial variations both within and between countries.

- According to the latest official data available, maternal mortality rate is approximately 4 per 100,000 live births in countries of the European Union, while the official reported average in countries of the Commonwealth of Independent States is 16 per 100,000 live births (Fig. 1) (5).

- In addition to variation between countries, there are indications of misclassification of causes of death in some countries of the Region. Consequently, maternal mortality rates vary depending on the data source used. Underascertainment of deaths is evident from comparisons with studies using enhanced identification of deaths (6). Maternal mortality estimations per 100,000 live births have declined over the period 2000 to 2015, from 33 to 16, and a wider gap has been identified between countries (7).

- Maternal deaths represent only a small fraction of the burden of maternal morbidity (8). For every women who dies of pregnancy-related causes, 20–30 women experience acute or chronic morbidity, influencing her further life-course (8,9).

- Unmet contraception needs are directly linked to the quality of health services and, therefore, of maternal health services. Unmet family planning needs differ widely across the European Region, from 5% to nearly 23% (10). (For more information, see the Fact sheet on sexual and reproductive health.)

- Progress has been made with the expansion of coverage for essential interventions in reproductive, maternal, neonatal, child and adolescent health in the WHO European Region. However, data show that there is still some scope for improving coverage further, particularly in relation to breastfeeding (11).

Child and adolescent health: poor maternal health and inadequate maternal nutrition are two of the major determinants of child health, with effects reaching through school-age and beyond. Main effects include poor pregnancy outcomes, low birthweight, overweight/underweight, anaemia, infections, immune disorders and increased child’s risk of obesity and related chronic diseases as an adult (11,12). Effective screening and management of risks throughout the life-course for women will support efforts in improving child and adolescent health.

End the epidemics of communicable diseases: antenatal care services provide an important opportunity to prevent and manage concurrent communicable diseases and prevent mother-to-child transmission of infections.

- The WHO European Region has one of the highest coverage rates in the world for use of antiretroviral therapy for pregnant women living with HIV to prevent mother-to-child transmission (75–95%), as it does for early infant diagnosis (70%) and HIV testing and counselling for pregnant women (75%) (13).

- All Member States of the WHO European Region implement strategies to prevent perinatal transmission of hepatitis B virus, through either universal newborn vaccination or universal screening of pregnant women and targeted prevention of transmission from mothers living with chronic HBV infection (14).
Reduce premature mortality from NCDs: these are the leading cause of death and disability in the WHO European Region. Evidence suggests that the propensity to develop NCDs and obesity may be markedly influenced during fetal development and infancy (12).

• Obesity before and during pregnancy and excessive gestational weight gain have been associated with pregnancy-related complications and short- and long-term adverse effects in the offspring, including an increased susceptibility to obesity and diet-related NCDs (12).

• NCDs such as diabetes, cardiovascular diseases and chronic respiratory disease, as well as the four shared risk factors (tobacco use, physical inactivity, unhealthy diets and the harmful use of alcohol) all increase the risk of adverse maternal and fetal outcomes (15), stressing the importance of a life-course approach to addressing NCDs.

Strengthen the prevention and treatment of substance abuse: the WHO European Region has the highest level worldwide of alcohol consumption per capita among adults and alcohol-related harm (16); therefore, the potential harm to the fetus is a public health concern (17).

• Estimates suggest a prevalence of 25.2% for alcohol use during pregnancy (any amount) in the WHO European Region (18).

• Alcohol use has also been linked to an increased risk of sexual risk-taking and hence the risk of an unplanned pregnancy (17).

Strengthen tobacco control: maternal smoking during pregnancy may be considered the most important preventable factor associated with adverse pregnancy and perinatal outcomes. Smoking cessation is one of the most effective interventions for improving the health of both mothers and children, and thus serves as an indicator of the quality of antenatal preventive health care services.

• In the European Union, more than 1 woman in 10 smokes during pregnancy in many countries according to a 2011 report (19).

Achieve universal coverage: substandard quality of care can be harmful to mothers and newborns, in addition to representing a cost for patients, the health system and the community, and it can act as a disincentive for accessing health services. In order to achieve universal coverage of maternal health services, consideration should be given also to the quality of care (20).

End all forms of discrimination against all women and girls: achieving gender equality and empowering women and girls results in better maternal health outcomes for women and their babies. It improves access to sexual and reproductive health services, reduces adolescent pregnancies and child marriages, and is needed to eliminate violence against women and harmful practices such as female genital mutilation.

• Equal access to health services has not been achieved in the European Region for rural, minority, migrant, refugee or asylum-seeking women, or for women in detention (21).

• Despite significant progress in areas such as education and participation, gender inequalities in employment, quality of work and job segregation continue to exert a negative influence on the health and well-being of girls and women in the European Region (21,22). Policies and practices need to ensure that women’s work is valued equally to that of men; that women’s paid and unpaid contributions as care providers are recognized, valued and compensated; and that men engage as fathers and carers (23).

• Violence against women persists in all countries and among all population groups. WHO estimates that one in every four women in the European Region has been subjected to intimate partner violence during her lifetime (21). Although there are no reliable data on the prevalence of female genital mutilation in the Region, it is estimated that hundreds of thousands of women living in Europe have been subjected to the practice (24). Such practices have been associated with complications such as problems urinating, infections, complications in childbirth and increased risk of newborn deaths.

• NCDs and their risk factors, such as being overweight, reduced physical activity, tobacco and alcohol use, are on the rise for girls and women in the European Region (21,22), all of which have consequences for maternal health outcomes.
Adopt and implement nationally appropriate social protection policies and systems: poverty and lack of appropriate mechanisms for financial protection are strongly associated with poor access to sexual and reproductive health services and, consequently, poor maternal health (25). In the WHO European Region, health inequalities persist in regards to maternal health within and among countries.

- For example, many of the Roma in eastern Europe are unemployed or do not have a regular income and so are not able to access the health care system or health insurance because of the prevalence of out-of-pocket payments (25). Among internally displaced people, absolute poverty levels have been identified as a barrier to accessing services, among other barriers (25).

- In the 53 Member States, particular groups of women have a higher risk of adverse outcomes of pregnancy and birth; these include adolescents, migrants, Roma and women with low socioeconomic status or education level (2).

- With respect to within-country variation, data usually show the typical disparities in relation to place of residence (urban versus rural), wealth quintile, level of education and ethnicity in some countries of the European Region (Box 1) (12).

- A higher relative risk of maternal mortality has been observed in women of "nonwestern" origin (60% higher) in some countries of the European Region (12). Similarly, maternal health risks and poor pregnancy outcomes were more common in Roma women than in non-Roma women living in the same country in the European Union in 2014 as a result of reduced access to sexual and reproductive health services (13). Consequently, Roma women have higher fertility rates and rates of teenage and unwanted pregnancies, often resulting in unsafe abortions and sexually transmitted infections, putting them at higher risk of complications during pregnancy than the general population (25).

- Between countries, the estimated maternal mortality ratio is 25 times greater in the country with the highest rate compared with the country with the lowest rate.

**Commitment to act**

In September 2016, Member States in the European Region renewed their commitment to eliminate avoidable maternal and perinatal mortality and morbidity by adopting the Action plan for sexual and reproductive health: towards achieving the 2030 Agenda for Sustainable Development in Europe – leaving no one behind (10).

**Box 1. Leaving no one behind...**

*Perinatal regionalization, an option for the organization of maternal health services:* the term perinatal regionalization refers to a method that rationalizes existing health care services to ensure that each pregnant woman and newborn infant is cared for in an appropriate facility. The main goals of regionalization are to minimize differences in outcome attributable to geographic location, while helping contain rising health care costs (through economies of scale), improving responsiveness to and accountability for population health needs, and increasing public participation in health care decision-making.

Maternity facilities are divided into three levels of care: the primary level provides for normal pregnancies and healthy babies, the secondary level for pregnancies at moderate risk and the tertiary level for neonatal intensive care in a regional referral centre (26). A referral system, with clear criteria indicating where women of different risk categories should give birth and directions for transport from one level to another, is part of the method.

Regionalization was officially implemented in the South Kazakhstan oblast in October 2009 with support from WHO and the United Nations Population Fund. A multidisciplinary working group elaborated region-specific estimates for patient flow, defined detailed criteria for referral of pregnant and delivering women and also defined the equipment and staffing necessary to fulfil the requirements for relevant levels of care. Relying on the positive experience and promising trends in perinatal indicators, other provinces of Kazakhstan started building their own systems for perinatal regionalization by 2011. The implementation of this strategy produced better organization and improved health outcomes for babies and mothers (27).
The Action plan provides a comprehensive framework to address sexual and reproductive health in the European Region under three closely interlinked goals, each of which comprises several objectives to be met by undertaking key activities. The elimination of avoidable maternal mortality and morbidity is placed under goal 2 of the Action plan: to ensure that all people can enjoy the highest attainable standards of sexual and reproductive health and well-being (10). Key actions to achieve the aim would include the provision of a continuum of sexual and reproductive health services, such as ensuring access to quality services for family planning, safe abortion, obstetric and perinatal care, skilled birth attendance and postpartum care, breastfeeding promotion and support, violence prevention and information and counselling. Moreover, improved reporting of all cases of maternal deaths and serious complications, with an enhanced understanding of the underlying causes, will support saving women’s lives by improving the quality of care (Box 2) (10).

While SDG target 3.1 aims at the reduction of maternal mortality, ending preventable deaths is just the beginning. At the global level, it has been recognized that a transformation is needed so that women and their children can realize their rights to the highest attainable standards of health and well-being (3). This is of particular importance in the WHO European Region, where, on average, the target of less than 70 maternal deaths per 100 000 live births has been achieved. Recognizing maternal and perinatal health as an essential part of the life-course of a woman, the priorities and key actions of the Strategy on women’s health and well-being in the WHO European Region, which aims at enabling, supporting and empowering girls and women in achieving their full health potential and well-being, should also be considered as means to improving maternal health (23).

**Box 2. Intersectoral action**

**Making Pregnancy Safer** is a regional strategic approach of the WHO Regional Office for Europe with the ultimate goal of accelerating actions to improve the health of and care for mothers and babies (28). The strategic approach provides the opportunity to increase awareness of the unfinished agenda in maternal and perinatal health and creates a means to unite efforts to accelerate actions needed to improve it. The strategic approach recognizes that, because of the many factors influencing maternal and perinatal health outcomes, the implementation of the strategy and its results requires a multisectoral approach.

The strategy is structured around a framework and steps for its implementation, starting with relevant training courses for doctors, nurses and midwives with the purpose of eliminating unnecessary and harmful practices and increasing the use of evidence-based medicine both in clinical practice and in the development of clinical guidelines.

To make pregnancy safer, information is vital and should be used to design and implement effective interventions. Beyond the numbers is a practical guide that describes five proven approaches for reviewing cases of maternal death or morbidity, such as confidential enquiries into maternal deaths and reviews of severe maternal morbidity – near-miss case reviews. Additionally, a tool for the assessment of the quality of hospital care was developed with the objective of guiding the identification of key policy areas that need to be improved and in prioritizing relevant actions.

The regionalization of perinatal care was also one of the approaches designed to complement the European strategic approach for making pregnancy safer. In spite of financial constraints and staffing shortages, the European Region has achieved a high implementation rate of the programme by working closely with partner organizations (28).

**Monitoring progress**

The WHO Regional Office for Europe is developing a joint monitoring framework for the SDG, Health 2020 and noncommunicable diseases indicators,¹ to facilitate reporting in Member States and to enable consistent and timely way to measure progress. Maternal health compromises all Health 2020 targets (29). The following, as proposed in the global indicators framework of the United Nations Economic and Social Council (ECOSOC), will support monitoring progress in eliminating avoidable maternal mortality and morbidity (30).

¹ EUR/RC67/Inf.Doc./1: Joint monitoring framework: proposal for reducing the reporting burden on Member States.
ECOSOC indicators
3.1.1. Maternal mortality ratio
3.1.2. Proportion of births attended by a skilled birth attendant

Health 2020 additional indicators
(16) 5.1.a. Maternal deaths per 100 000 live births (ICD-10 codes O00–O99 (31))

Fig. 1. Trends in maternal deaths per 100 000 live births by subregion, WHO European Region, 2000–2014

WHO support to its Member States

The WHO Regional Office for Europe supports its Member States to realize the regional goal of eliminating avoidable maternal and perinatal mortality and morbidity by providing strategic direction and support in line with the Action plan for sexual and reproductive health and other key action plans, resolutions and strategies (10).

Specifically, the Regional Office supports countries by providing technical assistance, in particular to support the development of national policies and action plan implementation, assist in the development of an appropriate monitoring framework, assist with the collection and analysis of core data and the preparation of progress reports, disseminate evidence-based guidelines and tools and support national adaption of these, assist in assessment of the quality of maternal and perinatal health care, and facilitate the exchange of country experiences.

Partners

WHO collaborates with the following partners, among others, to achieve the goal to eliminate avoidable maternal mortality and morbidity:

- Deutsche Gesellschaft für Internationale Zusammenarbeit
- International Planned Parenthood European Network
- United Nations Children’s Fund
- United Nations Population Fund: Office for eastern Europe and central Asia
- United States Agency for International Development
- World Bank

Note: CIS: Commonwealth of Independent States; EU: European Union; WHO-EURO: WHO European Region. Source: European health information gateway (5).
Resources

- Action plan for sexual and reproductive health: towards achieving the 2030 Agenda for Sustainable Development in Europe – leaving no one behind. [Link](http://www.euro.who.int/__data/assets/pdf_file/0018/314532/66wd13e_SRHActionPlan_160524.pdf)
- The global strategy for women’s, children’s and adolescents’ health 2016–2030. [Link](http://www.who.int/prmnch/media/events/2015/gs_2016_30.pdf)
- Safe abortion: technical and policy guidance for health systems, second edition. [Link](http://apps.who.int/iris/bitstream/10665/70914/1/9789241508742_report_eng.pdf)
- WHO recommendations on health promotion interventions for maternal and newborn health. [Link](http://apps.who.int/iris/bitstream/10665/172427/1/9789241548434_eng.pdf)
- WHO recommendations on antenatal care for a positive pregnancy experience. [Link](http://www.who.int/reproductivehealth/publications/antenatalcare/ANC-positive-pregnancy-experience/en/)

Key definitions

- **Antenatal care.** Care provided by skilled health-care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy. The components of antenatal care include risk identification, prevention and management of pregnancy-related or concurrent diseases and health education and health promotion (32).
- **Maternal death.** The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (2).

References


