Maternal Mortality in 2005

Estimates developed by
WHO, UNICEF, UNFPA, and The World Bank

World Health Organization

unicef

UNFPA

The World Bank

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
CEMD	Confidential Enquiry into Maternal Deaths
CIS	Commonwealth of Independent States
DHS	Demographic and Health Survey
EUR	dummy variable identifying observations from Europe
GDP	gross domestic product per capita based on purchasing power parity conversion
GFR	general fertility rate
ICD-10	International Statistical Classification of Diseases and Related Health Problems (10th Revision)
MDG	Millennium Development Goal
MENA	dummy variable identifying observations from North Africa and the Middle East
MMR	maternal mortality ratio
MMRate	maternal mortality rate
OECD	Organisation for Economic Co-operation and Development
PMDF	proportion maternal among deaths of females of reproductive age
RAMOS	reproductive-age mortality studies
SKA	proportion of births with skilled attendants
TFR	total fertility rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNPD	United Nations Population Division
VRcomplete	dummy variable equal to 1 if registration of deaths is 90% or more complete
WHO	World Health Organization
WP	dummy variable identifying observations from Western Pacific

EXECUTIVE SUMMARY

Improving maternal health and reducing maternal mortality have been key concerns of several international summits and conferences since the late 1980s, including the Millennium Summit in 2000. One of the eight Millennium Development Goals (MDGs) adopted at the Millennium Summit is improving maternal health (MDG5). Within the MDG monitoring framework, the international community committed itself to reducing the maternal mortality ratio (MMR) by three quarters between 1990 and 2015.

In this context, country estimates of maternal mortality over time are crucial to inform planning of sexual and reproductive health programmes and to guide advocacy efforts and research at the national level. These estimates are also needed at the international level, to inform decision-making concerning resource allocation by development partners and donors. However, assessing the extent of progress towards the MDG5 target has been challenging, due to the lack of reliable maternal mortality data – particularly in developing-country settings where maternal mortality is high.

The World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the United Nations Population Fund (UNFPA) have made three previous attempts to develop internationally comparable estimates of maternal mortality (for the years 1990, 1995, and 2000) by using an approach that encompasses different sources of data. However, the exact methodology used by each exercise differed. The development of country, regional, and global estimates for 2005 followed a similar approach, but used improved methodological techniques. Development of this round of estimates involved The World Bank in addition to WHO, UNICEF and UNFPA. A separate analysis of trends was also performed, to assess the likely change in MMR from 1990 to 2005 at the regional and global levels.

Of the estimated total of 536 000 maternal deaths worldwide in 2005, developing countries accounted for 99% (533 000) of these deaths. Slightly more than half of the maternal deaths (270 000) occurred in the sub-Saharan Africa region alone, followed by South Asia (188 000). Thus, sub-Saharan Africa and South Asia accounted for 86% (459 000) of global maternal deaths.

By the broad MDG regions, MMR in 2005 was highest in developing regions (at 450 maternal deaths per 100 000 live births), in stark contrast to developed regions (at 9) and countries of the commonwealth of independent states (at 51). Among the developing regions, sub-Saharan Africa had the highest MMR (at 900) in 2005, followed by South Asia (490), Oceania (430), South-Eastern Asia (300), Western Asia (160), North Africa (160), Latin America and the Caribbean (130), and Eastern Asia (50).

A total of 14 countries had MMRs of at least 1000, of which 13 (excluding Afghanistan) were in the sub-Saharan African region. These countries are (listed in descending order): Sierra Leone (2100), Niger (1800), Afghanistan (1800), Chad (1500), Somalia (1400), Angola (1400), Rwanda (1300), Liberia (1200), Guinea Bissau (1100), Burundi (1100), the Democratic Republic of the Congo (1100), Nigeria (1100), Malawi (1100), and Cameroon (1000). By contrast, Ireland had an MMR of 1.

The adult lifetime risk of maternal death (the probability that a 15-year-old female will die eventually from a maternal cause) is highest in Africa (at 1 in 26), followed by Oceania (1 in 62) and Asia (1 in 120), while the developed regions had the smallest lifetime risk (1 in 7300). Of all 171 countries and territories for which estimates were made, Niger had the highest estimated lifetime risk of 1 in 7, in stark contrast to Ireland, which had the lowest lifetime risk of 1 in 48 000.

These estimates provide an up-to-date indication of the extent of the maternal mortality problem globally. They strongly indicate a need for both improved action for maternal mortality reduction and increased efforts for the generation of robust data to provide better estimates in the future.

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The separate analysis of trends shows that, at the global level, maternal mortality has decreased at an average of less than 1% annually between 1990 and 2005 – far below the 5.5% annual decline, which is necessary to achieve the fifth MDG, concerning maternal mortality reduction. To achieve that goal, MMRs will need to decrease at a much faster rate in the future – especially in sub-Saharan Africa, where the annual decline has so far been approximately 0.1%. Achieving this goal requires increased attention to improved health care for women, including high-quality emergency obstetric care.