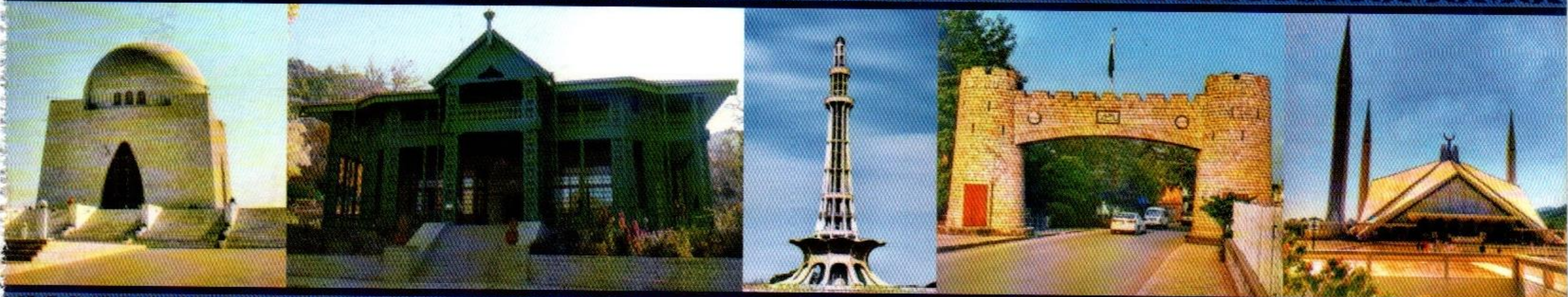
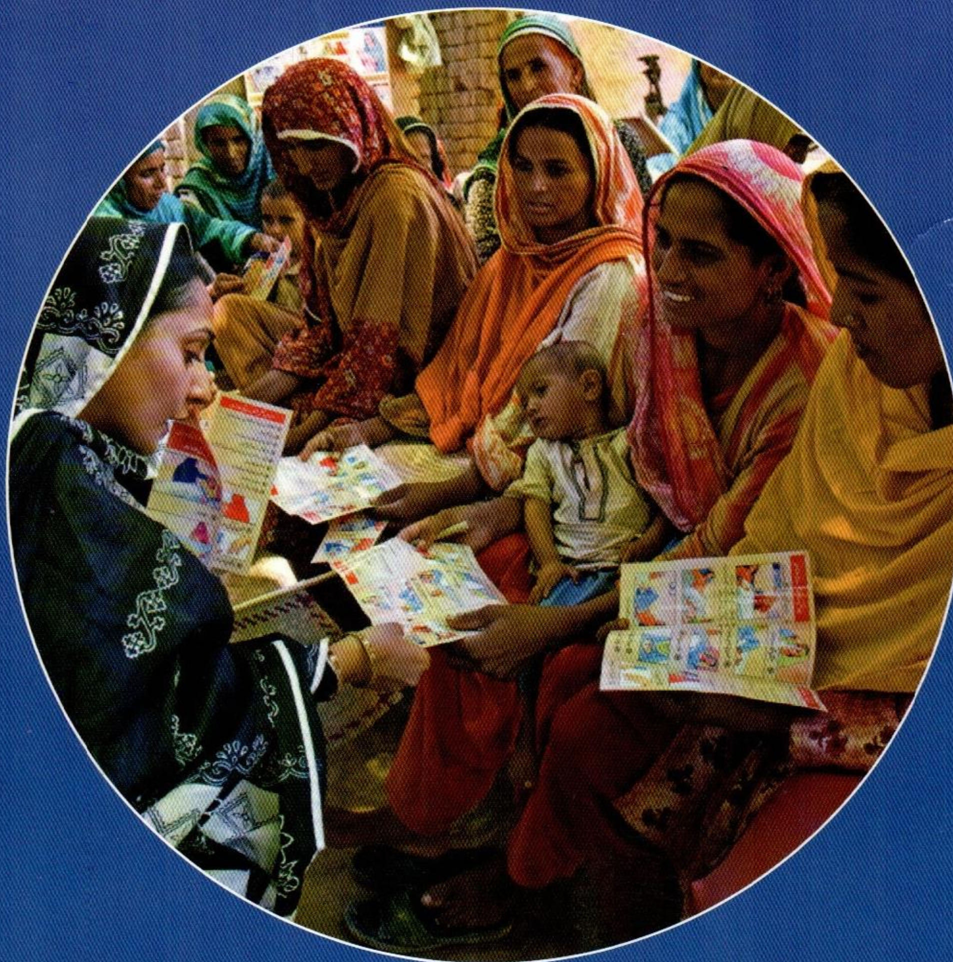


2019 Pakistan Maternal Mortality Survey:

Policy Brief on Maternal Mortality in Pakistan



The 2019 Pakistan Maternal Mortality Survey (2019 PMMS) was implemented by the National Institute of Population Studies (NIPS) under the aegis of the Ministry of National Health Services, Regulations and Coordination, Islamabad, Pakistan. ICF provided technical assistance through The DHS Program, a project funded by the United States Agency for International Development (USAID) that provides support and technical assistance in the implementation of population and health surveys in countries worldwide. Support for the survey was also provided by the Foreign, Commonwealth and Development Office (FCDO), the United Nations Population Fund (UNFPA), and Bill and Melinda Gates Foundation (BMGF).

Additional information about the 2019 PMMS may be obtained from the National Institute of Population Studies, Ministry of National Health Services, Regulations and Coordination, National Institute of Health (NIH), Park Road, Chak Shahzad, Islamabad, Pakistan; telephone: +92-51-9255937; fax: +92-51-9255932; internet: www.nips.org.pk.

Information about The DHS Program may be obtained from ICF, 530 Gaither Road, Suite 500, Rockville, MD 20850, USA; telephone: +1-301-407-6500; fax: +1-301-407-6501; email: info@DHSprogram.com; internet: www.DHSprogram.com.

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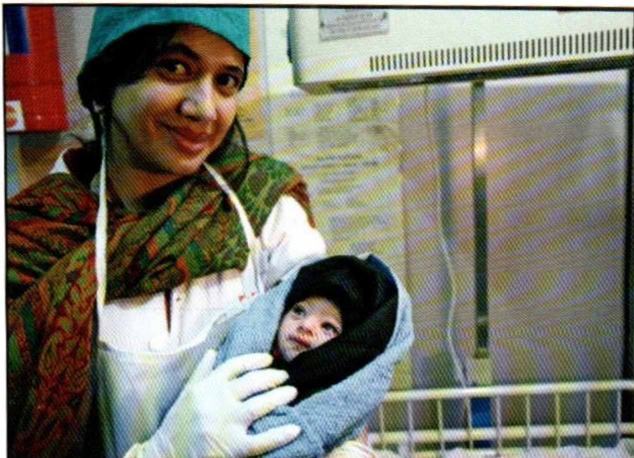
Background



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In 2019, Pakistan achieved an important milestone by completing its first independent study on maternal mortality and morbidity – the 2019 Pakistan Maternal Mortality Survey (2019 PMMS). The 2019 PMMS provides a snapshot of maternal health, illness, and mortality across Pakistan through a large-scale household survey that is representative of the country and the provinces/regions.

The 2006-07 Pakistan Demographic and Health Survey (PDHS) had collected information on maternal mortality for the first time in the country. A comparison of the maternal mortality ratio (MMR) at the national and regional levels between the two surveys provides an excellent opportunity to evaluate the country's progress in this area, while the data from the 2019 PMMS provide useful insights into the current situation and how best the country can prepare its health systems to serve the needs of mothers and children.

This policy brief provides a summary of the important findings from the 2019 PMMS and compares them with the 2006-07 PDHS, where possible. It also makes some evidence-based recommendations to improve the health status of women in Pakistan.

Maternal mortality is one of the most common causes of death among women of reproductive age in developing countries, even though it is completely preventable in most cases. Although South Asia has reduced its MMR by nearly 60% between the years 2000 and 2017, the region still contributes one-fifth of all maternal deaths globally.[1] Pakistan had an estimated MMR of 276 maternal deaths per 100,000 live births in the years 2004-06.[2] In general, there was an overall decrease in the MMR between the 2006-07 PDHS and the 2019 PMMS, from 276 maternal deaths per 100,000 live births to 186 (for the 3 years preceding the survey), showing a one-third decline.[3] The SDG target for MMR is to reduce it to 70 maternal deaths per 100,000 live births by 2030. At the current rate of decline, Pakistan is unlikely to achieve this target, and the MMR in Pakistan in 2030 will be approximately 110 maternal deaths per 100,000 live births.

Maternal Mortality Ratio (MMR) is one indicator that measures progress toward the Sustainable Development Goals (SDGs). The SDG target is to reduce MMR to less than 70 maternal deaths per 100,000 live births by 2030. MMR represents women's risk of dying due to complications of pregnancy, childbirth, and the postpartum period. It is calculated as the number of maternal deaths per 100,000 live births. The WHO defines maternal death and live birth as follows:

- ***Maternal death*** *is 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.*
- ***Live birth*** *refers to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart or pulsation of the umbilical cord.*

[1] "Maternal Mortality." World Health Organization. Accessed November 2020. https://www.who.int/news-room/fact-sheets/detail/maternal-mortality.

[2] National Institute of Population Studies (NIPS) [Pakistan], and Macro International Inc. 2008. Pakistan Demographic and Health Survey 2006-07. Islamabad, Pakistan: National Institute of Population Studies and Macro International Inc.

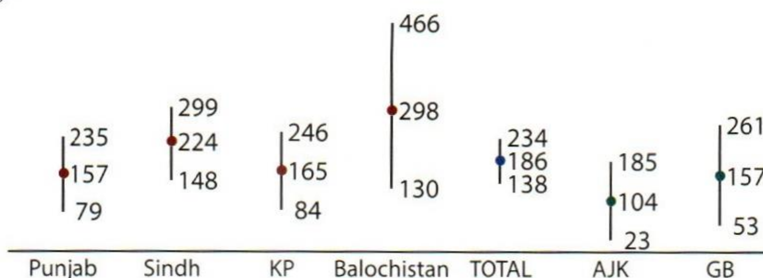
[3] This evidence of a decline does not take account of statistical uncertainty in the estimates from the two surveys.

KEY FINDINGS FROM THE 2019 PMMS

The overall MMR for Pakistan (excluding AJK and GB) is estimated to be 186 maternal deaths per 100,000 live births, with the distribution by region and age described in Figures 1 and 2, respectively. The MMR in rural areas is 199, compared with 158 in urban areas. Punjab and AJK have the lowest values for MMR. As compared with the values found in PDHS 2006-07, the MMR has decreased across almost all age groups with the largest decrease among women 40-44 years, although maternal deaths form a very small proportion of all deaths in this age group.

Figure 1. Maternal Mortality Ratio by Region

Maternal deaths per 100,000 live births for the 3-year period before the survey

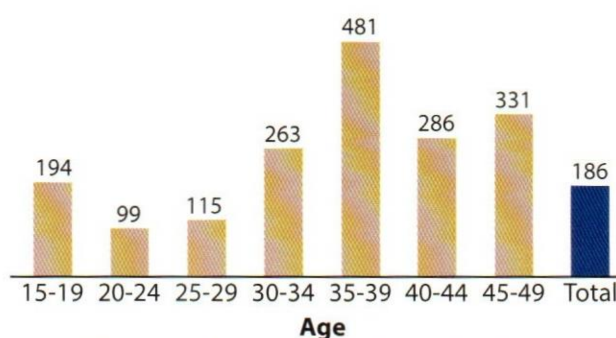


NOTE: Total excludes Azad Jammu and Kashmir (AJK) and Gilgit Baltistan (GB)

As mentioned earlier, the overall MMR in Pakistan has declined from 276 in 2006-07 PDHS to 186 in 2019 PMMS.[3] Observing the trend, the largest decline was observed in Balochistan, where the MMR decreased from 785 in 2006-07 to 298 in 2019. Declines were also observed in Punjab (from 227 to 157), Sindh (from 314 to 224), and KP (from 275 to 165; note that in the 2006-07 survey, FATA was not part of KP). The MMR decreased from 175 to 158 in urban areas and from 319 to 199 in rural areas.

Figure 2. Maternal Mortality Ratio by Age

Maternal deaths per 100,000 live births for the 3-year period before the survey



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

Comparison on the cause of maternal deaths between 2006-07 PDHS and the 2019 PMMS indicates that the proportion of deaths due to abortion-related complications, hypertensive disease of pregnancy, and obstetric haemorrhage have increased, while those due to infections, other direct causes, and indirect causes have decreased. This finding may indicate that while the quality of maternal health services has improved in the country, there is still a need to improve access to emergency obstetric care.

Comparison of Causes of Maternal Deaths in 2006-07 and 2019

Cause of death (% distribution)	Abortion-related	Hypertensive disease	Obstetric Haemorrhage	Infection disorder	Other direct cause	Indirect cause
2006-07 Pakistan DHS	5.6%	10.4%	32.7%	13.7%	24.6%	13.0%
2019 Pakistan MMS	9.8%	29.0%	40.7%	6.7%	10.0%	4.1%

Maternal Morbidity

For the first time in Pakistan, the 2019 PMMS collected information on maternal morbidity from women who experienced a pregnancy over the three years preceding the survey. According to the WHO Maternal Mortality Working Group, maternal morbidity is defined as "any health condition attributed to and/or aggravated by pregnancy and childbirth that has a negative impact on the woman's wellbeing."[4]

While self-reported information on the symptoms and description of maternal morbidity is subject to personal and recall biases, it does provide a general picture of prevailing complications during pregnancy, childbirth, and the postpartum period. Overall, 93% of women interviewed said that they experienced an illness during pregnancy, while 34% reported having experienced a complication during delivery, and 73% reported that they suffered from an illness during the postpartum period. However, only 52% of women reported that they sought medical treatment for complications during pregnancy or the postpartum period. In rural Balochistan, only 29% of women said they sought medical treatment for complications of pregnancy and the postpartum period.

The most commonly reported symptoms during pregnancy (reported by 39%-58% of women) were feeling of extreme weakness, body aches, lower abdominal pain, severe headache, and fever. The most commonly reported complications during delivery were prolonged labour pains (12%) and laceration in the vagina (9%); breech presentation (5%) and the newborn not able to breathe (6%) after birth were also reported. Feeling of extreme weakness, pallor, and fever during the postpartum period were reported by 32%-48% of women. In addition, 14% of women reported that they were informed by their healthcare provider that they had high blood pressure, while 7% of women were told about fetal malposition, 6% about slow growth of the fetus, and 4% were diagnosed to have uterine prolapse.

Seeking treatment of these complications was much less common: only 27% of women reported that they got treatment for anaemia (the most probable cause of 'extreme weakness') and 15% and 19% of women received treatment for high blood pressure and severe nausea and vomiting during pregnancy, respectively.

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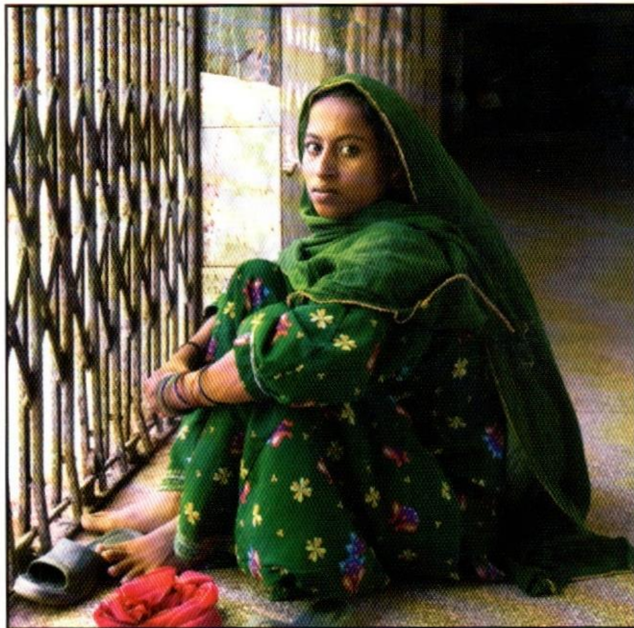
[4] Tabassum Firoz et al. "Measuring Maternal Health: Focus on Maternal Morbidity." Bulletin World Health Organization 2013;91:794-796. Accessed November 2020. https://www.who.int/bulletin/volumes/91/10/13-117564/en.

Conclusions and Recommendations



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The good news is that the MMR has declined in Pakistan over the last decade or so.[3] Unfortunately, this decline has been slow, and it is unlikely that at this rate of decrease, Pakistan will achieve an MMR of 70 or less by the year 2030, which is the target for SDG-3 and ICPD25.

The decline in MMR is observed in all regions; however, substantial differences exist between urban and rural areas and more developed and less developed regions and provinces of Pakistan. A comparison of the causes of maternal deaths in 2006-07 and 2019 suggests that women suffering from acute maternal complications such as obstetric haemorrhage and hypertensive disease of pregnancy are more vulnerable to die in the remote rural areas where access to emergency obstetric care is limited.

As the trends in antenatal care, skilled birth attendance, and delivery in a health facility have increased remarkably over the past two decades, a corresponding decrease in maternal mortality has not been observed. This indicates that the quality and coverage of the reproductive health services in Pakistan is not up to the mark. There are several other indicators to that effect:

- Family planning is an important intervention to prevent unwanted pregnancies and unsafe abortions which, in turn, results into a decrease in maternal deaths. In Pakistan, the contraceptive prevalence rate (CPR) for modern methods is only 25% and has remained stagnant since 2013.[5]
- The 2019 PMMS shows an increase in maternal deaths due to abortion-related complications (from 6% in 2006-07 to 10% in 2019). This indicates that family planning services are unable to meet the demand, especially in rural areas.
- Maternal deaths due to obstetric haemorrhage (antepartum and postpartum haemorrhage) have also increased, from 33% in 2006-07 to 41% in 2019. This indicates that quality emergency obstetric care services may not be accessible to all women.
- Not all women seek medical treatment for obstetric complications, particularly if they live in remote rural areas. Only 27% of women received treatment for anaemia and just 15% for high blood pressure. Although, 86% of women in Pakistan receive antenatal care from a skilled provider and 51% have at least four antenatal care visits. This observation again raises questions about the quality of health care available to women during pregnancy, childbirth, and the postpartum period.
- Even though 69% of deliveries are conducted by skilled birth attendants (66% in a health facility), the proportion of women having prolonged labour, vaginal laceration, and excessive bleeding after delivery are high particularly in remote rural areas.

The take-home message from the 2019 PMMS is that while Pakistan is on its way to achieving a better health status for its mothers, the progress is slow and the healthcare delivery systems need much improvement to meet the SDG-3 targets related to maternal health. Pakistan has a robust system for healthcare delivery, both in the public and private sectors which should be optimally utilized. In the public sector, its vast network of basic health units and rural health centres and its Lady Health Workers (LHWs) program are unique and could play a vital role for achieving the SDG/ICPD25 target of MMR below 70, if fully trained and equipped to provide quality obstetric and family planning services.

[5] National Institute of Population Studies (NIPS) [Pakistan] and ICF. 2019. Pakistan Demographic and Health Survey 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF.

When women have universal access to good quality antenatal care and skilled birth attendance, they remain healthy during pregnancy and childbirth. Evidence from all over the world suggests that providing universal access to maternal health services, including family planning, and improving the quality of healthcare available to women are crucial steps for reducing the MMR. Following are some of the key interventions required to reduce maternal mortality and morbidity and improve the maternal health status in the country:

- Concerted efforts need to be made at all levels to increase modern contraceptive use to increase birth spacing and reduce unwanted pregnancies and unsafe abortions. Family planning counselling and information and the full range of modern contraceptives should be freely available across the country, particularly in rural and low-income urban areas. The federal and provincial governments must ensure that the supply of modern contraceptives remains uninterrupted in all areas of the country. This can only be achieved when family planning is mandated as an essential health service, available at health facilities at all levels in both the public and private sectors. Pakistan will not be able to achieve its national and international commitments related to fertility and maternal mortality targets stipulated in the CCI, FP2020, ICPD25 and SDGs unless public and private sectors and community health workers are fully mobilized and supported to meet the huge unmet need for modern contraception.
- Bringing routine maternal health services closer to women's homes by staffing and equipping basic health units and rural health centres to provide antenatal care, skilled birth attendance, and postpartum care.

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- Improving the quality of maternal healthcare across all health facilities by rigorous training and monitoring of healthcare providers in the public sector and by closely regulating private sector maternity homes and hospitals. The current government's initiative of universal healthcare (UHC) focuses on essential health services packages and inter-sectoral interventions, which may go a long way in assuring access to high quality reproductive health services to the entire population. However, the UHC interventions should highlight the importance of reproductive health services including family planning, antenatal care, skilled birth attendance and the postpartum and essential newborn care. Considering that Pakistan's MMR and infant and child mortality rates are among the highest in the region, and that the rate of use of modern contraceptive methods has stalled since 2013[5], there is an urgent need to bring greater and clearer emphasis on family planning and MNCH services.

Achieving universal health coverage (UHC) is a Sustainable Development Goal (Goal 3, Target 3.8), which requires that the entire population should have access to affordable quality essential health care services and essential medicines and vaccines. The UHC approach would ensure that all women have access to affordable and quality antenatal care, delivery and postpartum care, and emergency obstetric care. Family planning is also an essential health service included in the UHC approach, and which can substantially improve maternal and child health indicators in Pakistan. While Pakistan has adapted the UHC approach at the federal level, there is a need to expand this to the entire country, and to ensure that all women have access to maternal health services, regardless of their residence, socioeconomic status, race, religion, or education level.