Maternal & Perinatal Death Surveillance & Response System in Federal Context

Inconsistencies in estimations related to maternal and perinatal mortality in Nepal have rendered analysis and response exceedingly difficult—if the country is to reach its maternal health targets, it is crucial to strengthen and streamline surveillance systems in the changed structure, through collaboration with health academic institutions

Nepal is committed to reducing its Maternal Mortality Ratio (MMR) from 239 per 100,000 live births in 2016[1] to 125 by 2020 and 70 by 2030. In order to reach these targets, however, it is essential that the surveillance systems related to maternal and perinatal mortality are strengthened considerably, so that appropriate measures may be planned to bring down preventable deaths.

For the purposes of routine monitoring, the indirectly-calculated MMR estimates provided by the United Nations and World Bank Group are used.[2,3] With Nepal Demographic and Health Surveys (NDHS), survey-based estimation of pregnancy-related deaths was initiated in 1996, continuing in 2006 after a 10-year interval (Table 1). But it was only in 2016 when the NDHS calculated MMR for the first time[1]. Also notable in this regard were the Maternal Mortality and Morbidity Studies conducted in 1998 and 2008/09[4], but while the 1998 study failed to collect information on livebirths that was necessary for MMR estimation, the figures in the latter study were deemed to not be nationally representative. Such inconsistencies and variations in MMR statistics have thus rendered analysis and response exceedingly difficult.

It was with this in view that plans have been made to expand the Maternal and Perinatal Death Surveillance and Response (MPDSR) system—which, as of 2018, covers 76 hospitals in 42 districts—plan is to cover all hospitals across the entire country by 2020. Historically, in 1990, Paropakar Maternity Hospital had initiated a Maternal Death Review (MDR) system with the objective of maintaining a record of all maternal deaths taking place at the facility, and reviewing the causes and circumstances surrounding them, so as to learn what needed to be done to avert preventable

Table 1. MMR estimations in Nepal

MMR[a]	Year	Source
901	1990	WHO estimates (1990-2015)
660	1995	WHO estimates (1990-2015)
539	1996	Nepal Family Health Survey (NHFS)
548	2000	WHO estimates (1990-2015)
444	2005	WHO estimates (1990-2015)
281	2006	NDHS 2006
229	2009	MMMS 2008/09
349	2010	WHO estimates (1990-2015)
190	2013	WHO estimates (1990-2013)
258	2015	WHO estimates (1990-2015)
239	2016	NDHS 2016
258	2016	NDHS 2016 (Pregnancy related deaths)

a: Per 100,000 live births

maternal deaths in the future. The system was later upgraded into the MPDSR in 2015, and a year later, a community-based Maternal Death Surveillance and Response (MDSR) was started in six districts, now expanded to 11 (Table 2), and expected to reach 20 districts by 2020.

Kinks in the system

The Family Welfare Division (FWD) under the Department of Health Services (DoHS) is responsible for implementing and monitoring the MPDSR. However, even though there are special committees at the DoHS and the Ministry of Health and Population to provide some assistance, the limited human resources of the Division are often overwhelmed. They are tasked with providing training and mentoring support; reviewing forms and providing feedback; analyzing data and sharing the findings; and organizing annual reviews in the provinces, among other duties, and also need to travel frequently. This is not counting other activities of the Division that they are charged to carry out. This overburdening of staff has been the Division's biggest challenge in ensuring stewardship to the MPDSR system.

In community-based MDSR, the deaths of any women of reproductive age (12 to 55 years)—are first noted by the Female Community Health Volunteers (FCHV), who pass on the information to the respective health facility in the area within 24 hours through a form. On receiving the death notification, the health facility then sends an Auxiliary Nurse Midwife (ANM) or another health worker to the household of the deceased, where s/he asks the families four simple questions related to the pregnancy and childbirth. This process could be expedited if the FCHVs could have included this information themselves as soon as they learn about a death, record the responses and provided the report to the health facility. This would also help avoid the interruption in healthcare services that would be caused by the ANM or health worker having to leave the facility.

The Government of Nepal has announced plans to establish at least one Health Science Academy in each of the provinces. If collaborative relationships could be established with these institutions, so that they are able to contribute to strengthening and expanding MPDSR in hospitals and MDSR at the local level within their respective provinces, the FWD would be free to function as a purely regulatory body and focus on quality control. Students at the academies could also be educated about these surveillance and response systems as part of their degrees—not only would this reduce demand for training of new staff in the field, but also provide academic institutions the opportunity to develop curriculums that support the effective functioning of such important national mechanisms.

Table 2. Districts where community based MDSR is implemented

Province	Districts
Province 1	Solukhumbu, Sunsari
Province 2	Sarlahi
Province 3	Dhading
Gandaki	Kaski
Province 5	Rupandehi, Banke, Bardiya
Karnali	Surkhet, Jumla
Province 7	Baitadi

WAY FORWARD

- Screening questions for pregnancy-related deaths should be incorporated into the death notification forms that are filled out by FCHVs—a step further would be to digitize these forms through a mobile app, which could help reduce the reporting burden, aid data collection and analysis, and improve data quality.
- Functional linkage should be established between maternal death surveillance at hospitals and the surveillance of Immunization Preventable Diseases (IPD), where IPD officials working in one hospital could also take the responsibility of keeping tabs on maternal deaths at the same institution.
- In collaborating with health science academies, the Ministry of Health and Population can work to capacitate them to implement MPDSR in their respective provinces. Together with the Ministry of Education, such institutions can be encouraged to design a curriculum that meets these specific needs—perhaps by linking grants with assurance of the institutionalization of maternal death surveillance and response.
- The Ministry of Health and Population should regulate these academies and ensure quality is maintained in the MPDSR system—it should focus on analysis and use of evidence in formulating policies to address any identified gaps.

REFERENCES

1. Ministry of Health, New ERA, ICF.Nepal Demographic and Health Survey 2016 . Kathmandu : Ministry of Health and Population , 2017.
2. WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.Trends in maternal mortality: 1990 to 2015. Geneva : WHO, 2015.
3. WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division.Trends in maternal mortality: 1990 to 2013. Geneva : WHO, 2014.
4. Ministry of Health and Population.Nepal Maternal Mortality and Morbidity Study 2008/09. Kathmandu : Family Health Division, Department of Health Services, Ministry of Health and Population, Government of Nepal, 2010.

SUPPORTED BY:
UKaid
from the British people