# Maternal and Perinatal Death Surveillance and Response (MPDSR) in Bangladesh

## Progress and Highlights in 2022

World Health Organization
Bangladesh

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## Edited By

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# Content

# Abbreviations

| | |
|---|---|
| AHI | Assistant Health Inspector |
| ANC | Antenatal Care |
| CG | Community Group |
| CHCP | Community Health Care Provider |
| CSG | Community Support Group |
| EmONC | Emergency Obstetric and Newborn Care |
| FDR | Facility Death Review |
| FP | Family Planning |
| FPI | Family Planning Inspector |
| FWA | Family Welfare Assistant |
| FWV | Family Welfare Visitor |
| GoB | Government of Bangladesh |
| HA | Health Assistant |
| HI | Health Inspector |
| HMIS | Health Management Information System |
| HNPSP | Health, Nutrition and Population Sector Programme |
| IMCI | Integrated Management of Childhood Illness |
| MCWC | Mother and Child Welfare Center |
| MDGs | Millennium Development Goals |
| MIS | Management Information System |
| MMR | Maternal Mortality Ratio |
| MNH | Maternal and Neonatal Health |
| MNHI | Maternal and Neonatal Health Initiative |
| MoHFW | Ministry of Health and Family Welfare |
| MPDR | Maternal and Perinatal Death Review |
| MPDSR | Maternal and Perinatal Death Surveillance and Response |
| NGO | Non-Government Organization |
| NMR | Neonatal Mortality Rate |
| PNC | Postnatal Care |
| RCH | Reproductive and Child Health |
| RMO | Resident Medical Officer |
| SA | Social Autopsy |
| SBA | Skilled Birth Attendant |
| ToT | Training of Trainers |
| UFPO | Upazila Family Planning Officer |
| UHC | Upazila Health Complex |
| UH&FPO | Upazila Health and Family Planning Officer |
| UH&FWC | Union Health and Family Welfare Center |
| UN | United Nations |
| UNFPA | United Nations Population Fund |
| UNICEF | United Nations Children Fund |
| VA | Verbal Autopsy |
| WHO | World Health Organization |

# Message

Government of Bangladesh has been implementing the Maternal and Perinatal Death Surveillance and Response (MPDSR) Program to identify and investigate the causes of maternal and perinatal death both at the community and health facility level. The program begins with the notification of a maternal and neonatal death, accompanied by the causes of death. Under this program, we also undertake response activities to prevent maternal and newborn death.

The Sustainable development goal three envisions a significant reduction in maternal mortality ratio (MMR) by 2030 (70 per 100,000 live births). Effective implementation of the program will translate into a significant reduction in MMR, which will put us well on track in the achievement of the SDG goal. We have come a long way, yet the status of maternal mortality in Bangladesh reflects the need to accelerate actions for the achievement of the set target. Moreover, proper utilization of the quality data on maternal and neonatal death from the program can significantly enhance the provision of maternal and neonatal health services.

This annual report of MPDSR 2022 provides valuable insights into the state of MPDSR in Bangladesh and helps us better understand and realize the state of MPDSR in Bangladesh.

**Prof. Dr. Md. Ahmedul Kabir**
Additional Director General (Admin)
DGHS

# Message

Bangladesh has embraced the global Maternal Death Surveillance and Response model developed by the World Health Organization (WHO) to establish a national death review system. The country has received international recognition for its progress in reducing maternal mortality and achieving the target set by Millennium Development Goal 4 over the past decade. The Sustainable Development Goals (SDGs) set for 2030 aim to reduce the Maternal Mortality Rate (MMR) to 70 or fewer deaths per 100,000 live births and the Neonatal Mortality Rate (NMR) to 12 or fewer deaths per 1,000 live births. The Maternal and Perinatal Death Surveillance and Response (MPDSR) is a key approach that focuses on improving the quality of maternal and newborn health services to reach these goals.

Since its pilot implementation in Thakurgaon district in 2010, the Maternal and Perinatal Death Review (MPDR) program has achieved significant improvements in responding to maternal and newborn mortality at both institutional and community levels. The program's success is attributed to the collaborative efforts of the Directorate General of Health Services (DGHS) and its partners, including UNICEF, UNFPA, and WHO. The government expanded the program to 64 districts across the country by 2022.

With the full cooperation of all stakeholders, I am confident that the implementation of maternal and perinatal surveillance and response will be accelerated and further strengthened, ultimately leading to a reduction in maternal and perinatal deaths in alignment with the SDGs.

The Annual Report 2022 highlights the progress, opportunities, and barriers in various components of MPDSR, such as death notification, verbal autopsy, social autopsy, facility death review, data entry and analysis, and monitoring and supervision systems.

**Dr. Muhammad Shariful Islam**
Line Director, MNC&AH
DGHS

# Message

Over the last decades, maternal deaths have reduced significantly around the world. From 2000 to 2022, the maternal mortality ratio (MMR) in Bangladesh declined by 38 per cent – from 441 deaths to 156 deaths per 100,000 live births, according to Bangladesh Sample Vital Statistics 2022. Bangladesh is among the leading countries to have reduced MMR significantly. However, still now, Bangladesh loses over 4000 women each year from preventable causes related to pregnancy and childbirth. Almost all (99%) deaths are occurring in low income and lower-middle-income economic cohorts of the population.

The Maternal and Perinatal Death Surveillance and Response (MPDSR) system enables us to measure the maternal and perinatal mortality in real time, involving the community in the process. Through this system, we produce quality information and case analyses with a view to undertake timely and evidence-based measures to prevent preventable maternal and neonatal deaths. Given the effectiveness of the Program, MPDSR has been scaled up 64 districts to date by the Ministry of Health and Family Welfare (MOHFW) with the technical and implementation support from UNFPA, UNICEF, WHO, and other development partners, donors, and professional societies.

MPDSR is one of the vital tools for improving quality of care for maternal and neonatal health and strengthening the identification of maternal deaths in the community. At the same time, this is also serving as an evidence-base for advocacy, policy, planning, service delivery and accountability for accelerating progress towards ending preventable maternal deaths.

This annual report of 2022 shows the progress, opportunities, and barriers on different components of MPDSR including death notification, verbal autopsy, social autopsy, facility death review, data entry and analysis, monitoring and supervision system. I am confident with full cooperation of all concerned, the implementation of maternal and perinatal surveillance and response will reduce the maternal and perinatal deaths to a large extent: thus, achieving SDG smoothly.

**Dr Md. Azizul Alim**
Program Manager
Maternal Health, MNC&AH
DGH

# Message

The Government of Bangladesh has been actively implementing the Maternal and Perinatal Death Surveillance and Response (MPDSR) Program to identify and investigate the causes of maternal and perinatal death at both the household and health facility level. The program begins with the notification of a mother's or newborn's death, accompanied by a summary of the cause(s) of death. Additionally, response activities are undertaken to prevent further maternal and newborn deaths.

The 2018 regional workshop on MPDSR highlighted two major challenges: the notification of death at the community level and the lack of comprehensive reviews. The MPDSR Program follows a world-class approach that aligns with global best practices regarding facility death notification, review, and response.

Aligned with Sustainable Development Goal 3, which aims to significantly reduce maternal mortality by 2030 (below 70 per 100,000 live births), the effective implementation of the MPDSR Program will contribute to achieving this target. Although progress has been made, the current status of maternal mortality in Bangladesh emphasizes the need to accelerate efforts to reach the set goal. Furthermore, leveraging the quality data on maternal death from the program can significantly enhance the provision of maternal health services.

This report provides valuable insights into the state of MPDSR in Bangladesh and the prevailing challenges, serving as a resource to better understand and address the program's effectiveness.

**Dr. Md. Akhteruzzaman**
Program Manager (Additional Secretary)
Quality Improvement Secretariat (QIS)
Health Economics Unit

# Executive Summary

Bangladesh initiated the implementation of the maternal and perinatal death review (MPDR) system in 2010 with the aim of achieving the Millennium Development Goal targets on maternal mortality reduction by 2015. The MPDR system was piloted between 2010 and 2015, initially covering 10 out of the country's 64 districts. Drawing on lessons learned from implementation and international guidelines, the program was subsequently updated and renamed as the Maternal and Perinatal Death Surveillance and Response (MPDSR) system in 2016. It became an integral part of the government's routine program and gradually expanded its geographic coverage, eventually encompassing all 64 districts by 2022.

UNFPA, UNICEF, and WHO Bangladesh, along with other development and implementing partners, have been strong technical collaborators with the Government and Ministry of Health and Family Planning, providing support for the nationwide implementation of MPDSR. Their joint efforts include resource allocation, capacity-building of health workers, improvement of existing MPDSR practices and service delivery, and promoting quality care at health facilities.

The MPDSR system focuses on notifying and investigating the causes of maternal and perinatal deaths occurring in both the community and health facilities. Verbal autopsies and facility death reviews are conducted to analyze selected cases, gathering data that is entered into the government's District Health Information System-2 (DHIS-2). The availability of MPDSR data through DHIS-2 allows for the calculation of maternal mortality ratios, neonatal mortality rates, and the exploration of socio-demographic factors, care-seeking behavior, and causes of these deaths. The aim is to learn from these cases and develop response and improvement plans to prevent similar incidents in the future.

The MPDSR approach in Bangladesh emphasizes anonymity, non-blaming, and non-punitive actions, encouraging participation at all levels in identifying and reviewing maternal and neonatal deaths and stillbirths. It employs an evidence-based approach that examines health systems and social factors contributing to these deaths through a systematic process. The system has helped identify vulnerable areas with high maternal and neonatal mortality rates, enabling health managers to track district-specific maternal mortality ratios (MMR), stillbirth ratios (SBR), and neonatal mortality rates (NMR).

In 2022, the Government of Bangladesh finalized revision of national MPDSR guideline and tools, included a stillbirth review component aligned with global MPDSR implementation guideline. A technical working group was formed and developed a video toolkit, and training sessions were conducted for healthcare providers and district managers on MPDSR performance reviews, cause analysis, and the development of response plans. Monitoring of MPDSR implementation took place through national-level video conferences, and virtual orientations were provided to district MPDSR focal persons and managers on cause analysis and the development of response plans. Furthermore, an operational guideline and implementation plan for near-miss maternal (MNM) studies were developed to enhance maternal healthcare at facilities, with the support of DGHS and development partners.

# Background

Maternal and Perinatal Death Surveillance and Response (MPDSR) in Bangladesh is a comprehensive system encompassing both community and facility deaths. Any maternal death, neonatal death or stillbirth is notified by the field level government health care providers at the community level and by the senior staff nurses at the facility level. Maternal and Perinatal Death Review plays a crucial role in enabling policymakers, healthcare staff, and community members to learn from tragic and often preventable events. Its purpose is to enhance the quality of safe motherhood programs and prevent future maternal and neonatal morbidity and mortality.

In Bangladesh, the health system lacked a comprehensive death review system for maternal deaths until 2010, and proper registration and notification of deaths were also lacking. To address these gaps, Bangladesh adopted the Maternal and Perinatal Death Review (MPDR) approach from the WHO's "Beyond the Numbers" initiative and piloted it in one district to assess its effectiveness in reducing maternal and perinatal deaths. Based on lessons learned from the pilot district, DGHS gradually expanded the program nationwide in 2016, and MOHFW developed national guidelines, a National Training of Trainers (ToT) manual, a pocket handbook for health workers, and other tools to strengthen the capacity of stakeholders and key actors involved in the MPDSR implementation.

According to the 2022 report from Bangladesh Sample Vital Statistics , the maternal mortality ratio (MMR) in Bangladesh was estimated to be 156 per 100,000 live births, and the neonatal mortality rate (NMR) of 20 deaths per 1,000 live births in Bangladesh in 2022. The new Sustainable Development Goal (SDG) 3 has set ambitious targets, requiring Bangladesh to reduce MMR to less than 70 per 100,000 live births and neonatal deaths to fewer than 12 per 1,000 live births by 2030.

In Bangladesh, the journey of a woman through pregnancy and childbirth is often marked by suffering and challenges. When a mother dies during childbirth, she is unable to witness the beauty of the world or share her own story. However, her tragic experience leaves critical information that could save countless lives. Understanding where, when, how, and why a mother or newborn died can unlock the key to preventing future deaths. By utilizing such vital information, targeted interventions can be designed and implemented to alleviate the burden of maternal and neonatal mortality.

Aligned with WHO's Maternal Death Surveillance and Response (MDSR) global Technical Guidance published in 2021, efforts have been initiated to update the MPDR guidelines, giving increased emphasis to surveillance and response, including the review of stillbirths within the existing system. As of the end of 2022, the MOHFW has expanded the initiative to 64 districts with technical support from UNFPA, UNICEF, WHO, and other development and implementation partners.

In the year 2022 a technical working group was formed for the revision of the national guideline where the stillbirth related information was included. Despite the challenges posed by the pandemic, this report highlights the progress made in 2022 and acknowledges key achievements and significant activities carried out under the MPDSR program.

# MPDSR at a Glance in Bangladesh

The MPDSR program in Bangladesh operates as a comprehensive system, covering maternal and perinatal deaths at both the community and facility levels. Field-level government healthcare providers at the community level, as well as senior staff nurses at the facility level, notify any maternal, neonatal deaths, or stillbirths using a datasheet. The reported data is then uploaded to the DHIS-2 database from community clinics, Upazila Health Complexes (UHCs), and government district hospitals.

To further investigate the cases, health supervisors at the community level conduct a review of all maternal deaths and 10% of neonatal deaths using a verbal autopsy form. Additionally, they perform community-based social autopsies for maternal and neonatal deaths to understand the underlying social causes and raise awareness within the community to prevent future deaths. At the facility level, nurses and midwives, with support from doctors and consultants, conduct facility death reviews using facility death review forms.

Cause assignment based on the community verbal autopsy is performed at the divisional/district level and uploaded to DHIS-2. For facility deaths, nurses upload causes of death to DHIS-2. Quality Improvement Committees are established at the sub-district, district, and divisional levels to regularly discuss MPDSR findings, progress, and develop action plans based on the identified issues. These action plans are then implemented at the field level. MPDSR focal persons are assigned at the sub-district and district levels to manage the overall implementation of MPDSR in their respective areas. At the facility level, MPDSR sub-committees operate in UHCs and district hospitals, reviewing facility deaths and developing action plans to improve the facility and quality of care. MPDSR is routinely discussed in monthly coordination meetings at the district and sub-district levels.

The MPDSR National Committee serves as the central platform for reviewing, discussing, and developing national action plans for the implementation of MPDSR throughout the country. The Quality Improvement Secretariat of the Ministry of Health and Family Welfare (MoHFW) works to ensure the quality aspects of MPDSR, including monitoring. Overall, this structured system ensures that maternal and perinatal deaths are reviewed comprehensively, with actions taken at various levels to improve the quality of care and prevent future deaths.

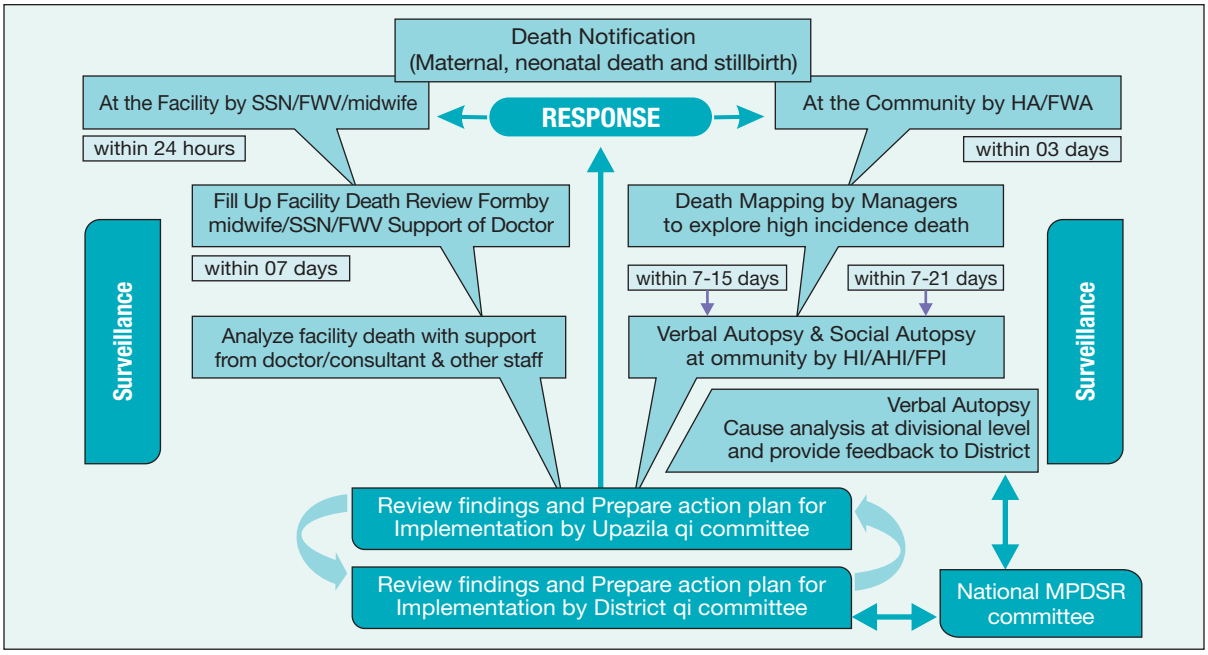


Figure 1: MPDSR Implementation Framework

# Scaling-up of MPDSR in Bangladesh: 2022

Since its piloting in 2010 in the Thakurgaon district, Bangladesh has scaled up the MPDSR program in different phases based on the experiences gained. By 2022, the program had expanded to cover all 64 districts in the country, representing over two-thirds of the population. This scale-up has been made possible with the support of UNICEF, UNFPA, WHO, and other development partners.

UNICEF is supporting the program implementation at national and district level, UNFPA is continuing at 10th country programme districts, and WHO is also providing support at the national level.

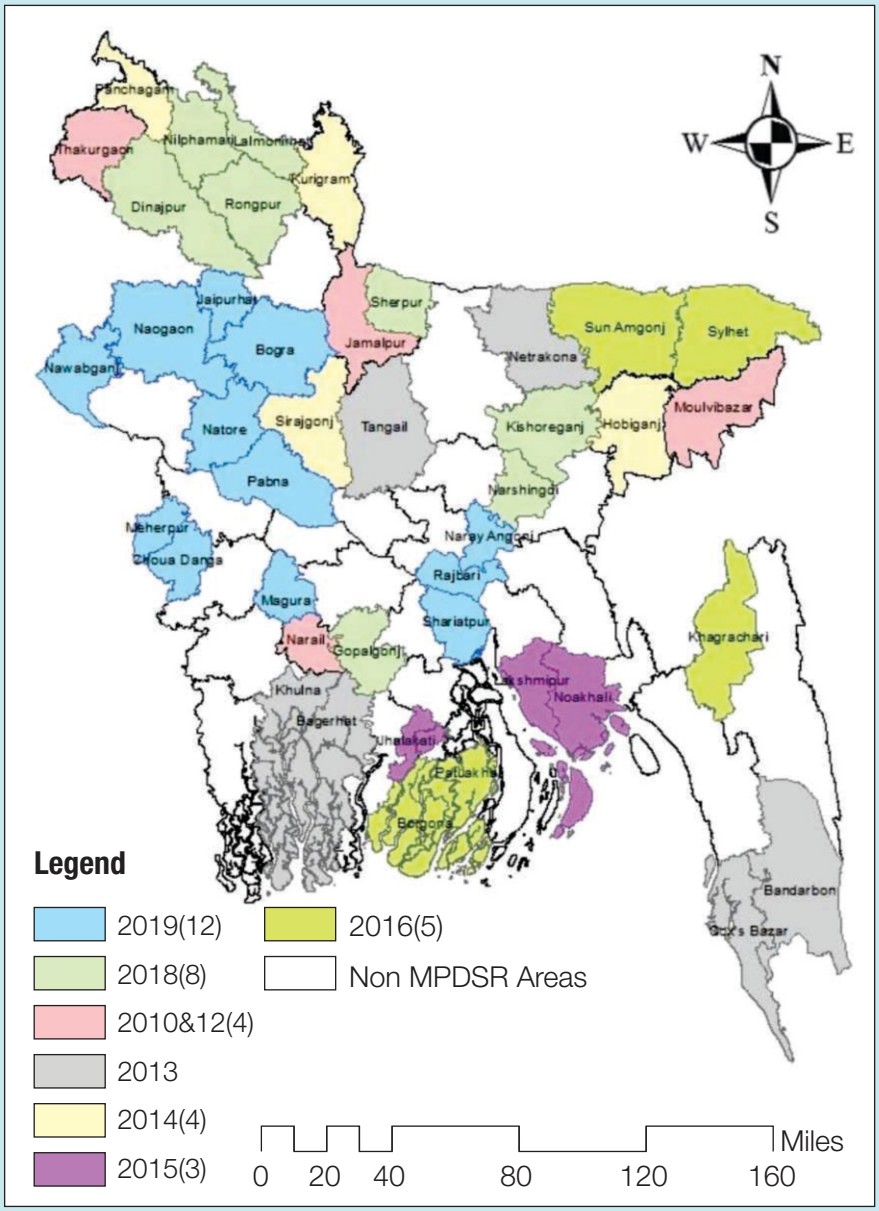


Figure 2: MPDSR Implementation Districts by Year

# MPDSR Community Death Review

Field-level healthcare providers, such as health assistants and family welfare assistants, played a crucial role in the community notification and reporting of maternal and perinatal deaths through the DHIS-2 platform.

## Maternal death review at the community

Among the reported maternal deaths in 2022, 64 districts reported 1775 maternal deaths, of which 768 deaths were reviewed at community (43% of the notified maternal deaths). As per the below table, in 2022, the highest number of (107) maternal deaths were reported in Khulna district, 83 deaths were reported in Dhaka, and 66 deaths were reported in Sunamganj [Table 1].

Photo: Community level Verbal Autopsy of maternal death

Table 1: Distribution of maternal deaths reported and reviewed by districts in the community.

| District | Community maternal death | | |
|---|---|---|---|
| | Death notified | Death reviewed | % of death reviewed |
| Bagerhat | 13 | 3 | 23% |
| Bandarban | 5 | 1 | 20% |
| Barguna | 15 | 15 | 100% |
| Barisal | 41 | 12 | 29% |
| Bhola | 20 | 1 | 5% |
| Bogra | 19 | 16 | 84% |
| Brahmanbaria | 31 | 1 | 3% |
| Chandpur | 30 | 0 | 0% |
| Chapai Nababganj | 16 | 0 | 0% |
| Chittagong | 60 | 0 | 0% |
| Chuadanga | 3 | 0 | 0% |
| Comilla | 51 | 16 | 31% |
| Coxs Bazar | 42 | 28 | 67% |
| Dhaka | 83 | 13 | 16% |
| Dinajpur | 18 | 4 | 22% |
| Faridpur | 9 | 0 | 0% |
| Feni | 10 | 3 | 30% |
| Gaibandha | 32 | 7 | 22% |
| Gazipur | 37 | 33 | 89% |
| Gopalganj | 6 | 1 | 17% |
| Habiganj | 36 | 25 | 69% |

| District | Community maternal death | | |
|---|---|---|---|
| | Death notified | Death reviewed | % of death reviewed |
| Jamalpur | 40 | 20 | 50% |
| Jessore | 30 | 5 | 17% |
| Jhalokati | 3 | 3 | 100% |
| Jhenaidaha | 9 | 0 | 0% |
| Joypurhat | 9 | 2 | 22% |
| Khagrachhari | 5 | 5 | 100% |
| Khulna | 107 | 7 | 7% |
| Kishoreganj | 56 | 7 | 13% |
| Kurigram | 51 | 23 | 45% |
| Kustia | 15 | 2 | 13% |
| Laksmipur | 14 | 0 | 0% |
| Lalmonirhat | 37 | 33 | 89% |
| Madaripur | 8 | 0 | 0% |
| Magura | 7 | 1 | 14% |
| Manikganj | 8 | 0 | 0% |
| Maulavi Bazar | 59 | 53 | 90% |
| Meherpur | 3 | 0 | 0% |
| Munshiganj | 9 | 9 | 100% |
| Mymensingh | 39 | 9 | 23% |
| Naogaon | 21 | 1 | 5% |
| Narail | 12 | 4 | 33% |
| Narayanganj | 43 | 2 | 5% |
| Narshingdi | 25 | 0 | 0% |
| Natore | 13 | 0 | 0% |
| Netrokona | 60 | 56 | 93% |
| Nilphamari | 53 | 27 | 51% |
| Noakhali | 31 | 31 | 100% |
| Pabna | 15 | 4 | 27% |
| Panchagarh | 8 | 6 | 75% |
| Patuakhali | 29 | 25 | 86% |
| Pirojpur | 10 | 7 | 70% |
| Rajbari | 5 | 3 | 60% |
| Rajshahi | 18 | 0 | 0% |
| Rangamati | 12 | 11 | 92% |
| Rangpur | 41 | 17 | 41% |
| Satkhira | 25 | 3 | 12% |
| Shariatpur | 16 | 0 | 0% |
| Sherpur | 23 | 19 | 83% |
| Sirajganj | 61 | 52 | 85% |
| Sunamganj | 66 | 62 | 94% |
| Sylhet | 47 | 44 | 94% |
| Tangail | 46 | 32 | 70% |
| Thakurgaon | 9 | 4 | 44% |
| Total | 1775 | 768 | 43% |

## Neonatal death review at the community

Among the neonatal deaths reported in 2022 in Bangladesh, 64 districts reported 8732 neonatal deaths, and 4491 of these deaths were reviewed at community (51% of the notified neonatal deaths). Among the districts, Sirajganj reported 607 neonatal deaths, Kurigram reported 532 neonatal deaths, Dhaka reported 471 neonatal deaths, and Lalmonirhat reported 419 neonatal deaths [Table 2].

Photo: Community level Verbal Autopsy of neonatal death

Table 2: Distribution of neonatal deaths reported and reviewed by districts in the community

| District | Community neonatal death | | |
|---|---|---|---|
| | Death notified | Death reviewed | % of death reviewed |
| Bagerhat | 27 | 22 | 81% |
| Bandarban | 73 | 22 | 30% |
| Barguna | 78 | 78 | 100% |
| Barisal | 119 | 61 | 51% |
| Bhola | 100 | 18 | 18% |
| Bogra | 60 | 60 | 100% |
| Brahmanbaria | 276 | 8 | 3% |
| Chandpur | 85 | 2 | 2% |
| Chapai Nababganj | 37 | 1 | 3% |
| Chittagong | 227 | 2 | 1% |
| Chuadanga | 35 | 3 | 9% |
| Comilla | 266 | 141 | 53% |
| Coxs Bazar | 102 | 102 | 100% |
| Dhaka | 471 | 27 | 6% |
| Dinajpur | 90 | 59 | 66% |
| Faridpur | 20 | 3 | 15% |
| Feni | 37 | 15 | 41% |
| Gaibandha | 74 | 36 | 49% |
| Gazipur | 159 | 159 | 100% |
| Gopalganj | 81 | 6 | 7% |
| Habiganj | 340 | 298 | 88% |
| Jamalpur | 273 | 175 | 64% |
| Jessore | 197 | 19 | 10% |
| Jhalokati | 28 | 28 | 100% |
| Jhenaidaha | 43 | 4 | 9% |
| Joypurhat | 35 | 18 | 51% |
| Khagrachhari | 22 | 22 | 100% |
| Khulna | 169 | 29 | 17% |
| Kishoreganj | 80 | 48 | 60% |

| District | Community neonatal death | | |
|---|---|---|---|
| | Death notified | Death reviewed | % of death reviewed |
| Kurigram | 532 | 198 | 37% |
| Kustia | 89 | 7 | 8% |
| Laksmipur | 170 | 8 | 5% |
| Lalmonirhat | 419 | 215 | 51% |
| Madaripur | 5 | 0 | 0% |
| Magura | 162 | 8 | 5% |
| Manikganj | 46 | 11 | 24% |
| Maulavi Bazar | 286 | 286 | 100% |
| Meherpur | 55 | 1 | 2% |
| Munshiganj | 67 | 38 | 57% |
| Mymensingh | 173 | 63 | 36% |
| Naogaon | 59 | 15 | 25% |
| Narail | 58 | 31 | 53% |
| Narayanganj | 151 | 39 | 26% |
| Narshingdi | 37 | 18 | 49% |
| Natore | 65 | 6 | 9% |
| Netrokona | 106 | 106 | 100% |
| Nilphamari | 157 | 95 | 61% |
| Noakhali | 210 | 210 | 100% |
| Pabna | 41 | 15 | 37% |
| Panchagarh | 116 | 20 | 17% |
| Patuakhali | 115 | 115 | 100% |
| Pirojpur | 21 | 11 | 52% |
| Rajbari | 20 | 8 | 40% |
| Rajshahi | 53 | 24 | 45% |
| Rangamati | 10 | 10 | 100% |
| Rangpur | 233 | 135 | 58% |
| Satkhira | 122 | 40 | 33% |
| Shariatpur | 76 | 0 | 0% |
| Sherpur | 49 | 49 | 100% |
| Sirajganj | 607 | 607 | 100% |
| Sunamganj | 217 | 217 | 100% |
| Sylhet | 210 | 210 | 100% |
| Tangail | 258 | 180 | 70% |
| Thakurgaon | 133 | 29 | 22% |
| Total | 8732 | 4491 | 51% |

## Review findings of maternal and neonatal deaths

Among 454 maternal deaths reported in 2022 of 20 districts, 381 were reviewed through verbal autopsy at community level. Whereas 1545 neonatal deaths were reviewed at community, out of 2216 neonatal deaths reported in 2022 from 20 districts. Among these reviewed cases 252 maternal deaths and 797 neonatal cases, which were considered for causal analysis, were selected randomly for presenting detail findings of the review.

## Causes assigned on verbal autopsies of maternal deaths

Out of the 454 maternal deaths reported, 381 cases were reviewed from 20 districts in 2022. Among them, total 252 maternal death cases were reviewed and analyzed to identify the prevalent underlying causes, place of death, time of death, gestational week, status of antenatal care and postnatal care, mode of delivery, delivery outcome and period of death.

Among the 252 cases reviewed, 29 from Sirajganj, 27 from Netrakona, 36 from Moulvibazar, 46 from Sunamganj, 26 from Habiganj, 20 were from Jamalpur, 43 from Sylhet, and 25 from Noakhali districts.

### Cause of maternal death in 64 districts as DHIS-2

According to the 2022 DHIS-2 report, Postpartum Hemorrhage (PPH) was identified as the leading cause of maternal mortality, responsible for 31.8% of cases. Approximately 22.7% of maternal deaths were attributed to eclampsia, while 11.7% were a result of prolonged labor. About 5.4% deaths occurred due to other obstetric trauma (Rupture Uterus and 4.7% due to Placenta previa (Figure 3).

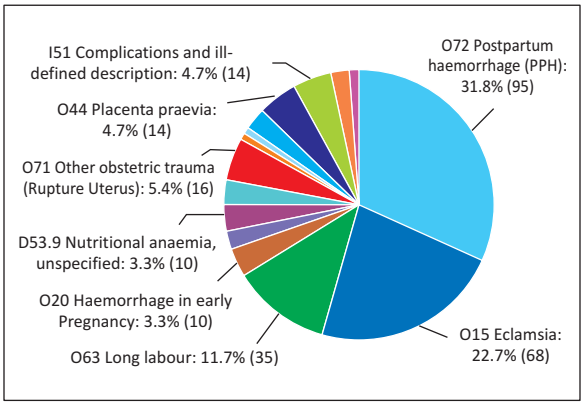


Figure 3: Cause of maternal death in 64 districts

### Cause of maternal death in 20 selected districts

Postpartum hemorrhage (PPH) was found to be the main cause of maternal death, accounting for 40.4% of the cases. Approximately 18.5% of maternal deaths were due to eclampsia, and 8.2% occurred due to long labor. About 8.9% of the deaths were attributed to anemia, 3.4% occurred due to haemorrhage in early pregnancy, 2.1% due to puerperal sepsis, 6.2% due to sequelae of obstetric causes, and 12.3% occurred due to complications and ill-defined description (Figure 4).

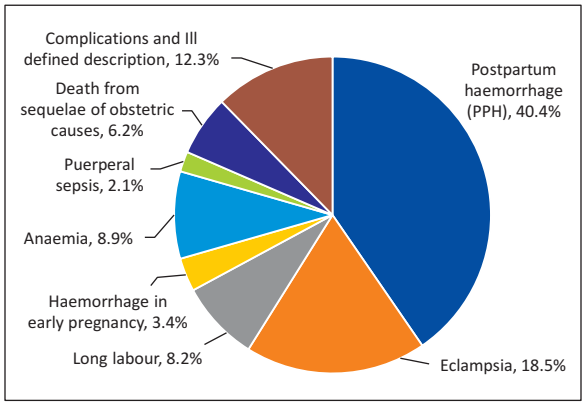


Figure 4: Cause of maternal death in 20 selected districts

## Place of death

Around 21.7% of maternal deaths occurred at home, while 21.2% occurred on the road while heading to health facilities. The remaining cases occurred at health facilities (Figure 5).

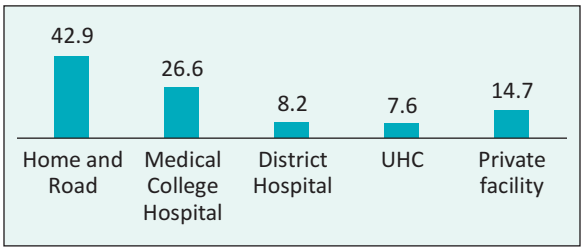


Figure 5: Places of maternal deaths occurred

## Time of maternal death

Approximately 64.2% of maternal deaths occurred within 42 days after delivery, while 23% occurred during delivery. About 12.8% of the deaths occurred during pregnancy (Figure 6)

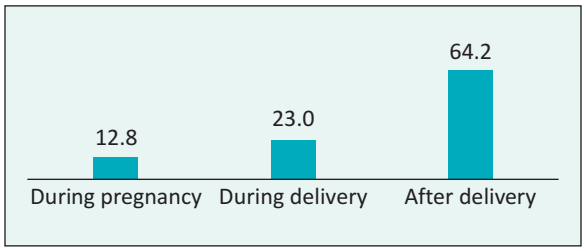


Figure 6: Time of maternal deaths occurred

## Gestational week

The majority of maternal deaths (47.8%) occurred between the 37-39 weeks of pregnancy. Around 25.2% happened between the 33-36 weeks of pregnancy, and 6.3% occurred within 28 weeks of pregnancy (Figure 7).

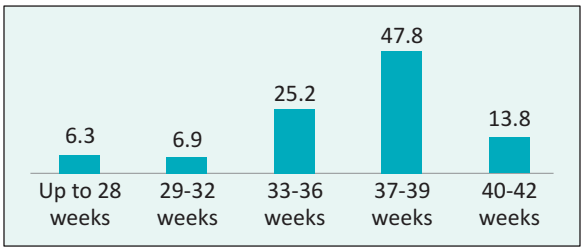


Figure 7: Gestational week of the mothers died

## Antenatal Care

Around 34.9% of the mothers had four or more antenatal care (ANC) visits before death. While 86% of them made at least one ANC visit, 77.2% made two visits, and 64% received three visits. Approximately 14% of the mothers did not receive any ANC visit before death (Figure 8).

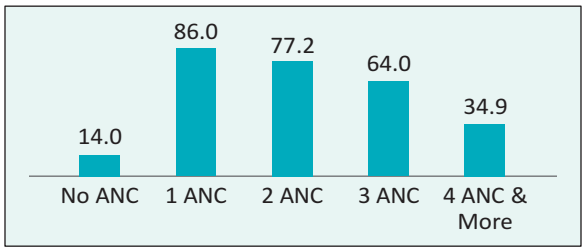


Figure 8: Antenatal care status of deceased mothers

## Postnatal Care

Around 52.3% of the mothers did not receive any postnatal care (PNC) before death. Approximately 47.7% received only one PNC visit, and 28.5% received two PNC visits before death (Figure 9).

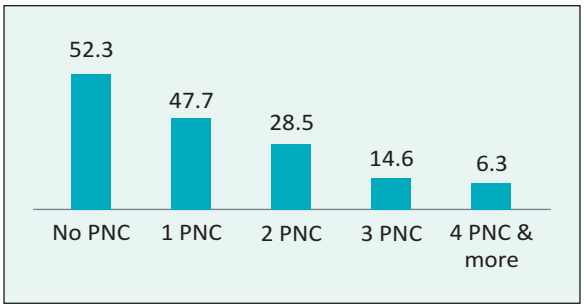


Figure 9: Postnatal care status of deceased mothers

## Mode of delivery

Around 70% of the deliveries were conducted through normal vaginal delivery (NVD), while 29% of the cases involved a cesarean section (Figure 10).

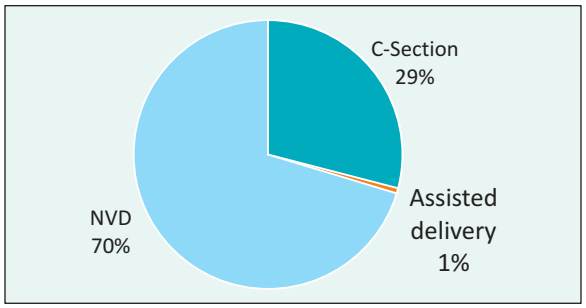


Figure 10: Mode of delivery of deceased mothers

## Delivery outcome

Among the maternal death cases, 89% of the mothers delivered a live birth, while 6% of them delivered a stillbirth (Figure 11).

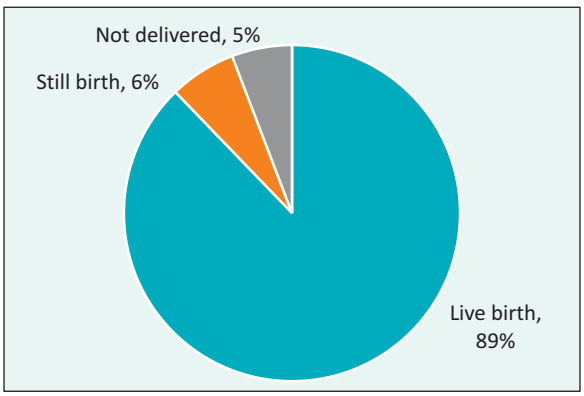


Figure 11: Delivery outcomes of deceased women

## Place of delivery

Approximately 46.1% of the deliveries took place at home, 21.5% at private clinics and hospitals, and 18.8% at medical college hospitals (Figure 12).

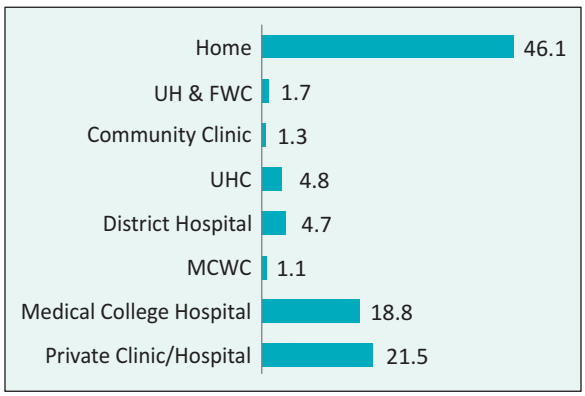


Figure 12: Place of delivery of deceased mothers

## Person assisted delivery

Among the cases of maternal deaths after deliveries, 39.3% of the deliveries were conducted by Traditional Birth Attendants (TBA), 38% by MBBS doctors, and 14% were assisted by nurses and midwives (see Figure 13).

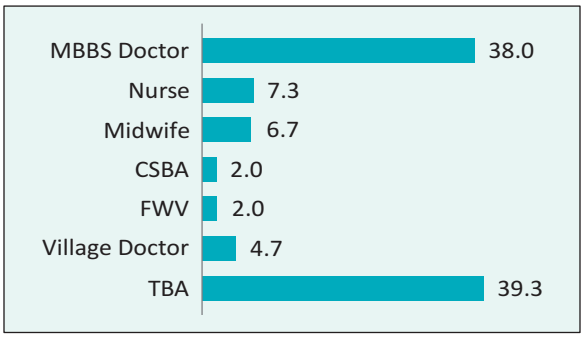


Figure 13: Person assisted delivery of deceased mothers

## Maternal age distribution

Approximately 53.6% of the maternal deaths occurred in mothers aged 20-29 years, while about 36.7% occurred in the 30-39 years age range. About 6.1% of the deaths occurred during adolescence (Figure 14).

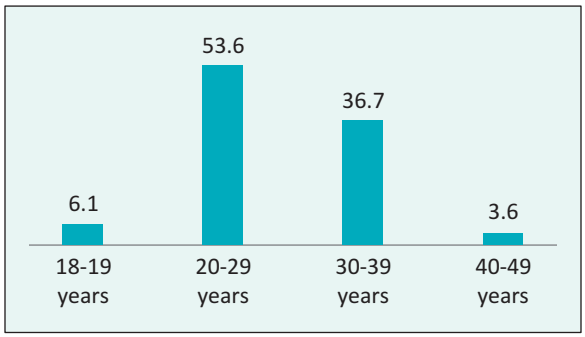


Figure 14: Maternal age distribution of deceased mothers

## Time of death after delivery

More than 44% of the deaths occurred within 6 hours after delivery, while 8.5% occurred between 7-12 hours after delivery. About 83.7% of maternal deaths occurred within 7 days after delivery (Figure 15).

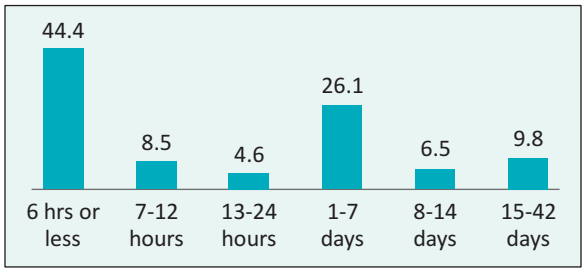


Figure 15: Time of maternal deaths occurred after delivery

## Causes assigned on verbal autopsies of neonatal deaths

Out of the 2212 neonatal deaths reported in 2022 from 20 districts, 1545 cases were reviewed. Among the reviewed cases, 797 neonatal cases were considered for causal analysis. Among the 797 reviewed cases, 224 from Sirajganj, 70 from Moulvibazar, 45 from Netrakona, 117 from Sunamganj, 147 from Sylhet, 25 were from Jamalpur, 105 from Habiganj, and 63 from Noakhali districts. In the analysis, cause of death, place of death, antenatal care, mothers age, neonatal danger sign, congenital anomalies were sought and analyzed.

### Cause of neonatal deaths in 64 districts as DHIS-2

According to the 2022 DHIS-2 report, Birth Asphyxia was identified as the primary cause of neonatal mortality, making up 57.2% of cases. Approximately 13.4% of deaths were attributed to disorders related to short gestation, 2.3% were caused by congenital malformations, and 27.1% of neonatal deaths were due to other defined and unspecified reasons (Figure 16).

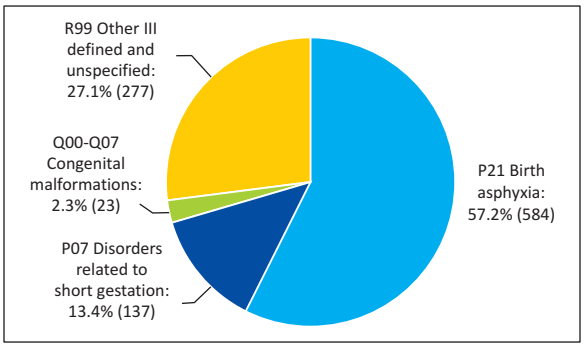


Figure 16: Cause of neonatal death in 64 districts

### Cause of neonatal death in 20 selected districts

Birth asphyxia was identified as the main cause of neonatal death, accounting for 56.2% of the cases. About 10.6% due to disorder related to short gestation, 3.8% due to congenital malformations, and 29.4% of neonatal deaths occurred due to other Ill-defined and unspecified (Figure 17).

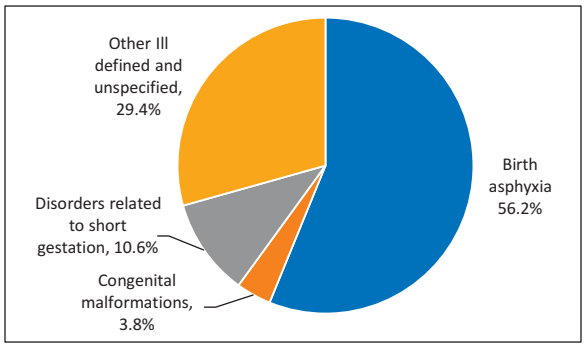


Figure 17: Cause of neonatal death in 20 selected districts

### Place of neonatal death

Around 31.7% of neonatal deaths occurred at home, while 14.8% occurred at private clinics/hospitals. Approximately 24.6% of the deaths took place at medical college hospitals, and 15.1% occurred at district hospitals (Figure 18).

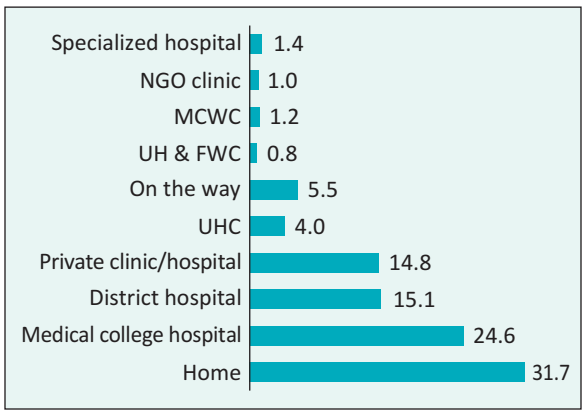


Figure 18: Place of neonatal deaths occurred

## Antenatal Care

Regarding neonatal deaths, 35.5% of the mothers had made four ANC visits, 67.5% made three visits, 88.1% made two visits, and 98.2% made at least one ANC visit. About 1.8% of the mothers did not receive any ANC (Figure 19).

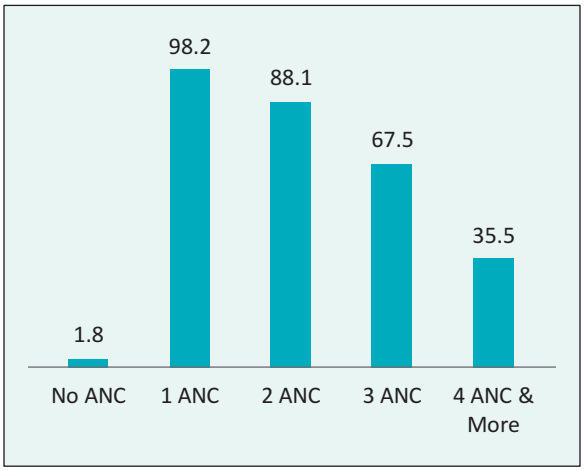


Figure 19: Antenatal care received by mothers of deceased neonates

## Newborn danger signs

Around 35.9% of the newborns did not receive food or faced reluctance to feeding by mothers before death. Approximately 12.4% showed a lack of movement or no movement, and 32.5% had fast breathing (Figure 20).

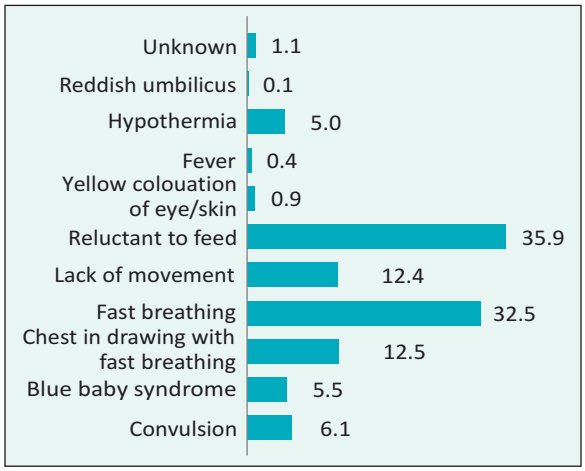


Figure 20: Neonatal danger sign

## Mothers' age

Mothers in the age range of 20-29 accounted for 71.8% of the cases, while 18.8% of the mothers were between 30-39 years of age (Figure 21).

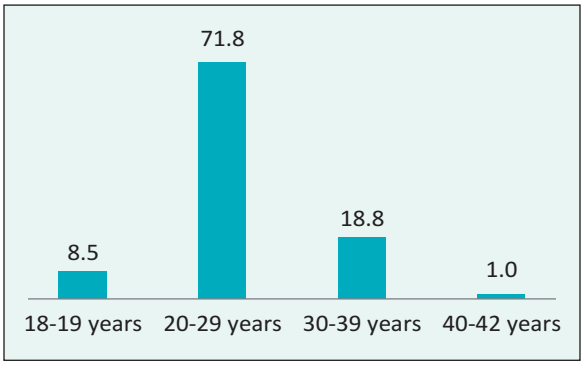


Figure 21: Mothers' age of deceased neonates

## Congenital anomalies

Over 5% of newborn who died had a congenital anomalies (Figure 22).

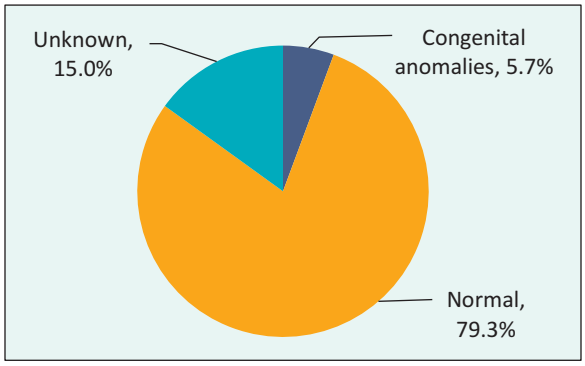


Figure 22: Congenital anomalies of deceased neonates

# MPDSR Facility Death Review

As per the data reported in DHIS-2 in 2022, the overview of maternal and neonatal deaths notification at the facility level is discussed in this chapter.

## District-wise maternal deaths notified and reviewed at health facilities in 2022

The data shows that out of the 684 maternal deaths notified and 291 reviewed at health facilities (43% of the notified deaths) in 2022 across 64 districts [Table 3].


Photo: Facility death review of maternal death

Table 3: Distribution of maternal deaths reported and reviewed by districts at facility.

| District | Facility maternal death | | |
|---|---|---|---|
| | Death Notified | Death reviewed | % of death reviewed |
| Bagerhat | 2 | 1 | 50% |
| Bandarban | 0 | 0 | 0% |
| Barguna | 1 | 1 | 100% |
| Barisal | 11 | 11 | 100% |
| Bhola | 6 | 6 | 100% |
| Bogra | 64 | 64 | 100% |
| Brahmanbaria | 23 | 4 | 17% |
| Chandpur | 0 | 0 | 0% |
| Chapai Nababganj | 1 | 1 | 100% |
| Chittagong | 7 | 0 | 0% |
| Chuadanga | 3 | 0 | 0% |
| Comilla | 44 | 25 | 57% |
| Coxs Bazar | 20 | 20 | 100% |
| Dhaka | 3 | 0 | 0% |
| Dinajpur | 20 | 9 | 45% |
| Faridpur | 26 | 8 | 31% |
| Feni | 1 | 1 | 100% |
| Gaibandha | 7 | 7 | 100% |
| Gazipur | 4 | 1 | 25% |
| Gopalganj | 3 | 0 | 0% |
| Habiganj | 7 | 7 | 100% |
| Jamalpur | 3 | 2 | 67% |
| Jessore | 14 | 1 | 7% |
| Jhalokati | 0 | 0 | 0% |

| District | Facility maternal death | | |
|---|---|---|---|
| | Death Notified | Death reviewed | % of death reviewed |
| Jhenaidaha | 0 | 0 | 0% |
| Joypurhat | 3 | 3 | 100% |
| Khagrachhari | 6 | 6 | 100% |
| Khulna | 22 | 0 | 0% |
| Kishoreganj | 5 | 4 | 80% |
| Kurigram | 19 | 8 | 42% |
| Kustia | 15 | 12 | 80% |
| Laksmipur | 2 | 2 | 100% |
| Lalmonirhat | 2 | 1 | 50% |
| Madaripur | 0 | 0 | 0% |
| Magura | 20 | 3 | 15% |
| Manikganj | 0 | 0 | 0% |
| Maulavi Bazar | 8 | 0 | 0% |
| Meherpur | 13 | 0 | 0% |
| Munshiganj | 0 | 0 | 0% |
| Mymensingh | 0 | 0 | 0% |
| Naogaon | 1 | 0 | 0% |
| Narail | 3 | 2 | 67% |
| Narayanganj | 50 | 0 | 0% |
| Narshingdi | 0 | 0 | 0% |
| Natore | 1 | 0 | 0% |
| Netrokona | 12 | 5 | 42% |
| Nilphamari | 51 | 0 | 0% |
| Noakhali | 14 | 13 | 93% |
| Pabna | 21 | 4 | 19% |
| Panchagarh | 3 | 12 | 400% |
| Patuakhali | 8 | 6 | 75% |
| Pirojpur | 2 | 2 | 100% |
| Rajbari | 26 | 1 | 4% |
| Rajshahi | 23 | 0 | 0% |
| Rangamati | 10 | 7 | 70% |
| Rangpur | 36 | 8 | 22% |
| Satkhira | 0 | 0 | 0% |
| Shariatpur | 4 | 8 | 200% |
| Sherpur | 2 | 1 | 50% |
| Sirajganj | 6 | 6 | 100% |
| Sunamganj | 9 | 1 | 11% |
| Sylhet | 3 | 0 | 0% |
| Tangail | 10 | 3 | 30% |
| Thakurgaon | 4 | 4 | 100% |
| Total | 684 | 291 | 43% |

## Notification and review of neonatal death at facility by district in 2022

Out of the 4444 neonatal deaths notified 2133 deaths were reviewed at facility level (48% of the notified deaths) reported in 64 districts [Table 4].

Table 4: Distribution of neonatal deaths reported and reviewed by districts at facility.

| District | Facility neonatal death | | |
|---|---|---|---|
| | Death Notified | Death reviewed | % of death reviewed |
| Bagerhat | 270 | 271 | 100% |
| Bandarban | 1 | 1 | 100% |
| Barguna | 6 | 6 | 100% |
| Barisal | 4 | 4 | 100% |
| Bhola | 1 | 1 | 100% |
| Bogra | 9 | 9 | 100% |
| Brahmanbaria | 59 | 59 | 100% |
| Chandpur | 2 | 2 | 100% |
| Chapai Nababganj | 10 | 10 | 100% |
| Chittagong | 116 | 116 | 100% |
| Chuadanga | 3 | 3 | 100% |
| Comilla | 38 | 38 | 100% |
| Coxs Bazar | 1 | 1 | 100% |
| Dhaka | 166 | 162 | 98% |
| Dinajpur | 32 | 31 | 97% |
| Faridpur | 31 | 30 | 97% |
| Feni | 145 | 135 | 93% |
| Gaibandha | 453 | 421 | 93% |
| Gazipur | 56 | 52 | 93% |
| Gopalganj | 27 | 25 | 93% |
| Habiganj | 7 | 6 | 86% |
| Jamalpur | 39 | 33 | 85% |
| Jessore | 41 | 34 | 83% |
| Jhalokati | 140 | 110 | 79% |
| Jhenaidaha | 12 | 9 | 75% |
| Joypurhat | 3 | 2 | 67% |
| Khagrachhari | 3 | 2 | 67% |
| Khulna | 90 | 60 | 67% |
| Kishoreganj | 8 | 5 | 63% |
| Kurigram | 101 | 57 | 56% |
| Kustia | 591 | 310 | 52% |
| Laksmipur | 2 | 1 | 50% |
| Lalmonirhat | 54 | 0 | 0% |
| Madaripur | 62 | 21 | 34% |
| Magura | 16 | 5 | 31% |
| Manikganj | 97 | 29 | 30% |

| District | Facility neonatal death | | |
|---|---|---|---|
| | Death Notified | Death reviewed | % of death reviewed |
| Maulavi Bazar | 24 | 7 | 29% |
| Meherpur | 34 | 9 | 26% |
| Munshiganj | 4 | 1 | 25% |
| Mymensingh | 128 | 29 | 23% |
| Naogaon | 9 | 2 | 22% |
| Narail | 44 | 6 | 14% |
| Narayanganj | 20 | 2 | 10% |
| Narshingdi | 60 | 3 | 5% |
| Natore | 80 | 3 | 4% |
| Netrokona | 48 | 1 | 2% |
| Nilphamari | 55 | 1 | 2% |
| Noakhali | 62 | 1 | 2% |
| Pabna | 261 | 3 | 1% |
| Panchagarh | 361 | 3 | 1% |
| Patuakhali | 230 | 1 | 0% |
| Pirojpur | 1 | 0 | 0% |
| Rajbari | 0 | 0 | 0% |
| Rajshahi | 1 | 0 | 0% |
| Rangamati | 61 | 0 | 0% |
| Rangpur | 1 | 0 | 0% |
| Satkhira | 1 | 0 | 0% |
| Shariatpur | 0 | 0 | 0% |
| Sherpur | 54 | 0 | 0% |
| Sirajganj | 0 | 0 | 0% |
| Sunamganj | 6 | 0 | 0% |
| Sylhet | 1 | 0 | 0% |
| Tangail | 101 | 0 | 0% |
| Thakurgaon | 101 | 0 | 0% |
| Total | 4444 | 2133 | 48% |

# Monitoring of MPDSR

Monitoring and evaluation play a vital role in ensuring the quality and effectiveness of the Maternal and Perinatal Death Surveillance and Response (MPDSR) program. Here are the key points related to monitoring and evaluation:

1. National Oversight: The Ministry of Health and Family Welfare (MOHFW) is overseeing the MPDSR program at the national level. This ensures coordination and effective linkage with Quality Improvement (QI) committees formed by the ministry. The committees include upazila QI, district QI, divisional QI, and the national MPDSR committee.
2. Focal Persons and Committees: MPDSR focal persons and committees are established at different tiers to facilitate coordination and monitoring. At the facility level, there are subcommittees, and the MPDSR focal person at each tier is co-opted into the QI committee. The subcommittees conduct monthly coordination meetings, while the national core committee meets biannually.
3. Role of Districts and Upazilas in MPDSR: At the district level, the Civil Surgeon and Deputy Director of Family Planning play an important role in monitoring and evaluating the progress of MPDSR. At the upazila level, the focal persons are UHFPOs (Upazila Health and Family Planning Officer) and UFPOs (Union Family Planning Officer), who take on crucial responsibilities in implementing the local action plan, validating deaths, ensuring the quality of data in verbal autopsy and facility death review, and evaluating feedback and responses from Social Autopsy (SA) sessions at the community level.
4. Ensuring Data Quality: It is essential to ensure the quality of death data and validate the deaths according to the International Classification of Diseases, 10th Revision (ICD-10) coding. This requires validating the actual number of deaths and the information obtained from Verbal Autopsies (VAs) and SAs.
5. Key Monitoring Areas: The monitoring efforts focus on specific areas to ensure the effectiveness of the MPDSR program. These key monitoring areas include validating community death notification, monitoring the quality of verbal autopsy and social autopsy processes, monitoring the facility-level death review, and monitoring the responses and action plans implemented based on the findings.

By closely monitoring these areas and ensuring data quality, the MPDSR program can identify gaps, address challenges, and make improvements to enhance maternal and perinatal health outcomes.

## MPDSR Monitoring at the National Level by the Video Conference

The Quality Improvement Secretariat (QIS) of the Ministry of Health and Family Welfare (MoH&FW) in coordination with DGHS, DGFP, and DGNM plays a crucial role in monitoring and evaluating the progress of MPDSR implementation. Here are the key points related to monitoring and evaluation at the national level:

1. Online Video Conferences: The QIS along with DGHS and DGFP organizes routine online video conferences with districts to discuss the quarterly progress of MPDSR implementation. Each conference sessions lasts for approximately three hours and includes the participation of four to five districts. During these sessions, district Civil Surgeons, MPDSR committees, and focal persons present their findings based on the provided quarterly monitoring checklist. Director

General of Health Economic Unit chairs the national level video conference, ensuring effective coordination and oversight.

2. Gaps and Challenges identified: The conferences also highlight gaps and challenges in the implementation of MPDSR. Some of the identified challenges include frequent changes in MPDSR focal persons and district/sub-district health managers, significant gaps in grassroots-level healthcare development, lack of human resources, some areas remaining uncovered, coordination issues between DGHS and DGFP in uniform death reporting review and response, lack of prepared actions and monitoring (response), and inconsistency in reporting to the monitoring checklist and DHIS-2.
3. Action Points are taken: The conference discussions lead to the identification of action points for further improvement in the MPDSR program. These action points include increasing maternal and perinatal death reporting, strengthening the referral system, establishing blood bank centers in every facility, enhancing verbal and social autopsy processes, improving the reporting system at the community level, promoting active participation in data entry in the District Health Information System 2 (DHIS 2), organizing regular MPDSR subcommittee meetings, and monitoring the performance data.
4. Quarterly Monitoring Reports: The districts provide quarterly monitoring reports that offer an overview of the MPDSR implementation status and the overall performance of the program. In 2022, monitoring reports from 19 selected districts showed that all districts reported facility-based maternal and perinatal deaths to the system within the first 24 hours. Most of the deaths were reviewed within seven days at the facilities. However, at the community level, the overall reporting of maternal and neonatal deaths and stillbirths was 70% compared to the total number of deaths in a year. The district-wise status of reporting, reviewing, and the overall performance of MPDSR responses are discussed in these reports.

Through these monitoring and evaluation efforts, the MPDSR program can identify areas for improvement, address gaps and challenges, and enhance the overall quality and effectiveness of maternal and perinatal healthcare.

## National MPDSR coordination meeting

A national-level coordination meeting on MPDSR was held in 2022. The workshop was chaired by Dr. Mohd. Shahadt Hossain Mahmud, the Director General of QIS, HEU, MOHFW. Key participants included from DGHS, DGFP, DGNM, and professional societies.

Some key actions were taken from the coordination meetings.

1. Continued Video Conferences: It was decided to continue conducting video conferences for joint monitoring involving the QIS, Directorate General of Health Services (DGHS), and Management Information System (MIS). This approach allows for regular communication and collaboration among the key stakeholders.
2. Monthly Action Plan: The workshop emphasized the need to develop a monthly action plan through coordination meetings involving the district and upazila level MPDSR sub-committee focal persons. This collaborative planning will facilitate the utilization of findings from verbal autopsies and social autopsies, contributing to the improvement of maternal and perinatal healthcare.
3. Improved Statistical Coordination: The meeting recognized the importance of enhancing coordination among statisticians at the national, divisional, and district levels. To achieve this, it was decided to focus on capacity development for statisticians through the MIS. This would ensure effective data management and analysis, leading to improved monitoring and evaluation of the MPDSR program.
4. Strengthening Referral System: The workshop highlighted the need to strengthen the referral

system for obstetrically complicated women across primary, secondary, and tertiary level healthcare facilities. Enhancing the referral pathways and protocols will ensure that women with complications receive timely and appropriate care at the most suitable level of healthcare.

## MPDSR Monitoring at the district Level

The findings from the Maternal and Perinatal Death Surveillance and Response (MPDSR) system play a crucial role in improving maternal and newborn health outcomes. These findings are actively shared and discussed in various coordination meetings at the district and upazila levels, as well as in Quality Improvement Committee meetings. This ensures that the data is disseminated to relevant stakeholders and used for evidence-based decision-making.

One important outcome of these discussions is the development of action plans based on local and national evidence. These action plans help address the identified issues and improve the quality of maternal and newborn healthcare interventions in the respective districts. By utilizing the gathered data, program districts can effectively plan and adjust their routine programs to meet the specific needs and challenges of their local populations.

The death mapping process has also been enhanced through the utilization of the DHIS-2 platform. Previously, this process was performed manually by plotting colored pins on a map. However, the DHIS-2 platform now provides an online live district death map, enabling health managers to better understand the prevalence and forms of maternal and neonatal mortality in their region. This real-time information helps them identify potential areas of intervention and make informed decisions to improve maternal and newborn health outcomes.

Overall, the integration of MPDSR findings into coordination meetings, action plans, and the use of technology platforms like DHIS-2 demonstrates a proactive approach by health managers in utilizing data to monitor and enhance maternal and newborn health services in their districts.


Photo: MPDSR review meeting at district level

## Initiatives to improve MPDSR in districts (Data from the video conferences)

| District | First | Second | Third |
|---|---|---|---|
| Tangail | MPDSR District/upazila committee is formed and functional -Yes | District/Upazila MPDSR focal person is assigned and functional -Yes | % of reported community death (maternal and neonatal) validated by district/Upazila MPDSR focal person -55 % |
| Sherpur | Refresher training provided to staff in your district. | MPDSR forms available | |
| Kishorganj | The monthly meeting is held on regular basis here, where the problems are regularly addressed. | The death notification has drastically increased due to increased awareness of data entry. | Maternal social autopsies has been taking places with massive arrangements & gatherings. |
| Bhola | Death Notification has been Increased Then 2021. | Monthly meeting is organized regularly to follow up the death review & reporting progress. | |
| Moulvibazar | MPDSR forms available. | Refresher training provided to staff in the district. | |
| Noakhali | Death Notification increased | Social autopsy increased | Involving Midwives and Doctors (MODCs) in the Verbal and Social Autopsy process<br>MPDSR agenda involved in monthly meeting at upazilla level |
| Netrokona | All the neonatal deaths occurred in SCANU are being properly reviewed. | Each maternal and neonatal death is notified, reviewed and reported on DHIS2 timely and regularly. | |
| Joypurhat | Sensitization of field Worker regarding reporting | | |
| Manikganj | The monthly meeting is held on regular basis here, where the problems are regularly addressed. | The death notification has increased due to increased awareness of data entry | Maternal social autopsies has been taking places with massive arrangements & gatherings. |
| Dhaka | Death notification has increase due to proper monitoring field level workers. | DHIS-2 / On line based monthly meeting helps to find out better reporting for notification. | |
| Gazipur | After forming MPDSR subcommittee, members are requested to send MPDSR monitoring template to Civil Surgeon office to identify gaps & challenges. | | |

## MPDSR responses by districts (Data from the video conferences)

| District | First | Second | Third |
|---|---|---|---|
| Sherpur | Emphasis on increased facility delivery | Awareness building | Normal delivery, KMC & SCANU services |
| Jamalpur | More courtyard sessions are being conducted by the front line health workers | MHVs have been involved in the MPDSR activities | Strengthened linkage between emergencies and labour room in order to reduce delay<br>Ensure supply of emergency drugs |
| Bandarban | Enlisted all MPDSR report in monthly review meeting | | |
| Barguna | MPDSR is our one of monthly meeting agenda. | Death reviewed monitored by MPDSR focal person. | MPDSR sub-committee formed and keep functional. |
| Barishal | create new format | emphasis on reporting | strengthening field activity |
| Patuakhali | Death mapping to identify where is case is significant | Reach as many cases are possible especially for neonatal death. | Social autopsy is conducted for all maternal death to make community people aware about the cases of death. |
| Sylhet | Based on MPDSR findings, mothers assembly & blood grouping camps were organized in Union level | | |
| Sunamganj | Establishment of maternity waiting home in remote Upazila Health Complex thus mothers can come and stay in the hospital for delivery and appropriate referral. | Incentives for complicated pregnant referral in three upazila (Jamalganj, Dowarabazar & Jagannathpur). | Optimized lifesaving drugs in health complex and skilled birth attendants were advised to refer the pregnant women as early as possible. |
| Habiganj | Initiative has been taken to increase CC delivery and reduce more delivery | Increased forms on ANC and PNC care in Haor and Tea estate area | Increase awareness about midwifery service in all sub-center |
| Bogura | Discussed with HI and HA to increase awareness about Death notification and ANC service. | | |
| Moulvibazar | Total 19 MDs occurred in tea gardens. Community awareness meeting followed by mother assembly & blood grouping camps organized at 13 tea gardens. | | |
| Sirajganj | Discuss with HI & HA to increase awareness on death notification and ANC services | Identify main cause and start working on that issues | |
| Noakhali | MPDSR committee revitalization | MPDSR sub-committee formation | Orientation, Monitoring and supervision of field level staffs. |
| Cox's bazar | Arrange mother assembly as much as possible. | Awareness had been taken in remote area to decrease home delivery (Ex-Mohakhali) | Taken initiative to track (Mobile) vulnerable mother during ANC period and follow up newborn and mother after delivery |
| Netrokona | One stop service for pregnant women at ANC Corner. | Make available lifesaving drugs in all UHC. | Emergency management of PPH/Eclampsia in all UHC. |
| Rangamati | Emphasis on Increasing ANC Visit & Facility Delivery in Remote Area | Identification of high risk mother. | |
| Khagrachari | Community level awareness | Maintaining mail chain from District hospital to CS office then all UHCs. | |

## Key challenges identified by districts (Report from the video conferences)

| District | First | Second | Third |
|---|---|---|---|
| Pirojpur | Need more training on MPDSR. | Incomplete Reporting. | |
| Kishorganj | As Kishoreganj has many haors and many hard to reach areas, people are not motivated & educated enough to any nearby facilities. | There are many places from where it becomes very difficult to communicate to any hospitals when necessity arises. | |
| Bhola | Most of the areas are hard to reach, communication & transport couldn't be arranged often. | Death notification number is low, field staffs sometimes miss to report death in time due to reluctance. | No. of home delivery by unskilled attendant is higher in this zone. |
| Habiganj | Poor socioeconomic condition. | Hard to reach area<br>High risk area | Ethnic community area |
| Moulvibazar | MPDSR pocketbook is not available for health care providers. | MPDSR national guideline is not available. | |
| Noakhali | Inter-coordination between providers | Conducting VA/SA due to fund constrain<br>HR shortage | Data management<br>Coordination with the public health sectors |
| Netrokona | Field level staffs are still not motivated. | Number of home delivery is still more than that facility delivery. | Private CSBA are conducting home delivery. |
| Munshiganj | HCPs aren't trained enough. Need training of community as well as facility health care providers for quality documentation and data entry. | Lack of awareness.<br>Lack of knowledge | Lack of accountability |
| Joypurhat | Lack of effort of field workers to achieve the expected number of maternal & neonatal death according population. | | |
| Manikganj | There are many hard-to-reach areas, where health care facilities are not easily accessible. | It is very difficult to motivate the people, belong from low socio-economic condition for institutional delivery. | |
| Dhaka | Difficult to motivate the people with low socio-economic condition. | | |
| Gazipur | No training has been held on MPDSR in Gazipur district. | No field staff are oriented to data entry of MPDSR & activity as well. | No coordination in data of MPDSR national dashboard and field workers data. |

# Status of MPDSR Implementation and Response

The implementation of MPDSR in Bangladesh has involved various capacity development initiatives and activities to ensure the effective functioning of the program. Here are the key highlights:

## Community participation in MPDSR response

Community participation is a vital element of the Maternal and Perinatal Death Surveillance and Response (MPDSR) framework, and Social Autopsy (SA) stands out as an innovative method within this framework. SA fosters communication between community members and frontline workers to identify obstacles in family and community settings that impact timely care and community response. These sessions engage a diverse group of stakeholders, including community and support groups, neighbors of the deceased, and even the deceased's family members, in discussions about maternal and neonatal deaths. SA emphasizes a non-blaming approach, focusing on understanding the social factors behind these deaths. Health workers facilitate these sessions, sharing materials on maternal and neonatal health, with the aim of identifying preventable causes and finding effective solutions. Local leaders, teachers, religious figures, and volunteers, as well as adolescent boys and girls, are actively involved in these sessions. SA sessions occur within 15-30 days of a reported death and encourage community dialogue, decision-making, and the adoption of measures to prevent maternal and neonatal deaths. Facilitators complete reporting forms after SA sessions, which are then integrated into the MPDSR system. Monitoring and evaluation, including video conferences and coordination meetings, play a pivotal role in ensuring the effectiveness of MPDSR at national, district, and upazila levels. Social Autopsy, introduced in Bangladesh in 2010, continues to be a valuable tool to address maternal and perinatal deaths, fostering community engagement and informed decision-making.


Photo: Social Autopsy of a maternal death

- Social autopsy is a platform for sharing the skilled knowledge by the midwives among the community
- The continuum of midwifery care will be enhanced among the community through midwives' participation in social autopsy
- Facility delivery by skilled service providers can be better ensured through midwife led MPDSR
- Community people are better informed about midwives and their roles in providing maternal health care services through social autopsy
- Community people are more interested to gather the knowledge in preventing maternal deaths in the communities
- Policy actions are needed to involve midwives in the MPDSR for better effectiveness of the program

## Midwifery-led MPDSR

Midwives can play a crucial role in the reporting and review of maternal deaths, leading to a reduction in maternal and neonatal mortality. Their close engagement with the community enables them to raise awareness about emergency maternal healthcare and effectively communicate the importance of seeking necessary healthcare services during childbirth. Given their expertise in antenatal care, delivery care, postnatal care, and safe delivery services, midwives can easily reach out to pregnant mothers and provide counseling to motivate them in seeking maternal health services.

Photo: A midwife is conducting the social autopsy

One of the key advantages of involving midwives in the community is their ability to conduct effective MPDSR processes, including verbal and social autopsies. Community members, particularly pregnant women, show more interest in receiving maternal and neonatal healthcare knowledge from midwives compared to other healthcare staff. This preference is primarily due to the comfort and trust established through discussions with female midwives. During social autopsies, midwives can not only provide valuable information on maternal and neonatal health but also offer immediate guidance and referrals to pregnant mothers. Their deep community engagement enables them to identify potential danger signs for mothers and newborns, providing appropriate guidance and information.

In specific districts such as Sunamganj, Noakhali, and Bandarban, special initiatives have been implemented to involve midwives in the MPDSR process, particularly in conducting social autopsies at the community level. Additionally, midwives across all MPDSR districts are actively engaged in capacity development and facility death review (FDR) processes.

By implementing policies and programmatic measures that enhance the involvement of midwives in MPDSR, significant perceptual and behavioral changes can be achieved at the community level, ultimately leading to the prevention of maternal and neonatal mortality. The role of midwives is essential in driving positive transformations and ensuring the well-being of mothers and newborns.

## MPDSR in the Marginalized Community

Community participation and engagement in MPDSR have been instrumental in addressing maternal and neonatal health issues in marginalized communities. The active involvement of members from the Bangladesh Cha Sramik Union (BCSU) in social autopsy sessions within tea gardens has proven to be an effective practice. Through their participation, BCSU members gained a better understanding of maternal and neonatal health issues, while dispelling social stigma and misinformation surrounding maternal and neonatal deaths. During these sessions, BCSU members reflect on the underlying social causes of deaths, discuss pertinent issues, and develop action plans to prevent future maternal and neonatal deaths in their community. This engagement also fosters commitments from local leaders to take immediate steps toward reducing maternal and neonatal mortality.


Photo: Social autopsy of a maternal death in teagarden area

In districts like Sunamganj, the involvement of diploma midwives in social autopsy sessions has enriched discussions on various maternal mortality and morbidity issues, including complications during pregnancy, birth planning, antenatal care, delivery care, postnatal care, and postpartum family planning. Midwives also actively participate in social autopsy sessions within marginalized tea garden communities in Moulvibazar district, ensuring that no one is left behind in the MPDSR process.

## National level Video Conferences

In 2022, the Government of Bangladesh finalized the revised national MPDSR guideline and tools, ensuring a standardized approach across the country. A technical working group was established to develop a video toolkit on MPDSR, providing valuable resources for implementation.

Additionally, 12 districts developed their MPDSR action plans in 2022, outlining specific strategies for improving maternal and perinatal health.

To monitor the progress and ensure effective implementation, eight national-level video conferences were organized in 2022. These conferences served as platforms for monitoring and discussion.

Four national level ToTs were conducted, and 12 districts developed their MPDSR action plans in 2022.

Furthermore, MPDSR focal persons and district managers from 29 districts received virtual orientation on conducting cause analysis for MPDSR cases and developing response plans, enhancing their capacity to address maternal and perinatal deaths.

## District-level Training

More than 200 health managers, MPDSR focal person, and healthcare providers from various districts received training on MPDSR performance reviews. This training equipped them with the necessary skills and knowledge to conduct comprehensive reviews of maternal and perinatal deaths within their districts. The participants included MPDSR focal persons, healthcare managers, statisticians, and other relevant stakeholders. The training focused on community-level and facility-level death notification and review, as well as responses to maternal and perinatal deaths.


Photo: Training on MPDSR action plan at facility level

## MPDSR Orientation in Kishoreganj

In Kishoreganj district, the MPDSR program was introduced with the support of UNICEF. Workshops were chaired by the Civil Surgeon of the district, and important decisions to prevent maternal and neonatal deaths were made based on discussions during these workshops. However, it was noted that verbal autopsies and social autopsies were not being conducted in Kishoreganj even after the orientation session. To address this gap, a two-day training of trainers (TOT) on MPDSR was organized in Kishoreganj district with technical support from UNICEF. The meeting resulted in key decisions, including the timely organization of verbal autopsies and social autopsies, as well as the development of evidence-based action plans in collaboration with UNICEF.

Photo: District level orientation of MPDSR

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