Instruction Manual for Maternal and Perinatal Death Review

2016

Government of Nepal

Ministry of Health

Department of Health Services

Family Health Division

Teku, Kathmandu

Foreword

The Commission on Information and Accountability (CoIA) works to track the progress on resources and results in achieving the goals of the UN Secretary-General's Global Strategy on Women's and Children's Health. It emphasizes the three interconnected processes of monitoring, reviewing and taking action, which are aimed at learning and continuous improvement in life saving interventions. The concept of CoIA has been adapted in Nepal as Country Accountability Roadmap Nepal (CARN).

While Nepal has been exercising Maternal and Perinatal Death Review (MPDR) for a long time, sufficient progress has not been made. Following the CoIA and CARN, Government of Nepal has prioritized in strengthening and expanding hospital MPDR as well as implementing Maternal Death Surveillance and Response (MDSR) for community maternal deaths.

Several tools are developed by Family Health Division, Department of Health Services in order to record and report the details of the review of maternal and perinatal deaths in the hospitals as well as communities. This instruction manual has been revised in order to guide the staff to properly complete the information regarding maternal and perinatal mortalities at the hospitals. I hope the users of this manual comply with this manual in order to provide all requested information in the Maternal Death Review form and Perinatal Death Review form which will be important to review the deaths and develop proper action plans to prevent the deaths in the future.

Director General
Department of Health Services

Acknowledgement

Even though Nepal initiated to implement Maternal Death Review in the hospitals two decades back, the country lags behind in terms of proper documentation of the information regarding the process at various levels. The instruction manual for Maternal and Perinatal Death Review forms has been developed to guide and support the health care providers working in hospitals to understand the steps of completing the Maternal Death Review form and Perinatal Death Review Form for each maternal and perinatal mortalities respectively in the hospitals. The proper completeness of the forms is vital for supporting to improve the process of MPDSR at the hospital level and ultimately prevent maternal and perinatal deaths.

The credit for the development of this instruction manual for MPDSR goes to many contributors without whom this document could not have been completed. My sincere thanks goes to Dr. Sharad Sharma (Senior Demographer, FHD) and his technical team whose tireless efforts made this upbringing a success. I am thankful to Dr. Punya Poudel, Mr. Ghanashyam Pokhrel, all the members of Family Health Division and contributors whose efforts have materialized. My special thanks goes to Dr. Meera Upadhyay, Dr. Pooja Pradhan and WHO for technical and financial support. I would also like to thank our External Development Partners for supporting to develop this manual. All the direct and indirect contributors of the past and present deserve appreciation for their support to bring this guideline into shape.

I am sure that the manual will provide comprehensive guidance to complete the forms for hospital staff and to establish a strengthened and functional MPDSR system.

Director
Family Health Division
Department of Health Services

Table of Contents

Acronyms

ANC	Antenatal Care
CDC	Centre for Disease Control and Prevention
DoHS	Department of Health service
DPHO	District Public Health office
EDP	External Development Partner
FHD	Family Health Division
GoN	Government of Nepal
ICD	International Classification of Diseases
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MDR	Maternal Death Review
MPDR	Maternal Perinatal Death Review
MPDSR	Maternal Perinatal Death Surveillance and Response
MMMS	Maternal Mortality and Morbidity Survey
MMR	Maternal Mortality Ratio
MoH	Ministry of Health
NDHS	Nepal Demographic Health Survey
NHSP	Nepal Health Sector Program
NHSSP	Nepal Health Sector Support Program
NMMMS	National Maternal Mortality and Morbidity Study
NMPDRC	National Maternal and Perinatal Death Review Committee
PDR	Perinatal Death Review
PHCC	Primary Health Care Center
RH	Reproductive Health
SSMP	Support to Safe Motherhood Programme
TBAs	Traditional Birth Attendants
UNFPA	United Nation Fund for Population activities
UNICEF	United Nations Children's Fund
VA	Verbal Autopsy
VERS	Vital Events Registration System
VR	Vital Registration
WHO	World Health Organization
WRA	Women of Reproductive Age

Instruction Manual for Maternal and Perinatal Death Review Forms

Introduction

Maternal mortality continues to be one of the major causes of death among women of reproductive age in many developing countries (WHO Factsheet 334 updated September 2013) (1). Globally, an estimated 287,000 women died from pregnancy and complications in 2010, 99% of them in developing countries (2,3). Reported maternal mortality underestimates the true magnitude by up to 30% worldwide and by as much as 70% in some countries (4,5). Most of these deaths could be avoided if preventive measures were taken and adequate care was available (UNICEF, 2012) (6).

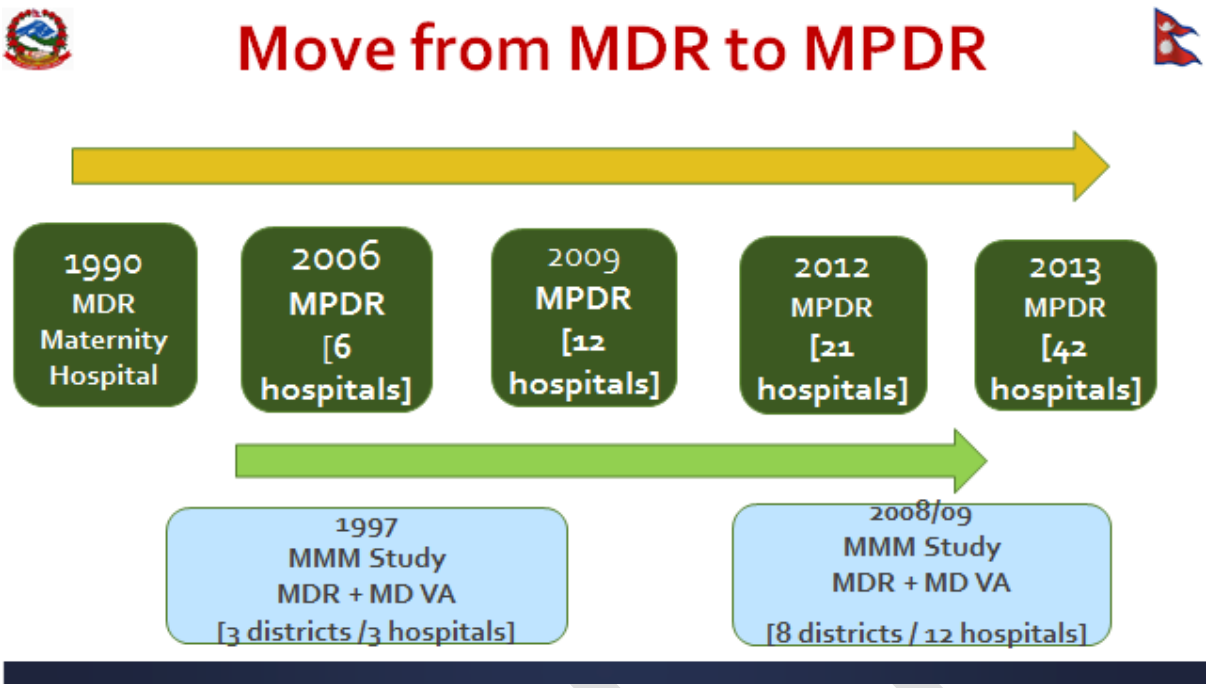
In Nepal, the MMR decreased substantially from 539 per 100,000 live births in 1996 (NFHS) to 190 per 100,000 live births in 2013 (WHO). The under-five mortality declined from 139 in 1996 to 54 in 2011. Infant mortality declined from 93 in 1996 to 46 in 2011. Neonatal mortality declined from 58 in 1996 to 33 in 2011, while the Perinatal Mortality Rate declined from 45 in 2006 to 37 per 1,000 pregnancies in 2011 (NDHS 2011).

Improvement in maternal health services has been the key factor in reducing the country's MMR and has contributed to the improvement in infant and child survival as well. Due to continued government encouragement through free delivery services and financial incentives for transportation, the percentage of births taking place in health facilities has doubled in the past five years (from 18 percent in 2006 to 35 per cent in 2011).

It is therefore important to get information to better understand what can be done to prevent maternal deaths in addition to having statistics on maternal mortality. Facility and community based maternal death reviews have been a source of information in the past. However there is an urgent need to systematize the collection and generation of information in this area. These guidelines on maternal death surveillance and response will help to track the path of every woman who dies in a health facility and in community and identify avoidable factors that could improve the quality of care in future. This process will also help to identify key actions required for the health sector and community for improving clinical outcomes.

Past Efforts

There have been substantial efforts in the past to review the maternal and perinatal deaths since the early 1990s. The figure below depicts the progress in the efforts for maternal and perinatal death review in Nepal.



In 2015, with technical assistance from WHO, Government of Nepal (GoN) developed the guidelines for implementing Maternal and Perinatal Death Surveillance and Response (MPDSR) which includes review and response for maternal death in the health facilities and communities as well as perinatal death in the health facilities.

Maternal Perinatal Death Surveillance and Response (MPDSR)

MPDSR is a form of continuous surveillance process that links health information system and quality improvement processes from local to national levels. It includes routine identification, notification, quantification and determination of causes and avoidance of all maternal and perinatal deaths, as well as the use of this information to respond with actions that will prevent future deaths. Surveillance is instrumental for planning, implementation and evaluation of public health practices. Reduction of preventable maternal mortality is the goal of MPDSR. MPDSR is being implemented by the Family Health Division from 2016.

The "R" of MPDSR focuses on the response, the action portion of surveillance. MPDSR underlines the critical need to respond to every maternal and perinatal death, so that the information obtained from that death might be acted upon to prevent future deaths. The notification of every maternal and perinatal death also permits the measurement of maternal mortality ratios and perinatal mortality and the real-time monitoring of trends that provide countries with evidence about the effectiveness of interventions.

MPDSR will build on the existing MDR and MPDR system and help to improve the quality and quantity of information as well as pave way for appropriate multi-sectoral actions. Therefore, implementation of MPDSR depends on the extent to which MDR and MPDR systems have been implemented and the quality of information that is being received from them.

Instruction Manual for Maternal Death Review (MDR) and Perinatal Death Review (PDR) forms

Different tools have been developed for conducting the maternal and perinatal death review. MDR and PDR forms are used in the review of maternal and perinatal death reviews in the health facilities. Family Health Division has developed this instruction manual in cooperation with supporting partners for the maternal and newborn health, to provide clarity surrounding each question asked in the Forms. This instruction manual has been finalised after consultation with the MPDSR Technical Working Group. This instruction manual is intended for health workers who are involved in the MPDSR process at the hospital-level ie. doctors and nurses. They need to be familiar with the tools so that they can complete the MDR and PDR forms, and facilitate the review process within the hospital. The contents of the manual are consistent with the national MPDSR guideline. The process of MPDSR in hospital is provided in the annex.

1 Maternal Death Review Form

1.1 Definition

A maternal death review is a qualitative in depth investigation of the cause and circumstances surrounding maternal death occurring in a health facility. It is particularly concerned with identifying the combination of factors at the facility and in the community that contributed to the death and how the deaths can be prevented. .

The maternal death review has to be conducted by the MPDR Committee of the hospital where the process is institutionalised and should be carried out continuously i.e. every time a maternal death occurs. It should be noted that each maternal death may be unique and provides useful lessons, it is important to look for common and avoidable factors across several deaths. This may indicate a change in services or examine the problem in management. It can be used as a mechanism for assessing and improving the quality of care and promoting discussion about the practice for identifying ways to improve the care at the hospital as well as in the community level.

Although the questionnaire on Maternal Death Review Form looks to be clear by the structure of the questionnaire itself, yet in order to have uniformity in filling the questionnaire, this simple instruction manual has been developed. The Maternal Death Review (MDR) form contains ten different sections which need to be completed by the responsible person of the hospital where the death occurred.

1.2 Aim

This part of the instruction manual has been prepared in order to guide the person completing the MDR form. It is hoped that this section is self-explanatory. If there is/are any problems in filling the MDR form, please contact Demography Section of Family Health Division (FHD).

1.3 Who should complete this form:

The service provider who attended the deceased women at the time of her death should complete the Maternal Death Review Form. The form should be completed by a doctor (preferably) or by a nurse who has been involved with the case. The assigned person may be the doctor who provided service to the deceased at the time of death. If in case the doctor was not present at the time of death then the nursing staff should fill the MDR form.

The Maternal Death Review form **must be completed within 24 hours of the occurrence of a maternal death** occurring in a health facility. The person completing the form must participate in the **MPDR review meeting which is to be conducted within 72 hours following the women's death**. If all information are not available in the record of the woman at the hospital, the family may also be contacted.

1.4 General Instructions for filling the MDR form:

1. Choose only one answer unless multiple answers are indicated.
2. Use Nepali (Bikram Sambat) dates while filling the date column.
   Date of Review: Please note the day in two dd boxes, note the month in the mm boxes and the year in the yy boxes. For example, if the date is Mangshir 17, 2073, then the box should be filled as:

Day		Month		Year	
1	7	0	8	7	3

   This means that the year (yy) is 2073, mm is 08 corresponding to the Nepali calendar months of Mangsir, and the day (dd) is 17th day. Please note that the year is Bikram Sambat, Month is Nepali month, and the day is Nepali (BS) day.
3. The time should be completed in 24 hours format. For example if the time is 04:15 pm then the box should be filled as:

Hours		Minutes	
1	6	1	5

4. If the digit is single then "0" should be filled in the first box and the single digit in the next box.
5. Check the right option by circling the option clearly.
6. In case of need of correction, the mistake should be clearly cut with double line and the right option should be circled.
7. Use block letters for writing any information.

1.5 How to complete the Maternal Death Review Form correctly

Instructions: This section provides background on the completion of the form and the timing at which each section must be completed.

Hospital name and district: The section requires name of the hospital and the district where the hospital is located.

LOCALITY WHERE DEATH OCCURRED

District name: Write clearly the name of the district in where the hospital is located.

Name of hospital: Write clearly the name of the hospital where the maternal death occurred.

SECTION 1: DETAILS OF DECEASED WOMAN

This section asks for detail identification of the deceased woman including, her age, ethnicity and obstetric history. The section further enquires about the date and time of death in terms of pregnancy and labour.

Q101 Write clearly the full name including the surname of deceased woman in block letters.

Q102 Write the deceased woman's age with two digits in the two boxes. Age should be written in **completed** years. For example, if a woman is 35 years and 11 months, the age of the woman should be considered to be 35 years i.e.

3	5

Q103 This question asks about the address of the deceased woman. This refers to the place the deceased woman lived for at least six months in last one year before she died. In the **District** field write the name of District. In the **VDC/Municipality** field, write the name of VDC or Municipality. In **Ward number** please enter the ward number.

Q104 This questions needs to specify **Ethnicity** in the given space. **Please leave the box blank.** A corresponding code is to be allocated by a medical recorder. If the ethnicity is not known then enter 998 in the boxes. The code of ethnicity is provided in the MDR form. '0' is to be entered in the first two boxes and the code in the last box.

Q105 **Gravida** In this field you must write the number of total pregnancies (including current) the woman has ever had, regardless of duration or outcome (i.e still birth, miscarriage etc.)

Q106 **Parity** is the number of times a woman has given birth to a foetus, with a gestational age of 22 weeks or more OR weighing more than 500g or more, regardless of whether the child was born alive or was stillborn.

Q107 This question seeks information on the **date at the time of death** of the woman. Please complete the relevant information in the given space. The date of death must be completed using Nepali calendar, while the date of death would be recorded as:

Day		Month		Year	
0	2	0	5	7	3

Q108 This question seeks information on the **time of death** of the woman. The time of death must be completed in 24 hour format. For example if the woman dies on the 2nd day of Bhadra, 2073, at 6:30pm the time format should be 18 hours 30 minutes.

Hours		Minutes	
1	8	3	0

Q109 Period of Death: In terms of the obstetric stage at the time of death of the woman, the question asks to circle **one** of four options; If the woman was in the antenatal period, intrapartum period, post-partum period - up to 48 hours after delivery, or post-partum stage - between 2 - 42 days after delivery.

SECTION 2: ADMISSION RELATED INFORMATION (AT INSTITUTION WHERE DEATH OCCURRED)

Section Two: This section describes date and time of admission, the vital signs at the time of admission of the woman and the provisional diagnosis.

Q201 **Date of admission** asks about the date the deceased woman was admitted in the hospital. Please complete the day, month, and year field using the boxes given. All date fields must be recorded using Nepali calendar. For example if a woman was admitted on the 2nd day of Bhadra, 2073, the recorded date would be

Day		Month		Year	
0	2	0	5	7	3

Q202 **Time of admission** Mention hour and minutes of the time of admission of the woman in the hospital in the appropriate box. This must be recorded using a 24 hour format. For example if a woman was admitted at 4:15pm, this should be recorded as 16 hours 15 minutes.

Hours		Minutes	
1	6	1	5

Q203 **Period of admission seeks information** about the state of pregnancy at the time of admission of the deceased woman. Specifically, the form asks one of four states to be circled according to the woman's obstetric state at the time of admission: Whether she was in Antepartum period (if not in labour), Intrapartum period (during labour till 30 minutes after delivery), Post-partum period - up to 48 hours after delivery (delivery of placenta to 48 hours after delivery), or Post-partum period - between 2 - 42 days after delivery.

Q204 **Condition on admission:** This question seeks the answer on the condition of the deceased woman at the time of admission. It asks to record the vital signs such as **Pulse** (beats per minute (bpm)), the **temperature** (degrees in Fahrenheit). Systolic **Blood pressure (**BP(s) and Diastolic (BP (d) are collected in separate boxes in millimetres of mercury (mmHg). In addition, **Respiration rate** (breaths per minutes) is also collected. Please record all these in the allocated boxes. Besides vital signs, mention **other significant findings** (for example unconsciousness, pallor, seizures etc) in the box of condition on admission.

Q205 This question relates with the provisional diagnosis at admission of the deceased woman at the hospital. The possible reasons are given. The reasons may be more than one, so the answers may be more than one. Circle '1' in the given boxes if the reason is 'yes' and circle '2' if 'no', and circle '98' if 'don't know' is the response. No box should be left blank for questions a-k. If the reason for admission is other than a-k (for example not in labour, latent or active phase of labour), then specify clearly in writing in the given space for 'others' in Q205 'l'. If there was no diagnosis, then please circle 98 in Q205m.

SECTION 3: PREGNANCY

This section describes the Antenatal care the woman had received and the any complication she had experienced during this pregnancy.

Q301 **Did she receive antenatal care** This section asks about antenatal check-up for the current pregnancy. If the woman received any antenatal check-up, circle '1' in the code box and go to Q302. If the woman did not receive any antenatal check-up circle '2' and if it is not known, circle 98 and skip to Q303.

Q302 If the woman attended antenatal check-ups, please enter the month at which she had attended the first antenatal check-up in the box. If unknown, circle 98.

Q303 This question refers to the clinical history pertaining to the woman's present pregnancy and child birth. A list of antepartum and intrapartum risk factors has been included in the questionnaire and the appropriate number must be circled i.e. if the risk factor listed in a-q is **present, circle '1'** in the respective box. If the risk factor was NOT present during pregnancy or delivery, **circle '2'. Circle '98'** if it is 'unknown' whether the woman suffered these conditions during pregnancy and childbirth. At least one option should be circled for questions a-q. If the woman suffered from other condition other than a-q (for example jaundice, hyperemesis gravidarum etc), then specify clearly in writing in the given space for 'others' in Q302r. This is a multiple response question.

SECTION 4: DELIVERY AND PUERPERIUM

This section collects delivery and puerperium information of the deceased woman and consists of altogether 16 questions. It mainly deals with the timing/onset and duration of labour and mode of delivery. Other questions relate to delivery complications and outcomes.

Q401 Mention the date when the woman had delivered baby. Please complete the day, month, and year field using the boxes given. All date fields must be recorded using Nepali calendar. For example if the woman delivered on the 2nd day of Bhadra, 2073, the recorded date would be

Day		Month		Year	
0	2	0	5	7	3

Even if the woman had delivered outside the hospital, the date of delivery should be mentioned.

Q402 Mention the time of delivery when the woman had delivered. This must be recorded using a 24 hour format. For example if a woman delivered at 4:15pm, this should be recorded as 16 hours 15 minutes.

Hours		Minutes	
1	6	1	5

Even if the woman had delivered outside the hospital, the time of delivery should be mentioned as accurately as possible.

Q403 This question seeks information about the place of delivery of the baby. The possible answer options are listed from 1-6. If delivery occurred anywhere other than the options listed, please specify the delivery place in the space allocated under 'Other' coded '96.' If it is unknown where the woman gave birth, please circle 'don't know' option coded '98'. If delivered at home/someone else's home or in transit to health facility then skip Q404, Q406, 407 and Q411.

If the woman had retained placenta and the placenta was delivered in another health facility then the facility where the baby was delivered should be checked.

If the woman had multiple pregnancies and delivered the babies in different sites then both the sites should be checked.

Q404 This question seeks information about the type of facility where the woman gave birth. There are three options to choose from. CEONC coded '1', BEONC coded '2' and Birthing Centre coded '3'. If she gave birth to any other type of facility (for example medical college, nursing home, private clinic etc) and not able to tell whether the health facility she delivered falls on above listed three types, specify in the space

allocated under 'Other' coded '96'. Please circle only one of these options. If not known where the delivery occurred then circle '98'.

Q405 This question refers to the **main** person who assisted the woman's delivery. Although there may be more than one person, this question refers to the **main** person who attended the delivery. Only one answer should be provided. If 'other' person attended the delivery other than the listed (HA, S/AHW) please circle code box '96' and specify the main attendant.

Doctor includes obstetrician/gynaecologists, MDGP, Medical Officers etc with or without SBA training.

Nurse/ANM/SBA includes all staff nurse, ANM with or without SBA training.

Q406 Circle code '1' if partograph was used during the labour, and circle code '2' if partograph was not used. If this information is unknown, please circle code '98'.

Q407 Skip this question if partograph was not used. This question requests details of the use of the partograph. Complete the relevant fields based on the partograph information from the file of the deceased woman whether half hourly foetal heart and uterine contraction was monitored or not and whether PV examination was 4 hourly done or not. If yes then circle 1, if no then circle 2 and 98 if don't know.

Q408 This question is related to the total duration of labour. Circle the corresponding option 1 for <12hours, 2 for 12-23 hours and 3 for >=24 hours. Circle 98 if not known.

Q409 This question refers to the presentation of the baby. The options are numbered 1 - 4. Circle option '1' if the presentation is cephalic (including vertex, face and brow presentation). Circle option '2' if the presentation is breech (including complete and incomplete (footling) breech). Circle option '3' if the presentation is shoulder (including hand presentation). Circle option '4' if the presentation this other than this (including Cord presentation).

Q410 This question relates to **the mode of delivery.** Please circle the code corresponding to the mode of delivery. If the mode of delivery was 'Normal' then circle 1 and skip Q411 and Q412, and go to Q413. If mode of delivery was 'Vacuum' or 'Forceps' circle 2, 'Caesarean section ' circle 3, 'Destructive operation (embryotomy, cleidotomy, craniotomy etc)' circle 4, or 'Other' circle 5 and specify, then continue with Q411.

Q411 This question is related to Q410, and asks the reason for the mode of delivery. If the reason for the mode of delivery was due to 'maternal' cause, circle 1, if foetal cause then circle 2 and if 'Don't know' circle 98. Finally, describe details/indication of the reason for mode of delivery.

Q412 This question is to be completed if the woman had undergone caesarean section. If the indication for caesarean section was an 'emergency' circle '1', if it was an 'elective' procedure, please circle '2.' If unknown, circle '98.'

Q413 This question enquires about the occurrence of any complication during delivery or labour. This is also a multiple response question. Please circle the appropriate code from the information noted from hospital patient chart. Circle '1', '2' or '98' for each option for Q413a - Q413l. In case of uterine or bladder rupture, report it under major genital tract injury (f). If there were complications other than provided in the list then specify under other option.

Q414 This question asks whether the pregnancy was a multiple or a singleton pregnancy. Circle '1' (yes) if this pregnancy is multiple, '2' if singleton pregnancy.

Q415 This question refers to the outcome of the current pregnancy. The outcomes are 'live', 'macerated still birth', 'Fresh still birth', 'early neonatal death (upto 7 days)', 'late neonatal death (7-28 days)' , 'Induced or spontaneous abortion', 'Don't know'. Circle the most appropriate option.

Q416 This question enquires about the occurrence of any complication/s after delivery. More than one option can be circled. Please circle the appropriate code from the hospital patient chart. If there were complications other than provided in the list then specify in Q414m. Need to check for each option.

SECTION 5: INTERVENTIONS

This section covers the intervention/procedures the woman was provided with before her death.

Q501 This question is related to the intervention(s) undertaken while providing services to the woman in the hospital. For each obstetric period, there are eight possible sub-questions (Q501a - 501h). **Each sub-question must be answered.** For example, if a woman received Blood Transfusion (Q501a) during the Antenatal period, please circle '1' in Q501a under the column named 'Antenatal.' If the same woman then did not receive a Blood Transfusion during the Intrapartum or Postpartum periods, then circle '2' under the columns labelled 'Intrapartum' and 'Postpartum.' If it is unknown whether the woman received a blood transfusion during any or all of the obstetric periods, circle '98' under the respective column. This logic should be applied to the remaining interventions listed in this question, remembering that each sub-question must be completed. If services other than those listed here (MgSO4, repair of cervical tear) are provided to the woman then please specify in others under specific period.

SECTION 6: CAUSES SURROUNDING THE DEATH

This section deals with information on cause of death. This section asks for the primary, contributory and final cause of death of the woman. Please note that there can only be **ONE Primary cause of death**, while there can be **MULTIPLE contributory causes of death**. In addition, there should be only **ONE Final cause of death**.

Q601 This question enquires about the **Primary** or underlying cause of death. This is the initiating condition that leads to the death of the woman. The WHO definition defines The Primary Cause of Death as the death of a woman of reproductive age resulting from obstetric complications of the pregnant state (i.e. pregnancy, delivery and postpartum), interventions, omissions, incorrect treatment, or a chain of events resulting from any of the above. **There can only be ONE primary cause of death.**

Circle the correct option provided in the list and circle the respective code. For cause not listed, specify in Q601m and circle 96. It should be noted that the cause of death is to be provided by the attending doctor. In case there was no doctor attending the case, this should be done by the attending nurse with guidance from the MPDSR Committee at the hospital.

Q602 **Contributory cause** includes conditions that may exist prior to development of the underlying cause of death or develop during the chain of events leading to death and which, by its nature, contributed to the death. These are conditions that may have contributed to or may be associated with, but should not to be reported as sole condition selected as the underlying cause of death. Contributing causes may predispose women to death, as either a pre-existing condition or a risk factor.

There may also be contributory or antecedent factors that have contributed to the death but do not form part of the sequence of events leading to the death of the woman. The classification is oriented towards the organ system that failed and leads to the death and will indicate what resources are required to prevent the death. There may not be a Contributory Cause of Death. **There can be multiple contributory causes of death.**

For example, in a woman with twin gestation, whose delivery is complicated by uterine atony and postpartum bleeding, hypovolaemic shock, disseminated intravascular coagulopathy and renal failure. In this case, the contributory conditions include twin gestation, shock, DIC, and renal failure whereas the underlying cause of death is postpartum haemorrhage resulting from uterine atony.

In the example above, the other diagnoses of hypovolaemic shock, disseminated intravascular coagulopathy and renal failure are complications. It is necessary to document the complications that resulted in the death, as this might help in developing treatment protocols to prevent such complications in the future. Further, a pattern can be detected that may help in the management of similar women in the future. Complications encompass significant morbidities such as organ system dysfunction.

Circle the correct option provided in the list and circle the respective code. For cause not listed, specify in Q602m and circle 96. It should be noted that the cause of death is to be provided by the attending doctor. In case there was no doctor attending the case, this should be done by the attending nurse with guidance from the MPDSR Committee at the hospital.

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Q603 This question refers to the **Final** causes of death. Final cause is the disease or condition leading directly to death. **There can be only one final cause of death.**

In the above example, the final cause of death is hypovolaemic shock.

Circle the correct option provided in the list and circle the respective code. For cause not listed, specify in Q603l and circle 96. It should be noted that the cause of death is to be provided by the attending doctor. In case there was no doctor attending the case, this should be done by the attending nurse with guidance from the MPDSR Committee at the hospital.

However it should be noted that the codes in the questionnaire should be allocated by a medical recorder.

It is important to note that:

The ***Primary*** **(underlying)** obstetric cause of death will help identify **HOW** a maternal death can be prevented.

The ***Final*** **and** ***Contributory*** cause of death will give us an **indication of the health system factors** that are required in terms of saving lives. They also indicate where management protocols and resources are lacking.

A list of possible Primary, Contributory (antecedent) and Final cause of death are available in annex.

SECTION 7: CASE SUMMARY

This section is very important for the review. Based on the available record the enumerator should write the brief on details of what happened to the woman prior to, at and after the admission.

Q701 A summary should be written giving the history of what happened PRIOR to admission. Significant events should be highlighted, and should be written in the sequence that occurred / sequential order of the events or conditions related to the woman. This should include the relevant history of the woman since before arriving to the health facility such as if ANC was done or not, if done how many times, where, what was prescribed to her, since when she had a health problem, how long did it take for her to arrive to the health facility, what were other co-existing conditions etc so that it is possible to identify the first and second delays for seeking health services.

Q702 A summary should be written giving the history of what happened AFTER admission. Significant events should be highlighted, and should be written in the sequence they

occurred / sequential order of the events or conditions related to the woman and the interventions that was were given to her before her death. It should also record if she did not receive services such as oxygen, blood transfusion, or interventions such as C/S. Mention why the service such as oxygen, blood transfusion, C/S, etc were not given.

Sections 8-10 are to be completed after the MPDSR Committee meeting for the particular maternal death within 72 hours.

SECTION 8: REVIEW BY THE MPDR COMMITTEE

This section is to be filled by the MPDR committee after the committee has reviewed the form filled till Section 7 and discussed on the contents of the form till the previous section**.** This section deals on the factors responsible for the death of the woman, using the "Three Delays" Framework.

Q801 This question asks about the Individual-level factors that led to the woman's death. There are two options, circle '1' if there was "Delay to seek health care' ie delay to take decision for seeking health services. Circle '2' if there was 'Delay to reach the health facility' ie delay to reach health facility. The delays can be identified from the information in Q701 and other informations.

Q802 This question asks about the factors related to health facility that contributed to death of the woman. Please review and discuss regarding the services provided in the health facility and circle the appropriate option. If the factor is not listed in the options then specify and circle 96. Multiple responses can be provided in this question.

Q803 This question is related to the referral system. If the health facility which referred the woman to this facility did not refer the case with adequate communication such as investigation reports, condition at referral, timely referral with prior information through phone etc then check 1 for Lack of effective communication from referring facility option. For referring the woman to other facilities from this health facility, check the reasons for not being able to refer. This is a multiple response question.

SECTION 9: CRITICAL EXAMINATION OF CARE IN THE HOSPITAL

This section must be completed by the MPDSR Committee. This section asks the MPDSR committee to critically examine care provision in the hospital. A detailed comment on potential avoidable factors, missed opportunities and substandard care needs to be addressed in the given blank box.

The MPDSR Committee should complete this part as freely and honestly as possible. In addition, the person completing this form must rest assure that no repercussions will occur from completing this form. Improvement in the maternal healthcare system can only come through by critically examining the care provided for each individual case.

Q901 This question asks if the mother could have been saved. Please circle '1' if yes, '2' if possibly yes (not confidently but could have been saved), '3' if probably no (would have been difficult to save) and '4' if it was never possible to save the woman.

Q902 If the woman could have been saved or possibly saved, explain how she could have been saved. Please try to provide as much information as possible in block letter.

Q903 This question must be completed with lesson learned from this case of mortality.

Q904 This question asks if similar kind of maternal death or near miss case had happened in this health facility in the past. Circle '1' if yes and '2' if no.

Q905 If the answer is yes for Q904 then the MPDSR Committee needs to discuss why this situation occurred again and list down the causes. Also discuss and list down if the case could have been prevented if necessary steps had been put in place at the facility earlier.

SECTION 10: MPDR COMMITTEE'S RECOMMENDATIONS AND ACTION TAKEN

Based on the findings till Section 8, the MPDR Committee needs to develop actions plans for prevention of maternal death in the future. This section must be completed by the MPDSR Committee. This section requires the committee to develop Action Plan, consisting of Immediate, Mid-term, and Long-term actions. This section also asks the committee to designate person responsible for the implementation of the 'action', the duration the 'action should be completed, and who will monitor the action. This Action Plan, must then be shared with the District (Public) Health Office (D(P)HO). Then the table in this Section needs to be completed. The request for necessary action at the community level has to be sent formally through DPHO.

Some of the possible evidence based action plans are provided in annex.

The names of attendees of the MPDR Committee meeting for this particular maternal death needs to be listed with designation, institution, contact number and signature.

The date of review by case of the attending staff must be filled with Nepali date in the dd/mm/yy format.

The date of review by facility MPDR Committee must be filled with Nepali date in the dd/mm/yy format.

The full name, designation, phone number, date and signature of the staff who competed the form must be provided.

Thank You

2 Perinatal Death Review Form

2.1 Definition

Concepts and definition of perinatal death

Perinatal mortality in a hospital or in a country indicates the quality of services provided to the women in the antenatal period, at the time of birth, and after the child is born in the first seven days after delivery for preventable perinatal morbidities and mortalities. The Perinatal Mortality Rate (PMR) is obtained by summing all still births after 22 weeks of gestation or foetal weight of 500 gms and deaths till first seven days of life

Perinatal Period

It is the period from 22 weeks of completed gestation to first seven days of life. In other words perinatal mortality includes late foetal mortality (>22 weeks gestation) and a portion of infant mortality (first seven days).

Perinatal Death

Perinatal death is a death occurring in the perinatal period. It includes late foetal deaths and early neonatal deaths of those weighing 500grams and above (>=500grams).

Early Foetal Death

Early foetal death is deaths after 22 weeks of gestation or weighing 500 grams but less than 1000 grams.

Late Foetal Death

Late foetal death is after 28 weeks of gestation, or weighing 1000 grams and above.

Early Neonatal Death

Early neonatal death is death of a newborn within the first seven days of life.

Perinatal Mortality Rate (PMR)

Perinatal mortality rate reflects an adverse outcome for pregnancy of 22 weeks gestation and above. The perinatal mortality rate is derived by summing all still births after 22 weeks and deaths of newborns within the first 7 days of life and dividing by the sum of all births (still births and live births).

$$\frac{\text{Still birhts + Early neonatal deaths}}{\text{All still births + All live births}}$$

Note: Perinatal death weighing 500 grams or more should be included.

2.2 Aim

This section has been written, in order to help the person completing the Perinatal Death Review (PDR) form. It is hoped that the following section is self-explanatory. If there is/are any problems in filling the PDR form, please contact Demography Section of Family Health Division (FHD).

Although the questionnaire on PDR Form looks to be clear by the structure of the questionnaire itself, yet in order to have uniformity in filling the questionnaire, this simple instruction manual has been developed. The PDR form contains six different sections which need to be completed by the assigned health service provider of the hospital where the death occurred.

2.3 Who should complete this form:

The service provider who attended the deceased at the time of death should complete the PDR Form. The form should be completed by a doctor (preferably) or by a nursing staff who has been involved with the case that provided service to the deceased at the time of death. If in case the doctor was not present at the time of death then the nursing staff should fill the PDR form. The person completing the form must participate in the MPDR review meeting which is to be conducted monthly.

The PDR form must be completed within 72 hours of the occurrence of a **perinatal death** occurring in a health facility. If all information is not available in the health facility record of the neonate or mother, the family should be contacted.

2.4 General Instructions for filling the PDR form:

1. Choose only one answer unless multiple answers are indicated.
2. Use Nepali (Bikram Sambat) dates while filling the date boxes.
   Date of Review: Please note the day in dd boxes, note the month in the mm boxes and the year in the yy boxes. For example, if the date is Mangshir 17, 2073, then the box should be filled as:

Day		Month		Year	
1	7	0	8	7	3

   This means that the year (yy) is 2073, mm is 08 corresponding to the Nepali calendar month of Mangshir, and the day (dd) is 17th day.
3. The time should be completed in 24 hours format. For example if the time is 04:15 pm then the box should be filled as:

Hours		Minutes	
1	6	1	5

4. If the digit is single then "0" should be filled in the first box and the single digit in the next box.
5. Check the right option by circling the option clearly.

6. In case of need of correction, the mistake should be clearly cut with double line and the right option should be circled. (example to be added)
7. Use block letters for writing any information.

2.5 How to complete the Perinatal Death Review Form correctly

LOCALITY WHERE DEATH OCCURRED

District name: Write clearly the name of the district in where the hospital is located. The code of the district is to be entered by the Medical Recorder.

Name of Hospital: Write clearly the name of the hospital where the PDR form is to be completed. The code of the health facility is to be entered by the Medical Recorder.

SECTION 1: DETAILS OF MOTHER OF THE DECEASED

Q101 This question asks about the name of the child's mother. Please write clearly in the space provided.

Hospital ID number of the mother is to be provided in the space for Hospital ID number.

Q102 This question asks about the address of the mother of the deceased. This refers to the usual place of residence (lived for at least 6 months in last one year) of the mother. In the **District** field write the name of District of usual place of residence. In the **VDC/Municipality** field, write the name of VDC or Municipality. In **Ward number** field mention the ward number.

Q103 Specify the caste and ethnicity of the mother in the space provided. The code for ethnicity is to be entered by Medical Recorder.

Q104 Write the age of the mother of the deceased child with two digits in the two code box. Age should be written in **completed** years. For example, if the mother is 35 years and 11 months, the age of the mother would be considered to be 35 years i.e. Write 98 in the box if the age of the mother is not known.

3	5

Q105 **Gravida:** In this field write the number of total pregnancies (including current) the mother has ever had, regardless of duration or outcome (i.e still birth, miscarriage etc.). Write 98 in the box if the gravida is not known.

Q106 **Parity:** is the number of times a woman has given birth to a foetus, with a gestational age of 22 weeks or more OR weighing 500g or more, regardless of whether the child was born alive or was stillborn. Write 98 in the box if the parity is not known.

Q107 This question asks about antenatal check-up for the current pregnancy. If the mother of the deceased received any antenatal check-up, circle '1' in the code box and go to Q108. But if the woman did not receive any antenatal check-up circle '2' and if it is unknown, circle 98 and go to Q109.

Q108 If the woman attended antenatal check-ups, mention the number of times the woman attended antenatal check-ups.

Q109 This question asks about the obstetric condition of the mother at the time of admission. Specifically, the form asks one of five periods to be circled according to the woman's obstetric stage at the time of admission: If she was not in labour circle 1, if in latent phase of labour circle 2, if in active phase of labour circle 3, if in third stage of labour circle 4 and if post-partum (till seven days after delivery circle 5.

Q110 This question relates to the provisional diagnosis at admission of the mother of the deceased. Please write clearly the provisional diagnosis of the mother including the complications of the deceased baby during the time of admission in the space given.

Q111 Mention the place where the deceased was delivered.

Q112 This question relates to **the mode of delivery.** Please circle the code corresponding to the mode of delivery. If it was 'Normal vaginal delivery' then circle '1' and go to Q114. If mode of delivery was 'Vacuum' or 'forceps', circle '2', 'Caesarean section ' circle '3', 'Embryotomy' (this option includes destructive procedures such as craniotomy, embryotomy , cleidotomy etc)' circle '4', or specify if 'Other' such as breech delivery and go to next question.

Q113 This question is related to Q112, and asks to specify the reason that a normal vaginal delivery was not possible. If the deceased was delivered via a normal vaginal delivery, please leave this question blank.

Q114 This question asks to provide a chronological detailed summary of the baby and mother for the events from before arriving to the hospital till the time of the baby's death. Please write clearly, including the Date (Nepali), the Time (24hrs) and details of the event in the space provided. If the space is not adequate, the space in page 5 can be used.

Section 2: DETAILS OF BABY

Q201 This question enquires about the gestational age of the mother in weeks and days at which the baby was delivered. Space is provided for the number of weeks and days separately. Mention 98 if the gestational age is not known.

Q203 This question enquires about the weight of baby at birth in grams. Please complete in the space provided. In case the birth weight is not known then provide the weight at admission in grams and mention clearly that the weight at admission is provided.

Q204 This question enquires about the sex of the deceased baby. Please circle the correct response, '1' if male, '2' if female, and '3'if ambiguous.

Q205 This question asks about whether the birth was a single or multiple. Please circle '1' if it was a singleton birth, or '2' if it was a multiple birth. If was multiple birth, then please specify how many babies the woman had delivered.

Q206 **Date of delivery** asks about the date the baby was delivered. Please complete the day, month, and year field using the boxes given. All date fields must be recorded using Nepali calendar. For example if baby was delivered on the 2nd day of Bhadra, 2073, the recorded date would be i.e.

Day		Month		Year	
0	2	0	5	7	3

Q207 **Time of delivery**: Please mention hour and minutes for the time of delivery in the appropriate boxes. This must be recorded using a 24 hour format. For example if the baby was delivered at 4:15pm, this should be recorded as 16 hours, 15 minutes

Hours		Minutes	
1	6	1	5

Q209 This question asks whether death of the baby was a Foetal or Neonatal death. Please circle '1' if the baby was born dead (still birth) and go to Q212. Please circle '2' if the baby was born alive and died within seven days after birth and go to next question.

Q210 This question must be completed ONLY if the death was a NEONATAL death. This question asks about the **Date of death** of the baby. Please complete the day, month, and year field using the boxes given. All date fields must be recorded using Nepali calendar. For example if the baby died on the 2nd day of Bhadra, 2073, the recorded date would be

Day		Month		Year	
0	2	0	5	7	3

Q211 This question must be completed ONLY if the death was a NEONATAL death. This question asks about the **Time of death** of the baby. Please mention hour and minutes in the appropriate box. This must be recorded using a 24 hour format. For example if the baby died at 4:15pm, this should be recorded as 16 hours, 15 minutes.

Hours		Minutes	
1	6	1	5

Q212 This question must be completed ONLY if the death was a FETAL death. This question relates to the timing of Foetal death (still birth). Please circle '1' if the baby was macerated still birth and circle '2' if the baby was fresh still birth.

Section 3: CLINICAL INFORMATION OF DECEASED BABY

Q301 This section consists of only one question, and asks for a chronological summary of ***significant* events** leading to the death of the baby. In this section please write about any complications, diagnosis, investigations, procedures, IV therapy and drugs. Provide detail information of each significant events with information on complications, investigation, reports, diagnosis, procedures undertaken, iv therapy given, drugs given for example ICU admission, phototherapy, blood transfusions, antibiotics, ventilator support, oxygen inhalation etc. Please take note of the Date (Nepali), Time (24hrs), the postnatal age at the time of the event, and a detailed description of the event.

SECTION 4: CASUE OF DEATH

Q401 This question asks to specify the Primary Cause of Death. Please circle most appropriate option for the primary cause of death. Only one option should be circled. If there was maternal cause or other cause other than provided in the list, please specify. .

Q402 This question asks to circle the Final Cause of Death. Please circle the correct option. If the cause was Asphyxia, please circle '1' , Septicaemia circle '2', if Pneumonia, circle '3', if Tetanus, circle '4', if Hypothermia, circle '5', if the death was due to Complications of prematurity, circle '6', if due to Congenital anomalies, circle '7', if Birth trauma, circle '8.' If the death was due to 'Other' causes, please circle '96' and specify the cause in the space provided.

Q403 This question relates to the *Wigglesworth* classification of death as shown in the table below. There are five options. Please circle '1' if the death was a 'Normally formed macerated stillbirth', circle '2' if the death was due to a 'Lethal congenital malformation', circle '3' if the death was due to Conditions associated with immaturity', circle '4' if the death was due to 'Asphyxia conditions (includes fresh still birth).' Finally, circle '5', if the death was due to 'Other specific conditions.'

Group I consists of *normally formed macerated stillbirths* Death before the onset of labour i.e. any macerated stillbirth will be included in this group *except* the one with severe congenital anomaly.
Group II includes *congenital malformations (stillbirth or neonatal death)* Perinatal deaths associated with severe or lethal malformations e.g. anencephaly, hydrocephalus or congenital malformations of internal organs etc are included in this group.
Group III includes *conditions associated with immaturity* Deaths associated with immaturity i.e. babies born *before 37 weeks of gestation* or who weigh <1000 grams at birth are included in this group.
Group IV includes *asphyxial conditions developing in labour*
Group V includes *conditions specific to the neonate* e.g. infection, blood group incompatibilities, hypothermia etc and any specific neonatal condition which is not included in other groups.

SECTION 5: REVIEW BY MPDR COMMITTEE

The MPDR Committee should meet at least once a month to review perinatal death cases. This section consists of one question only. The question asks for a critical analysis on the situation and circumstances that led to the death of the baby. The MPDR Committee should discuss on the information provided till Section 6. The Committee should discuss on avoidable factors for the particular case and analyse why the death occurred. The avoidable factors can be patient related (never initiated antenatal care, delay in seeking medical attention during labour, declines admission/treatment for personal/social reasons), Administrative problems (lack of transport-home to institution, lack of transport-institution to institution, inadequate resuscitation equipment, no accessible neonatal ICU bed with ventilator), medical personnel associated (medical personnel underestimated foetal size, no response to maternal hypertension, partograph not used, foetal distress not detected) and others (ANC card lost, file missing, insufficient notes). The code is to be provided by Medical Recorder.

SECTION 6: MPDR COMMITTEE'S RECOMMENDATIONS AND ACTION TAKEN

Based on the findings till Section 5, the MPDR Committee needs to develop actions plans for prevention of perinatal death in the future. Once the possible action plans are developed, the Committee needs to exercise on prioritization of the action plans and specify the person and organization/s, timeline and person responsible for monitoring of implementation of the action plan. Then the table in this Section needs to be completed. The request for necessary action at the community level has to be sent formally through DPHO.

The date of review by case of the attending staff must be filled with Nepali date in the dd/mm/yy format.

The date of review by facility MPDR Committee must be filled with Nepali date in the dd/mm/yy format.

The full name, designation, phone number, date and signature of the staff who competed the form must be provided.

Thank You

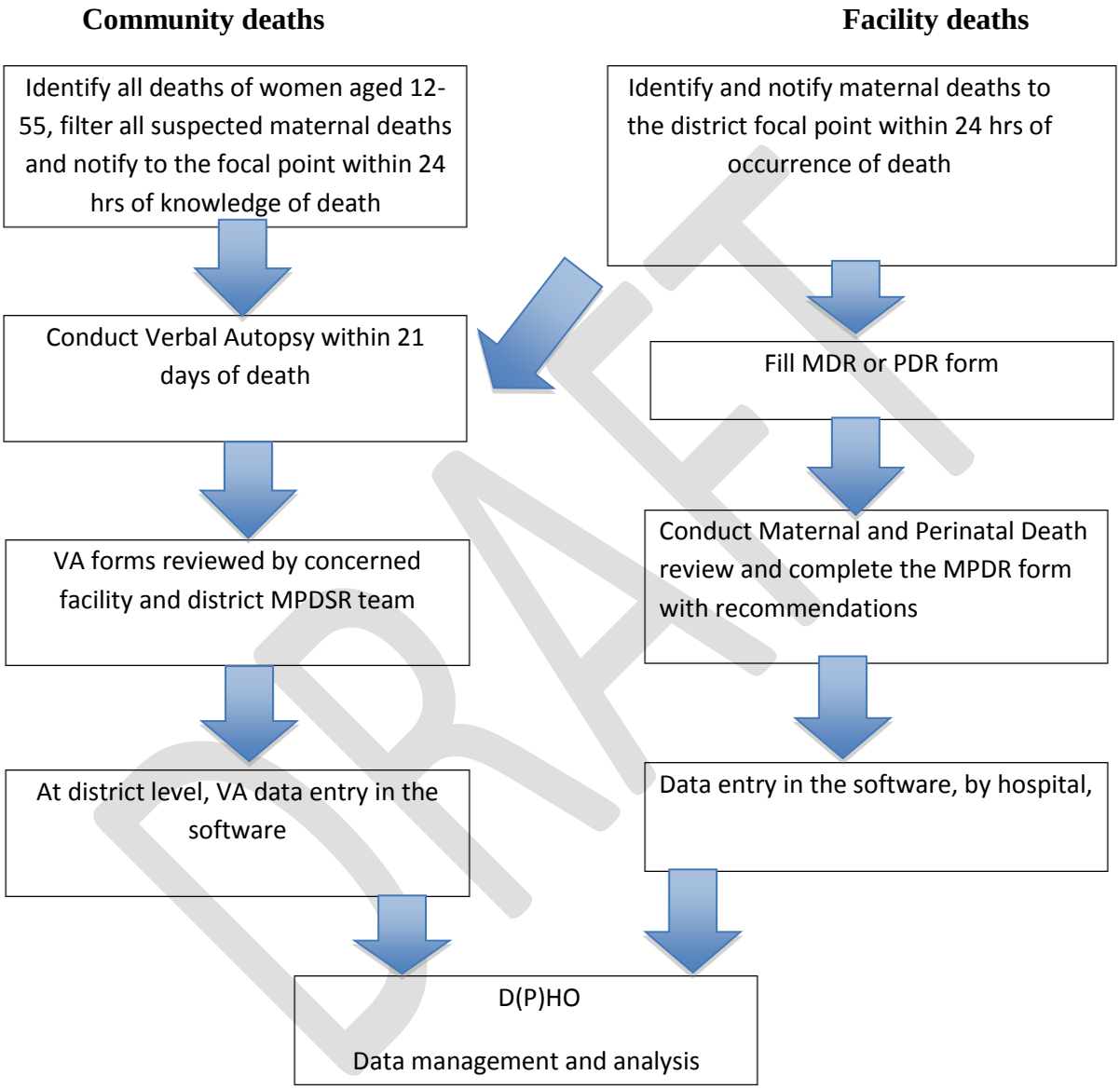
References:

1. WHO Factsheet 334 updated September 2013.
2. WHO, UNICEF, UNFPA and the World Bank. Trends in maternal mortality: 1990-2008: Estimates developed by WHO, UNICEF, UNFPA and the World Bank. Geneva, World Health Organization, 2012.
3. WHO/UNICEF/UNFPA and the World Bank. Trends in maternal mortality; 1990-2010: Estimates developed by WHO, UNICEF, UNFPA and the World Bank. Geneva, World Health Organization, 2012.
4. Royston E, Armstrong S, Eds. Preventing maternal deaths. Geneva, World Health Organization, 1989.
5. Court, C. WHO claims maternal mortality has been underestimated. British Medical Journal, 1996, 312(7028): 398.
6. Committing to Child Survival: A Promise Renewed. Progress Report 2013 UNICEF.

ANNEX:

Annex 1: Process of MPDSR

Flow diagram of MPDR and MPDSR



Annex 2: Evidence based medical interventions

Ref: MDSR Technical Guidance – Information for action to Prevent maternal death- FIGO, UKAID, Evidence for Action, UNFPA, CDC, WHO, International Configuration of Midwives)

Common causes of maternal death: evidence-based medical interventions at the referral/first level facility and in the community (*52,53*)

Cause	Referral/first level facility Interventions	Community Interventions
Prevention and management of postpartum haemorrhage	a) Prophylactic uterotonics to prevent postpartum haemorrhage b) Active management of third stage of labour to prevent postpartum haemorrhage c) Uterine Massage d) Uterotonics e) Manual removal of placenta f) Non-pneumatic anti-shock garment as a temporizing measure until substantive care is available[a]	a) Prophylactic uterotonics to prevent postpartum haemorrhage b) Uterine Massage c) Uterotonics
Prevention and management of hypertension in pregnancy	a) Calcium supplementation in pregnancy b) Low dose aspirin for the prevention of pre-eclampsia in high risk women c) Use of antihypertensive drugs for treating severe hypertension in pregnancy d) Prevention and treatment of eclampsia	Calcium supplementation in pregnancy
Prevention of and management of unintended pregnancy	a) Advice and provision of family planning: barrier methods, oral contraceptives, emergency contraceptives, hormonal methods, implants, intrauterine devices, and surgical contraception. b) Availability and provision of safe abortion c) Provision of post abortion care	Advice and provision of family planning: barrier methods, oral contraceptives, emergency contraceptives, hormonal methods.
Prevention and treatment of Sepsis	a) Antibiotics for management of preterm prelabourrupture of membranes b) Induction of labour for management of prelabour rupture of membranes at term[a] c) Prophylactic antibiotic for caesarean section d) Detection and management of postpartum sepsis[a]	
Obstructed labour (and associated complications, e.g., sepsis, haemorrhage)	Caesarean section[b] Antibiotic therapy[b] Blood transfusion[b]	
Indirect causes	a) Provide essential package antenatal care b) Prevention and management of sexually transmitted infections including HIV for prevention of Mother-to-Child Transmission (PMTCT) of HIV c) Prevention and management of malaria in pregnancy including prophylactic antimalarial and provision and promotion of Insecticide Treated Nets d) Treatment of simple malaria cases e) Treatment of complicated malaria cases[b] e) Social support during childbirth f) Screening for and management of signs/symptoms of domestic violence and sexual assault g) Prevent, measure, and treat maternal anaemia[b] h) Treatment of severe HIV infection.[b]	a) Prevention and management of sexually transmitted infections including HIV for prevention of Mother-to-Child Transmission (PMTCT) of HIV b) Prevention and management of malaria in pregnancy including prophylactic antimalarial and provision and promotion of Insecticide treated Nets

[a] WHO recommendations for the prevention and treatment of postpartum haemorrhage 2012. http://apps.who.int/iris/bitstream/10665/75411/1/9789241548502_eng.pdf

[b] Referral level facility only

Annex 3: MDR form

MPDSR Tool 6

CONFIDENTIAL

This form will be kept confidential and used only for quality of care improvement and

Government of Nepal
Ministry of Health and Population
Department of Health Services
Family Health Division
Teku, Kathmandu

MATERNAL DEATH REVIEW FORM

2.5.1

2.5.2 Maternal death includes death of a woman while pregnant or within 42 days of termination of pregnancy, regardless of the site or duration of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO ICD-10).

The maternal death review process is an in-depth investigation of the causes of and circumstances surrounding maternal deaths occurring at health facilities with the objective of identifying avoidable factors and utilising the information for improving quality of care at the facility, and policy and programme reform.

Sections 1-7 should be completed within 24 hours of a maternal death by the attending medical officer/nursing staff in consultation with other staff that had contact with the deceased. All available records related to the deceased should be reviewed. The death should be notified to Family Health Division within 24 hours of occurrence with name, age and permanent address of the deceased.

Sections 1-7 should be reviewed within 72 hours by a hospital maternal death review committee. After discussion, the committee should complete Section 8 and 9. The completed forms should be made accessible to Family Health Division through web entry.

District: ☐☐

Name of facility: _____ ☐☐☐☐☐☐☐☐☐☐

SECTION 1: DETAILS OF DECEASED WOMAN

10	Full Name:	
10	Age at death (Completed years)	☐☐

103	Address District: …… ☐☐ VDC/Municipality: ☐☐ …….. Ward No.			
104	Ethnicity/Caste (Specify): Caste: _____ ☐☐ (Don't know: 998)*[Note: Please see Annex for the code]*			
106	Gravida			☐☐
106	Parity			☐☐
107	Date of Death	Day	Month	Year
108	Time of Death (24 hour format)	Hour	Minute	
109	**Period of death**	Antenatal period (***skip section 4***)		*1*
		Intrapartum period		*2*
		Postpartum period up to 48 hours after dleivery		*3*
		Postpartum period after 48 hours of delivery		*4*

SECTION 2: ADMISSION RELATED INFORMATION (AT INSTITUTION WHERE DEATH OCCURRED)

201	Date of admission to this facility *(Nepali date)*	Day	Month	Year	
202	Time of admission (24 hour Time Format)	Hour	Minute		
203	Period on admission	Antepartum			1
		Intrapartum (in labour)			2
		Postpartum (up to 48 hours after delivery)			3
		Postpartum (between 2- 42 days after			4
204	Condition on admission	Pulse	Temperatu /F	BP (S)	BP (D	Respirati /M
205	Diagnosis on admission (Provisional Diagnosis)		Yes	No	Unknown
	a	Ante partum haemorrhage	1	2	98
	b	Postpartum haemorrhage	1	2	98
	c	Ectopic pregnancy	1	2	98
	d	Prolonged/obstructed labour	1	2	98
	e	Ruptured uterus	1	2	98
	f	Pre-eclampsia	1	2	98
	g	Eclampsia	1	2	98
	h	Retained placenta	1	2	98
	i	Puerperal sepsis	1	2	98
	j	Abortion related complications	1	2	98

	k	Pregnancy induced hypertension	1	2	98
	l	Other	1	2	98
	m	No diagnosis given	98		

SECTION3: PREGNANCY

301	**Did she receive any antenatal care?**	**Yes**	**1**
		No (skip to 303)	2
		Don't know 98 (skip to 303	98
302	If yes, when did she had first ANC ? *(Specify month of pregnancy)*		☐☐
		Don't	
		98	

303	Did she suffer from any of the following complication during this pregnancy and child birth? (Clinical history of this pregnancy)	Yes	No	DK
a.	Ante partum haemorrhage	1	2	98
b.	Postpartum haemorrhage	1	2	98
c.	Ectopic pregnancy	1	2	98
d.	Multiple pregnancy	1	2	98
e.	Prolonged/obstructed labour	1	2	98
f.	Ruptured uterus	1	2	98
g.	Pre-eclampsia/eclampsia	1	2	98
h.	Retained placenta	1	2	98
i.	Puerperal sepsis	1	2	98
j.	Complications related to induced abortion	1	2	98
k.	Pregnancy induced hypertension	1	2	98
l.	Anaemia	1	2	98
m.	Malaria	1	2	98
n.	Hepatitis / Jaundice	1	2	98
o.	Heart disease	1	2	98
p.	Diabetes	1	2	98
q.	HIV/AIDS	1	2	98
r.	Others			

SECTION 4: DELIVERY AND PUERPERIUM

401	**Date of delivery *(Nepali date)***	**Day**	**Month**	**Year**
402	Time of delivery *(24 hour format)*	Hour	Minute	
403	Where did she deliver?	This facility		1
		PHCC/HP/SHP		2
		Government hospital		3
		Private/NGO/Missionary facility		4
		Home / someone else's home		5
		In transit to health facility		6
		Other	*(Specify)*	96
		Don't know		98
404	What type of facility was that?	CEONC		1
		BEONC		2
		Birthing centre		3

		Others	*(Specify)*	96
		Don't know		98
405	Who was the main delivery attendant?	Doctor		1
		Nurse/ANM/SBA		2
		Other health workers	*(Specify)*	3
		FCHV/ Friend /Relative		4
		Self		5
		Other	*(Specify)*	96

406	Was a Partograph used?	Yes	No	Don't know
		1	2	98

407	If a partograph was used please write relevant information based on partograph:	Yes	No	DK
	Half hourly foetal heart rate monitored	1	2	98
	Half hourly uterine contraction monitored	1	2	98
	Four hourly PV examination done	1	2	98

408	What was the duration of	< 12 hours	12-23 hours	>=24 hours	Don't know
		1	2	3	98

409	Presentation of foetus	Cephalic	1
		Breech	2
		Shoulder	3
		Other *(specify)*	4
410	What was the mode of delivery?	Normal *(Skip 411 and*	1
		Vacuum	2
		Caesarean section	3
		Destructive Operation (Embroyotomy)	4
		Others *(specify)*	5
411	What was the reason for vacuum/forceps/CS/destructive operation?	Maternal	1
		Foetal	2
		Don't know	98
		Describe the reason:	

412	Was the caesarean section emergency or elective?	Emergency	Elective	Don't know
		1	2	98

413	Did she suffer from any of the following complications during labor or delivery?	Yes	No	Don't know
a.	Haemorrhage	1	2	98
b.	Shock	1	2	98
c.	Eclampsia	1	2	98
d.	Pre-eclampsia	1	2	98
e.	Anaesthetic complication	1	2	98
f.	Major genital tract injury	1	2	98
g.	Obstructed labour	1	2	98
h.	Prolonged labour	1	2	98
i.	Seizures / Unconsciousness	1	2	98

j.	Retained placenta	1	2	98
k.	Hand prolapsed	1	2	98
l.	Cord prolapsed	1	2	98
k.	Other (S…….	1	2	98

414	Was it a multiple pregnancy?				Yes		No	
					1		2	
415	Outcome of this pregnancy	Alive	Macerated stillbirth	Fresh stillbirth	Early neonatal death (up to 7	Late neonatal death (7 - 28 days)	Induced/ spontaneous abortion	Don't know
		1	2	3	4	5	6	98

416	Did she suffer from any of the following complications after delivery?	Yes	No	Don't know
a.	Postpartum haemorrhage	1	2	98
b.	Puerperal sepsis	1	2	98
c.	Complications of operative delivery	1	2	98
d.	Thrombosis	1	2	98
e.	Eclampsia	1	2	98
f.	Anaemia	1	2	98
g.	Maternal depression	1	2	98
h.	Pulmonary embolism	1	2	98
i.	Heart disease	1	2	98
j.	Gastroenteritis	1	2	98
k.	Pneumonia	1	2	98
l.	Hepatitis	1	2	98
m.	Other (specify)……	1	2	98

SECTION 5: INTERVENTIONS

501	**Were any of the following interventions administered during ANC, Delivery and postpartum period?**									
	Interventions	Antenatal			Intrapartum			Postpartum		
		Yes	No	DK	Yes	No	DK	Yes	No	DK
a.	Blood transfusion	1	2	98	1	2	98	1	2	98
b.	External cephalic version	1	2	98	1	2	98	1	2	98
c.	Hysterectomy	1	2	98	1	2	98	1	2	98
d.	Exploration of uterus / MRP	1	2	98	1	2	98	1	2	98
e.	Laparotomy	1	2	98	1	2	98	1	2	98
f.	ICU (Advanced life support)	1	2	98	1	2	98	1	2	98
g.	Treatment for malaria	1	2	98	1	2	98	1	2	98
h.	Treatment of a	1	2	98	1	2	98	1	2	98

SECTION 6: CAUSES SURROUNDING THE DEATH

601	**What was the primary cause of death?** *(Select one)*	
a.	Ante partum haemorrhage	1
b.	Postpartum haemorrhage	2
c.	Eclampsia	3
d.	Induced Abortion	4
e.	Spontaneous Abortion	5
f.	Obstructed labour	6
g.	Puerperal sepsis	7
h.	Retained placenta without haemorrhage	8
i.	Ruptured uterus	9
J	Inversion uterus	10
K	Pulmonary embolism	11
L	Agents primarily affecting blood constituents (blood transfusion reaction)	12
m.	Others	96
602	What were the contributory factors leading to the death (multiple response) ?	
a.	Ante partum haemorrhage	1
b.	Postpartum haemorrhage	2
c.	Eclampsia	3
d.	Induced Abortion	4
e.	Spontaneous Abortion	5
f.	Obstructed labour	6
g.	Puerperal sepsis	7
h.	Retained placenta without haemorrhage	8
i.	Ruptured uterus	9
J	Inversion uterus	10
K	Pulmonary embolism	11
L	Agents primarily affecting blood constituents (blood transfusion reaction)	12
m.	Others	96
603	**What was the final cause of death ? (Select one)**	
a.	Cardiac failure	1
b.	Respiratory failure	2
c.	Hypovolemic shock	3
d.	Septic shock	4
e.	Acute cardiopulmonary failure	5
f.	Renal failure	7
g.	Disseminated intravascular coagulation	8
h.	Liver failure	9
i.	Multi-organ failure	10
j.	Cerebral complications	11
k.	Unknown	12
l.	Other (Specify) _____	96

SECTION 7: CASE SUMMARY

Please write a short summary describing the circumstances surrounding her death. It is important to understand the underlying social, as well as medical, problems which led to her death, in addition to trying to understand the primary and contributory clinical causes of death. Please write a description of everything that happened, even if this means repeating some of the information you have already provided.

701	Please writea short history of what happened prior to admission ***(Write in block letter)***
702	Please write a short history of what happened after admission ***(Write in block letter)***

2.5.2.1 SECTION 8: REVIEW BY MPDR COMMITTEE

Complete this form based on review of and discussion on the information in sections 1-7 and available records.

801	Factors relating to the woman/her family/social situation that have contributed to death of the woman	Delay to seek health care	1
		Delay to reach the health facility	2
802	Factors relating to	Delay in providing appropriate intervention	1

	health facility that have contributed to death of the woman *(Multiple Response)*	Absence of critical human resource	2
		Lack of resuscitation equipment	3
		Lack of supplies and drugs	4
		Lack of blood and blood products	5
		Lack of inter-department communication	6
		Lack of intra-department communication	7
		Poor documentatione.g. Partograph, Case note etc	8
		Mis-diagnosis	9
		Others *(Specify)*……..	96
803	Factors relating to referral system *(Multiple Response)*	Lack of effective communication from referring facility	1
		Unable to refer due to	
		a) financial constraints	2
		b) lack of transportation	3
		c) patient party's denial	4
		d) other*(specify)*.....	5

2.5.2.2 SECTION 9: CRITICAL EXAMINATION OF CARE IN THE HOSPITAL

901	Do you think the mother could have been saved?	Yes	Possibly	Probably No	Never
		1	2	3	4
902	If yes or possibly, how do you think the mother could have been saved?				

903	Please write a list of *lessons learned* from this case		
904	Has a similar situation happened before at this facility that resulted in a maternal death or a near miss?	Yes	No
		1	2
905	If yes, discuss: why this situation has occurred again? If the necessary steps had been put in place at this facility could this death have been prevented?		

2.5.2.3 SECTION 10: MPDR COMMITTEE'S RECOMMENDATIONS AND ACTION TAKEN

Actions	**To be performed by Hospital**	**To be performed by/through DPHO**
Immediate Actions		
Responsible for implementation		
Time line (less than a month)		
Monitoring to be done by		
(Mid Term Actions)		

Responsible for implementation		
Time line (less than six month)		
Monitoring to be done by		
(Long Term Actions)		
Responsible for implementation		
Time line (less than a year)		
Monitoring to be done by		

The request for necessary action at the community level has to be sent formally through District Public Health Office.

Attendance

SN	Name	Designation	Institution/Dept	Phone	Signature

Date of review by case attending staff (Nepali date)	dd mm yy
Date of review by facility MPDR committee (Nepali date)	dd mm yy

Staff who completed this review form:

Name: _____ Designation: _____

Phone Number: _____Date/month/year: _____Signature: _____

Thank You

Annex 4: PDR form

MPDSR Tool 7

CONFIDENTIAL

This form will be kept confidential and used only for quality of care improvement and collective statisticalpurposes

Government of Nepal
Ministry of Health and Population
Department of Health Services
Family Health Division
Teku, Kathmandu
PERINATAL DEATH REVIEW FORM

Perinatal deaths include death of a baby from 22 weeks of gestation (or baby weighing at least 500 grams)*to first 7 days of life (early neonatal period).*

The perinatal death review process is an in-depth investigation of the causes of and circumstances surrounding late fetal and early neonatal deaths occurring at health facilities with the objective of identifying avoidable factors and utilizing the information for improving quality of care at the facility, and policy and programme reform across the country.

Personally identifiable information on this form will be kept confidential, and will be grouped and non-identifiable. Information and discussion arising from this review form cannot be used in legal proceedings.

Sections 1-4 should be completed within 72 hours of the perinatal death by the attending medical officer/nursing staff in consultation with other staff that had contact with the mother/infant. All available records related to the deceased should be reviewed.

Sections 1-4 should then be reviewed each month by the hospital MPDR committee and Section 5 should be completed after discussion. The completed forms should be made accessible to Family Health Division and DPHO through web-based data entry.

District: ☐☐

Name of health facility: _____ ☐☐☐☐☐☐☐☐☐☐

SECTION 1: DETAILS OF MOTHER OF THE DECEASED

10	Name of the Mother : _____	Hospital ID Number:

1	_____		
102	Address : _____		
	District: _____ ☐☐ VDC/Municipality: _____ ☐☐ Ward No.:		
103	Ethnicity/Caste (Specify): Caste: _____Ethnicity: _____ ☐☐☐ *[Note: Coding to be done during data entry]*		
104	Maternal age (in completed years) *[Write 98, if Don't know]*	☐☐	
105	Gravida *[Write 98, if Don't know]*	☐☐	
106	Parity *[Write 98, if Don't know]*	☐☐	
107	Did she receive any antenatal care during this pregnancy?	Yes	1
		No *(Go to 109)*	2
		Don't Know *(Go to 109)*	3
108	If ANC received, how many times?	Specify _____	
109	Obstetric condition of mother at admission	Not in labour	1
		Latent phase of labour	2
		Active phase of labour	3
		Third stage of labour	4
		Post partum	5
110	Provisional diagnosis of mother at the time of admission	Specify …… ……	
111	Place of delivery	Specify …… ……..	1
112	Mode of delivery	Normal *(Go to 114)*	1
		Vacuum	2
		CS	3
		Embryotomy	4
		Other	5

113	If other than normal delivery, specify main reason for this		
114	Relevant maternal event summary		

SECTION 2: DETAILS OF THE BABY

201	Gestational age	☐☐ Weeks ☐☐ Days	
203	Birth weight	☐☐☐☐ Grams	
204	Sex of the baby	Male	1
		Female	2
		Ambiguous	3
205	Singleton or multiple birth	Singleton	1
		Multiple Baby number: _____	2
206	Date of delivery: (Nepali date)	☐☐ dd ☐☐ mm ☐☐☐☐ yy	
207	Time of delivery (24 hours clock)	☐☐ . ☐☐ Hours	
209	Type of death	Fetal *(Go to 212)*	1
		Early Neonatal	2
210	If early neonatal death, date of death: (Nepali date)	☐☐ dd ☐☐ mm ☐☐☐☐ yy	
211	If early neonatal death, time of death *[Skip to Q 301]*	(24 hours clock) ☐☐ . ☐☐ Hours	
212	If fetal death, type of death	Antepartum fetal death (macerated)	1
		Intrapartum fetal death (fresh)	2

SECTION 3: CLINICAL INFORMATION OF DECEASED BABY

301	Relevant neonatal events summary *[please write about the complication, diagnosis, investigations, procedures, IV therapy and drugs]*		
Date	Time	Postnatal age	Event

2.5.2.4 SECTION 4: CAUSE OF DEATH

401	What was the primary *(underlying)* cause of death?	Spontaneous preterm labour	1
		Intrapartum hypoxia	2
		Antepartum haemorrhaage	3
		Hypertensive disorder	4
		Infections	5
		Congenital anomalies	6
		Intrauterine growth retardation	7
		Trauma	9
		Unexplained intra-uterine cause	10
		Maternal disease (Specify)	11
		Others (Specify)	96
402	What was the final cause of death?	Birth asphyxia	1
		Septicemia	2
		Pneumonia	3
		Tetanus	4
		Hypothermia	5
		Complications of prematurity	6
		Congenital anomalies	7
		Birth trauma	9
		Others (Specify)	96
403	Wigglesworth classification of death	Normally formed macerated stillbirth	1
		Lethal congenital malformation	2
		Conditions associated with immaturity	3
		Asphyxial conditions (includes fresh still birth)	4
		Other specific conditions	5

2.5.2.5

2.5.2.6 SECTION 5: REVIEW BY MPDR COMMITTEE

Critically analyze the situation, circumstances and record how it could have been saved (avoidable factors)

Q	Type of Avoidable Factors	Avoidable Factors	Code
501	Patient related		
502	Administrative problems		
503	Medical personnel associated		
504	Other		

2.5.2.7 SECTION 6 : MPDR COMMITTEE'S RECOMMENDATIONS AND ACTION TAKEN

Actions	**To be performed by Hospital**	**To be performed by/through DPHO**
Immediate Actions		
Responsible for implementation		
Time line (less than a month)		
Monitoring to be done by		
(Mid Term Actions)		
Responsible for implementation		
Time line (less than six month)		
Monitoring to be done by		
(Long Term Actions)		
Responsible for		

implementation		
Time line (less than a year)		
Monitoring to be done by		

The request for necessary action at the community level has to be sent formally through District Public Health Office.

Date of review by case attending staff (Nepali date)	☐☐ ☐☐ ☐☐☐☐ dd mm yy
Date of review by facility MPDR committee (Nepali date)	☐☐ ☐☐ ☐☐☐☐ dd mm yy

Staff who completed this review form:

Name: _____ Designation: _____

Phone Number: _____Date/month/year: _____Signature: _____

Thank You