Workshop Report

Review on Community-based Maternal Death Surveillance and Response (MDSR)

Kathmandu

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Owned by

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

Supported by

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Nepal Public Health Association

NEPHA

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Acronyms

DoHS	Department of Health Services
FCHVs	Female Community Health Volunteers
FHD	Family Health Division
GON	Government of Nepal
HP	Health Post
MDR	Maternal Death Review
MDSR	Maternal Death Surveillance and Response
MoH	Ministry of Health
MPDR	Maternal and Perinatal Death Review
MPDSR	Maternal and Perinatal Death Surveillance and Response
PDR	Perinatal Death Review
VA	Verbal Autopsy

Introduction

About 303,000 women die every year of complications during pregnancy or childbirth (WHO estimates 2015). Most of these deaths can be avoided as the necessary medical interventions exist and are well known. The key obstacle is pregnant women's lack of access to quality skilled care before, during and after childbirth.

The condition of Nepal is not different. According to Nepal Demographic and Health Survey (2006), neonatal death is 33 per 1000 live birth which stands 54% of total under five and 69% of infant mortality rate which means, every hour, 3-4 neonates die.

Since the 1990s Nepal has initiated various mechanisms to improve maternal and newborn mortality registration with the support from various external development partners. In 1990 Maternal Death Review (MDR) was first implemented in Paropakar Maternity and Women's Hospital and in 2003 the Perinatal Death Review was introduced as a supplement to MDR. By 2006 Maternal Perinatal Death Review (MPDR) had been implemented in 6 hospitals and by 2013 a total of 42 hospitals had adopted the MPDR process (MoHP 2014). MPDR is one of the tools used to monitor and improve quality of care at the hospital level, this process in very important to improve the service site. However, the reviews have not achieved satisfactory results as expected and the commitment from the facilities and monitoring from higher authority is still weak.

Nepal has adapted the Commission on Information and Accountability (COIA) which tracks progress on resources and results towards the UN Secretary General's Global Strategy on Women's and Children's Health 2012. The concept of CoIA in Nepal is named Country Accountability Roadmap Nepal (CARN) and focuses on three processes- monitoring, reviewing and acting - aimed at learning and continuous improvement of life saving interventions. Maternal and Perinatal Death Surveillance and Response (MPDSR) was designed to measure and track all maternal deaths in real time, to understand the underlying factors contributing to mortality and to provide guidance for how to respond to and prevent future deaths.

The system builds on experiences from MDR, but also helps us understand the events surrounding maternal deaths. The surveillance cycle includes identification of cases, collection of information, analyzing findings, recommendations for action and evaluation and refining of the system. Particular focus is on the response and action part of the surveillance, so that the information obtained can be acted upon to prevent future deaths.
Government of Nepal (GoN) developed MPDSR guidelines and now implementing community level MPDSR in six districts (Banke, Kailali, Kaski, Dhading, Solukhumbu and Baitadi). In these six districts both community maternal deaths, hospital maternal deaths and hospital perinatal deaths are reviewed and responses planned.

Implementation of MPDSR has been a challenge to the Government of Nepal (GoN) with constrained resources, turn-over of trained human resources and weak monitoring system. There is need to strengthen the system in the MPDSR implementing districts and hospitals.

Objectives

The overall goal of MPDSR is to eliminate preventable maternal and neonatal mortality by obtaining and using information on each maternal death to guide public health actions and monitor their impact. MPDSR expands on ongoing country efforts to gather information that can be used to develop platforms and evidence-based interventions for reducing maternal and neonatal morbidity and mortality, and improving access to and quality of care (QoC) that women receive during pregnancy, delivery and after delivery. Although, the precise nature of this information will vary from country to country, the meeting helped to generate specific recommendations and actions, and improve the evaluation of their effectiveness.

Objectives of the Workshop:

1. To update on the review and response of maternal death at the six districts where community-based MPDSR is implemented
2. To identify and share issues, challenges, best practices and lessons learned during the process of MPDSR at community level
3. To share on Global updates regarding MPDSR and maternal health
4. To discuss on guidelines for implementing MPDSR in federal context

Expected Outputs

Remaining within the periphery of the objectives, review workshop expected the following outputs:

1. Update about the review and response mechanism (what needs to be changed at national and local level with global perspectives)
2. Discuss on issues, challenges (incorporate in district program) and best practices to replicate other district (What is the status, what will be changes, who will be responsible and what could be do?)
3. Provide suggestion on MPDSR in federal context (How we will decentralize and deliver?)

Participants

Thirty invitees representing the DHOs (five from each district) of six districts (Kailali, Solukhumbu, Dhading, Kaski, Banke and Baitadi) participated in workshop. Beside this,

facilitators and reviewers from FHD, WHO, UNICEF, NESOG and NEPHA participated in review workshop.

Workshop Proceedings

Session 1: Introduction

The opening session was chaired by Dr. Naresh Pratap KC, Director, FHD and co-chaired by Mr. Bhogendra Raj Dotel, Director, PHCRD, Department of Health Services. The official master of the ceremony, Mr. Binod Regmi, Treasurer, NEPHA welcomed to all participants. Dr. Sharad Sharma, Senior Demographer gave a brief introduction to the background of the workshop and highlighted the objectives and the expected outputs as well as agendas of three day workshop.

Figure 1: Mr. Bhogendra Raj Dotel sharing importance of MPDSR

Mr. Bhogendra Raj Dotel highlighted the result of maternal mortality and morbidity study carried out in 2008/2009. He addressed the importance of MPDSR by sharing some of his work experiences related to the subject.

After that, Dr. Naresh Pratap KC, gave his opening remarks on the event highlighting the status of maternal health and importance of MPDSR very concisely. He appreciated the worthy presence of all the participants and wished success of the program. He also mentioned that the workshop is expected to strengthen the MPDSR program. He expressed the workshop will be fruitful.

Session 2: Status of MPDSR implementation in Nepal

The session was facilitated by Dr. Sharad Sharma presenting on the following outline:

- Background and Rationale of MPDSR
- MPDSR goal and objective
- MPDSR & QOC
- Components of MPDSR
- Nepal MPDSR process, Process of review for maternal death in the community
- MPDSR Implementation status
- Analysis of reported VA data
- Action plan developed by district MPDSR committee and Challenges to MPDSR implementation

Session details:

- MMR is still unacceptably high while further reduction of MMR is possible
- NHSS (2015-2020) has target to reduce MMR to 125 by 2020.

- The goal of MPDSR "To eliminate preventable maternal and perinatal mortality by obtaining and using information on each maternal and perinatal death to guide public health actions and monitor their impact".
- Implementing MPDSR also strengthens other processes in the health system. Identifying deaths can enhance vital registration, reporting maternal deaths in community and health facility helps in tracking of maternal mortality, reviewing the maternal and perinatal deaths can assist in reviewing the quality of care at different level and implementing the response improves the quality of care.
- It complements national systems for civil registration and vital statistics (CRVS) and health management information systems (HMIS). The system will generate reliable data on the rate and causes of maternal mortality – and so act as a cornerstone for a national CRVS system.
- It has been estimated that reported maternal mortality underestimates the true magnitude by up to 30% worldwide and by 70% in some countries. An effective MDSR system will produce more accurate and complete estimates of maternal mortality, providing robust and consistent data for a country's CRVS system.
- Most of the maternal deaths are preventable. 99% of these deaths occur in less developed regions. Death should be reviewed not only in terms of quantity but importance must be given to review of quality of service the woman received at different levels. There can be similar causes of maternal deaths, each death is unique and the social determinants of each death will be different with unique lessons for everyone. Therefore, each death should be reviewed and responded.

Challenges:

- Under reporting of suspected maternal deaths
- Blame culture at some places that inhibits health professionals and others from participating fully in the MPDSR process
- Incomplete or inadequate legal frameworks
- Inadequate staff numbers, resources and budget
- Cultural norms and practices that inhibit the operation of MDSR
- Problems of geography and infrastructure that inhibit the operation of MDSR.
- Delay/Incomplete notification, screening, VA, review, response & use of web-based MPDSR system

Query	**Response**
Kailali Team asked about the SDG target for MMR.	There is no such specified benchmark for MMR. The main concern always lies in eliminating the preventable maternal death. However, countries can consider standard set by the SDG Target to reduce the MMR. According to the SDG, Global MMR should be less than 70 and no country should have MMR more than 140 by 2030. As per the Ending Preventable Maternal Mortality, MMR target for MMR for countries should be 2/3rd reduction from 2010. For Nepal this would be 119/100000 live births by 2030.

Session 3: Recent updates on MPDSR

The session was facilitated by Dr. Chandani Anoma Jayathilaka, Medical Officer, WHO SEARO. Dr. Anoma presented on the global, regional and national scenario of MPDSR and MMR.

Discussion and Conclusion of session 3

Query	Response
Q.1: Nepal is making remarkable progress in institutional delivery. People are slowly shifting delivery practice from home to health facility. However, looking at the MMR trend, maternal deaths in hospital is increasing as compared to deaths at homes. Does it mean that quality of health services in our health facility is still not good enough to prevent such deaths?	**1:** It does not always indicate that QOC in health facilities is not good enough. As delivery is shifting towards institutions and we also know that the death has been increased in institution rather than home. But this can be due to delays in deciding, reaching as well as receiving quality services. Hence analyzing and responding on the 3 delays is very important. Moreover, the QOC of any health facility plays the most vital role. Similarly, action plan should be planned in all level i.e. local level, province level and national level.
Q.2: MMR is not only the sole concern of health system as it has multidimensional impact in the family, society and the nation as well. However, there is still lack in multisectoral approach for such sensible matter. Is the scenario same in Sri Lanka or not and what are the possible solution?	**2:** It is universal that health is very crucial part and has immense effect to other areas as well. Hence, coordination from multi sector is very much important, as health only cannot do everything. For eg: Poor socioeconomic background of a family has great impact on the health of the whole family more so for the females. In this condition, Governments can implement certain programs for uplifting the economic status of families. Sri Lanka had once such approach applied. However, the Health sector always lies in the centre and should play the vital role. In this context, formation and functioning of committees at different levels is a prime need.
Q.3: It has been quite long that MPDSR has been applied in the hospitals. Here, the 3rd Delay can be identified but the difficulty lies in reviewing the first and second delays. Hospital staff have experienced the hardship	**3:** This problem reflects the communication gaps between the community and hospitals. A mechanism or system has to be developed to address the issue in order to collect the ground information. At first, the two delays have to be reviewed by the community MDSR team and then circulated to the hospital. Sometimes the deceased may not be from the same district. In such condition communication and coordination of big hospitals

to know the actual cause of those two delays. What are the possible solutions in this matter?	with DHO/DPHO is needed. This is one of the areas to be improved because most of the big referral hospitals lack communication with DHO/DPHOs. Hence, communication and coordination with the related partners are necessary in MPDSR.

Conclusion of Session:

- Despite Nepal's remarkable achievement in reduction of MMR, it's still very high and needs serious concern for which MPDSR is very crucial.
- Commission's on information and accountability for Women's and Children's Health has included recommendations including MDSR.
- MDSR is linked with one of CoIA recommendation i.e. Vital Registration
- MPDSR experience of Sri Lanka included in above response column.
- No name No blame principle should be recognize by all health workers
- Prioritize the level of action i.e: immediate, short term and long term

Session 4: Sharing of community-based MPDSR from the participated districts

All the district shared respective presentation on the status of Community based MPDSR at their districts.

1. Banke

- MPDSR implementation initiated since: 2016
- Number of participants trained during initiation trainings
  - District stakeholders orientation: 25
  - Hospital staff: 40
  - Community Health Service Providers: >300
  - FCHVs: 789(all FCHVS)
- Number of medical doctors trained on cause assignment from verbal autopsy: 2

Number of deaths (FY 2073-74)

Activities	Total	Reported in web
Notification of death of women between 12-55 years	40	40
Number of Screening	40	-
Number of pregnancy related deaths identified	15	-
Number of Verbal Autopsy conducted	15	-
Number of Verbal autopsy assigned with cause of death by medical doctors	15	-
Number of maternal deaths reviewed by District MPDSR committee	6	-
Number of maternal deaths for which action plans are developed	3	-
Number of maternal deaths for which action plans are implemented	3	-

Cause of maternal deaths of VA cases

PPH	Eclampsia	Abortion related	Heart disease	Shock	Sepsis	Other disease
3	**3**	**2**	**2**	**1**	**2**	**2**

Action plans developed by District MPDSR Committee

- Action plans developed by the districts MPDSR Committees
- Planned meeting with hospital to manage referral mechanism
- Made provision of **Hot line number at Nepalgunj Medical College (NGMC)**, Kohalpur to facilitate referral
- Mainstreaming all stakeholders on MPDSR process by ***Aama bachau aviyan***
- Referral system strengthened by co-ordination with hospital and Ambulance service providers.
- Action for proper counseling as per protocol to mothers attending ANC clinic.

Issues and challenges for implementing MPDSR

- Timely and complete death reporting from community level.
- Difficult to maintain step wise record and report of each death (some deaths reported only by HW, FCHV don't fill notification form)
- Poor sensitiveness of community and local level on Maternal death

Best Practice of Banke

- Awarenesson Aama Bachau aviyan.
- Sharing of hot line number to service provider.
- Listing for Ambulance number.

Lessons learned from MPDSR

- Online recording and reporting of MPDSR process
- Community awareness programme immediately after death at community level impact more than delayed responses
- At larger hospital maternal death still missing because mothers during postpartum period consult at emergency and other wards (Hospital issue)
- Involving care provider (Doctors from Hospital) in VA process helps to understand the social insight

Gaps on implement of MPDSR

- Local level review programme at health facility level by involving local bodies.
- Budgeting guideline should be revised (Now among 5 lakh, 4 lakh for meetings and 1 lakh for programme planned to review MPDSR)

Feedbacks on Banke presentation

Positive feedback from Baitadi District	Constructive feedback from Kailali District
– Formation of well-functioning MPDSR committee – Aama Bachau Aviyan appreciable.	– Gaps in process of MPDSR including cause of death assignment, review and response – Timeline for action plan not mentioned – Review done for only 3 cases of maternal mortality out of 15 total cases. One review should be done in each case as the underlying cause of death may be different

Conclusion of Banke presentation

- High number of maternal deaths.
- Most death occurs due to patients reaching the facilities very late.
- Still could not complete all VA and action plan for each maternal death.
- VA team including hospital staff visited the deceased woman's house in order to insight the socio economic status of most of the patients who visited the hospitals.
- Health workers rarely took responsibility for quality of ANC service and assume it as their mandatory duty only.
- Delay one very common in Banke mostly due to
  - Socioeconomic conditions &
  - Cultural background (mostly in Madhsesi and Muslim community)

  Following actions implemented for reaching the unreached
  - Free Ambulance service and Roaming care visits
  - Media sensitization
  - Hotline started at Nepalgunj Medical College
- The action is mostly engaged in review. Response actions are comparatively less because of insufficient budget allocated.

2. Kaski

Orientations and trainings

- MPDSR implementation initiated since 2073 Baishakh
- Number of participants trained during initiation trainings: 300 HW
- Number of medical doctors trained on cause assignment from verbal autopsy: 2

Number of deaths (FY 2073-74)

Activities	Total	Reported in web
Notification of death of women between 12-55 years	40	40
Number of Screening	40	40
Number of pregnancy related deaths identified	5	
Number of Verbal Autopsy conducted	4	4
Number of Verbal autopsy assigned with cause of death by medical doctors	4	3
Number of maternal deaths reviewed by District MPDSR committee	4	-
Number of maternal deaths for which action plans are developed	4	-
Number of maternal deaths for which action plans are implemented	1	-

Cause of maternal deaths

Haemorrhagic Pancreatitis	Pulmonary Embolism	Suicide	Heart Disease
1 (death in hospital)	1	2	1

Action plans developed by District MPDSR Committee

- Awareness on indirect causes of Maternal Death
- Awareness on complication during pregnancy, labor and postpartum period conducted at Talbesi on 19th Ashadh, 2074.

Issues and challenges for implementing MPDSR

- Late notification of deaths
- Increase in cases of deaths due to suicide
- Health facility MPDSR Committees not fully functional at all levels
- Community level action plan not implemented

Best Practice

- Maternal Death occurred in Gandaki Medical College and review & assessment done by MPDSR committee. Committee decided drug may be the cause of death. Instructed the Medical College to change the drug which they are using. College accepted the instruction
- Then after cases are successfully managed and no death has occurred in the facility

Lessons learned from MPDSR

- Increase in case notification from community after implementation of MPDSR
- Identification of hidden cases in the community
- Increased responsibility and accountability on Maternal death identification, review and response
- Early identification of condition and proper counseling needed to minimize the social cause (suicide)

Gaps on implementation of action plans developed from MPDSR

- Involvement of local facility in charge during District MPDSR committee meeting.
- Use of electronic media/mass media regarding MPDSR program to reduce possible preventable death of mother and newborn.

Feedbacks on Kaski presentation

Positive feedback from Baitadi District	Constructive feedback from Solukhumbu District
– FCHV issues regarding incentives for multiple visits and or mobile calls – Response action taken after review like monitoring the use of medicine at the hospital.	– As the main aim of MPDSR is the reduction of MMR, it would be better if the district MMR was compared with national data. – Specified guidelines have to be developed in making the response actions.

Conclusion

- Suicide cases need to be addressed
- QOC issues in the hospitals like the guidelines followed for use of standard medicine during when indicated. Timely and strict monitoring is necessary in each facility.
- Sociocultural background and family support is very much necessary for maternal health.

- Despite of achieving good health targets, MMR issues are still problems even in the urban cities like Pokhara.
- Mis-matched human resource distribution, some places lack sufficient human resource where as in some places available human resource do not have sufficient work.
- FCHV demand more incentive for notification, screening and VA which should be included in upcoming planning

3. Solukhumbu

Orientations and trainings

- MPDSR implementation initiated since: Jeshtha 2073
- Number of participants trained during initiation trainings:
  - Hospital staff: 25
  - Community Health Service Providers: 75+
  - FCHVs: 306
- Number of medical doctors trained on cause assignment from verbal autopsy: 2

Number of deaths (FY 2073/74)

Activities	Total	Reported in web
Notification of death of women between 12-55 years	9	-
Number of Screening	9	-
Number of pregnancy related deaths identified	5	-
Number of Verbal Autopsy conducted	5	-
Number of maternal deaths reviewed by District MPDSR committee	5	-
Number of maternal deaths for which action plans are developed	5	-
Number of maternal deaths for which action plans are implemented	2	-

Cause of maternal deaths

Congestive Cardiac Failure	Postpartum Hemorrhage
1	4

Action plans

- Ward level interaction programs regarding the death of women, cause of death, possible prevention of death and commitment from participants from in each ward of Kerung VDC
- Awareness about maternal and child health program and government facilities in different meetings and in schools
- Awareness raising on pregnancy health (ANC, INC, PNC), facilities for delivery, government

Best Practice of Solukhumbu District

- Extensive interaction programs were carried out in each wards with involvement of HWs, FCHVs, MG members, local leaders, teachers, students and local peoples with support from VDC
- New CEONC site initiated.
- Establishment of maternity waiting home

support, abortion, birth preparedness package etc, through local FM
- Discussions in Mother's Group meetings and HFOMC meetings

Action to be taken	Responsibility		Time period
	Main	Support	
Intensive interaction related to maternal death in community	HF Incharge	VDC, HWs, DHO	To be started within 1 month
Interactions in community and schools	HF Incharge	HWs, Stakeholders	To be started within 3 months and continue
Information and awareness to the community (Interviews, Ads) through local FM	DHO	Media, Focal person	Within 2 months
Discussion in RHCC meeting	DHO	Focal Person	From next meeting

Issues and challenges for implementing MPDSR

- Transfer of trained health workers
- Community custom, cultures and beliefs, problem hiding behaviors
- Inadequate involvement of other sectors
- Difficult geographical access

Lessons learned from MPDSR

- Most of these deaths are preventable
- Multi-sectoral approach is required
- Community and health team must be proactive to identify and prevent such deaths

Feedbacks on Solukhumbu presentation

Positive feedback from Kaski District	Constructive feedback from Banke District
– Action plan format precise and clear – Initiation of CEONC site and maternity waiting home	– Even though PPH is a common cause of death in the district, PPH specific intervention is missed

Conclusion of Solukhumbu presentation

- Shared about the district best practices in their presentation.
- Patients with infectious diseases do not want to seek medical services.
- Three out of 5 death cases were of FCHV, Teacher and ANM. Deaths are not only among illiterate but also depends in the attitude of person.
- Lack of financial support at ground level to FCHV for VA and action plan implementation
- Should focus on review of the specific or underlying causes of 3 delays and implementing the action plan on priority basis. Response should be developed in action plan i.e: immediate, mid-term and long term.

4. Baitadi

Orientations and trainings

- MPDSR implementation initiated since: Date of completion of orientation for FCHVs 2073/09/30
- Number of participants trained during initiation trainings:
  - District stakeholders orientation: 40
  - Hospital staff: 22
  - Community Health Service Providers: 183
  - FCHVs and HFOMC : 1063
  - Number of medical doctors trained on cause assignment from verbal autopsy: 1
  - Review of MPDSR conducted at districts level: yes

Number of deaths (FY 2073-74)

Activities	Total	Reported in web
Notification of death of women between 12-55 years	34	34
Number of Screening	34	34
Number of pregnancy related deaths identified	7	7
Number of Verbal Autopsy conducted	7	7
Number of Verbal autopsy assigned with cause of death by medical doctors	7	-
Number of maternal deaths reviewed by District MPDSR committee	5	-
Number of maternal deaths for which action plans are developed	5	-
Number of maternal deaths for which action plans are implemented	5	-

Cause of maternal deaths

Asphyxia (Accidental)	Accident	Severe Pre-eclampsia	Renal failure	PPH	Not assigned
1	1	1	1	2	1

Issues and challenges for implementing MPDSR

- Unable to do verbal autopsy within 21 days
- No health examination was done initially and report of current health examination was not available which makes difficult to fill and complete the forms
- Difficulty in cause assignment
- “Don’t know” option is present in verbal autopsy form but not available in web entry.
- Skip pattern not available in web entry which causes longer time for entry.
- Correction could not be done after wrong entry in pregnancy related death notification and screening entry.

Lessons learned from MPDSR

- Able to know that in the community, mothers still die due to pregnancy related causes.
- Lack of knowledge regarding health examination and no nearby health facilities for essential health care check-up.
- Pregnant women and their family members were not concerned about danger signs of pregnancy and lack of counseling.
- Even though a Health facility is nearby, people could not make decision whether they should take women to health facilities for delivery.

Gaps *on implementation of action plans developed by MPDSR Committee*

- Planned to conduct the street drama in Shikharpur VDC and comprehensive health camp to Shivnath VDC but could not do that due to election.
- HP level MPDSR committee not properly functioning.
- In recording system (inpatient forms), only basic information of client was recorded but medical history and reports like ANC card not recorded.

Feedbacks on Kaski presentation

Positive feedback from Kaski District	Constructive feedback from Solukhumbu District
– The presentation was clear to understand. – Case based description provided. – Involvement of local authority for maternity waiting home.	– Case based action plan should be prepared.

Conclusion of Baitadi presentation

- Patient's negligence on timely visit of pregnant mother
- There is good communication of health staff from remote areas with the DHO for complicated cases.
- Poor ambulance services network
- Practice of free home delivery still exist
- Establishment of maternity waiting home with the support from NEPHA. Rural municipality has provided the necessary commodities sufficient for a year.

5. Kailali

- Date of completion of orientation for FCHVs - 2072/10/1 to 2073/2/30
- Number of participants during initiation of trainings
  - District stakeholders orientation -25
  - Hospital staff-38
  - Community health service providers-80
  - FCHV'2-1240

- Number of medical doctors trained on cause assignment form verbal autopsy - 2

Number of deaths (FY 2073-74)

Activities	**Total**	**Reported in web**
Notification of death of women between 12-55 years	97	97
Number of Screening	97	97
Number of pregnancy related deaths identified	4	4
Number of Verbal Autopsy conducted	4	4
Number of Verbal autopsy assigned with cause of death by medical doctors	4	-
Number of maternal deaths reviewed by District MPDSR committee	4	-
Number of maternal deaths for which action plans are developed	**4**	**-**
Number of maternal deaths for which action plans are implemented	**4**	**-**

Cause of maternal deaths

Underlying cause	Eclampsia leading to Abruptio placentae	Eclampsia	UTI
Final cause of death	Post-partum Hemorrhage		Sepsis
Contributory factor		Anemia	Anemia in pregnancy and pre-eclampsia
No of death	2	1	1

Action plan

S.N	**Immediate actions**	**Medium term activity**	**Long term Activities**
Case 1	BCC- Such as Street Drama Awareness program for husband and in laws	Conceive only after 6 months of abortion and make arrangements for compulsory utilization of family planning services	Effective checkup during pregnancy, family planning, counseling and health education in community level
Case 2	Make arrangement of delivery for those 8 months pregnant women in health post. Arrangement of stretchers for those who are far from the health facilities.	Effective checkup during pregnancy family planning, counseling and health education in community level	Arrangement of road and ambulance
Case 3	Awareness program for	Effective checkup during	Various skills related

S.N	Immediate actions	Medium term activity	Long term Activities
	husband and in laws	pregnancy, family planning, nutrition education counseling and health education in community level	activities for employment Awareness for the adolescent for the late marriage and late pregnancy.
Case 4	Pregnancy checkup and awareness related to the danger signs of pregnancy	Effective checkup during pregnancy, family planning, nutrition education counseling and health education in community level	Awareness for the adolescent for the late marriage and late pregnancy.

Issues and challenges for implementing MPDSR

- Interview was time consuming
- Due to the lack of budget there was difficulty in conducting the program
- Meeting of MPDSR Committee couldn't be conducted timely
- Lack of intersectoral coordination.
- Lack of incentives
- Insufficient evidences to complete the forms

Best Practice of Kailali District

- Extensive interaction programs
- Maternity waiting home is operational.
- Provided one stretcher each to the health facility situated in mountain region.
- Laboratory service provision in health facilities.

Lesson learnt from MPDSR

- Establishment and functioning of maternity waiting home.
- Physical examination during ANC visit and timely suggestion was done.

Gaps on implementation of action plans developed by MPDSR Committee

- Inadequate revolving funds.
- Intrasectoral coordination and Review.
- Poor referral mechanism
- Lack of clients incentive

Feedbacks on Kailali presentation

Positive feedback from Banke District	Constructive feedback from Dhading District
– Action plan according to case developed up to community level. – MPDSR committee formed at all levels. – VA done in the difficult geographical area appreciable.	– Only 4 cases of maternal death recorded despite of high notified death. This can be under reporting. – Less number of review meetings.

Conclusion of Kailali presentation

- Insufficient trained Health Staff.
- Geographical difficulties in some areas.
- Awareness program developed in action plan.

6. Dhading

- District stakeholders orientation -30
- Hospital Staff – 20
- FCHVs training – 463
- Doctors trained on cause assignment – 2

Number of deaths (FY 2073/74)

Activities	Total	Reported in web
Notification of death of women between 12-55 years	19	-
Number of Screening	13	-
Number of pregnancy related deaths identified	7	-
Number of Verbal Autopsy conducted	7	-
Number of maternal deaths reviewed by District MPDSR committee	7	-
Number of maternal deaths for which action plans are developed	2	-
Number of maternal deaths for which action plans are implemented	2	-

Cause of maternal deaths

- Abortion related death
- Retained placenta (PPH)
- PIH
- Sepsis
- Congenital heart disease

Action plans (2073-74)

- Providing awareness among community people via local media
- Ambulance driver's number is present in all health facilities of all available ambulances
- Strengthening of referral and notification system.
- Use of mobile health program.

Issues and challenges for implementing MPDSR

- Inadequate support of family members
- Seasonal transportation difficulty (northern belt)
- Improperly managed birthing center

- Tendency of hiding real cause
- A permanent resident of one district expired in a hospital setting of another district where she temporary lives in- verbal autopsy difficult to carry out.
- Frequently transfer of trained nursing staff.

Lesson learned from MPDSR

- To know exact cause of death and take appropriate actions against it.
- Need of effective strategic plan to know the catchment area of district for better outcome.
- Proper and timely reporting.

Best Practice of Dhading District

- If a complication arises in a remote facility then they communicate directly with the doctors and senior nurses and paramedic staffs in the hospital to provide timely care and referral.
- Ambulances have been updated for best and timely care including rate reduction , four wheelers , etc to meet the standards.
- Practice of free home delivery is continued.
- Establishment of maternity waiting home. Initial cost beared by NEPHA and running cost by Gaunpalika
- Tele medicine started from local initiation

Gaps on implement action of action plans developed by MPDSR Committee

- Not able to provide necessary care due to geographical barriers, unavailability of ambulance to reach remote areas and lack of training to all health care staff especially SBA staff.

Feedbacks on Dhading presentation

Positive feedback from Baitadi District	Constructive feedback from Kaski District
– Despite of hard geographical situation and lack of training, VA by the team is appreciable. – Maternity waiting home in service. – Ambulance services, Health facilities contact no provided along with other vehicle in need. – Free home delivery approach.	– Cause of death along with the no. of death required. – Misuse of ambulance subsidy should be addressed. – Strengthening of referral system. – Presentation is not fact base and not case specific cause of death recognized

Conclusion of Dhading presentation

- Trained staff transfer.
- Current staff are not trained.

Discussion and Conclusion of Session 4

Query	Response
Q 1: It is remarkable that some team have mentioned awareness program in their action plan. However, it should be described in specific manner. It would be better if the team also had mentioned how they are planning for the ANC effectiveness. Specific action plan are therefore very important. Many districts have already established maternity waiting home. However, it is the matter of concern that is it really utilized and how it is helping in the reducing MMR in their district?	**1:** Because of the difficult geographical area, it is very hard for the patients to reach the health facilities unless they are not prepared. Hence, in such conditions maternity waiting home is very useful providing the services on time to the patients. It has for sure helped in managing the MMR to some extent. However, maternity waiting home and health facility alone cannot do everything and it requires multisector approach and support from the local governance as well. For this MPDSR orientation to the local authority should also be considered and also has been listed in the action plan of the district. Regarding the specific action plan to be developed, it has been done on the district's action plan.
Q.2*:* In the presentation of Baitadi district, there were 97 cases notified but the pregnancy related deaths were only 4. Is it due to under-reporting?	**2**: We have identified each and every cases which were notified and after that only we became sure that only 4 deaths are pregnancy related.

Conclusion

- Eagerness to implement of MPDSR at community level
- Commitment to effectively implement of MPDSR and reduction of MMR
- All have good and best practice like initiation of establishment of CEONC site additionally, establishment of maternity waiting home, revolving of EOC fund, hotline number, visit of every death case in community/hospital, ***Ama bachau avaiyan***, roaming ANM program

Closing remarks of Day One

Dr. Sharad Sharma closed the first day workshop by mentioning that we all are in learning phase. With such active participation and valuable feedbacks from district, Centre will be able to plan more effective MPDSR program in the coming period. MPDSR is not a sole responsibility but it compromise the team work which should apply' No Name No Blame' approach with brief highlight on next day agenda he formally closed the session of first day.

REVIEW ACTIVITIES (SECOND DAY):

Session 5: Identifying Action Plans and Response Mechanism

Ms. Keshu Kafle presented on process of identification of action plan and response mechanism regarding the maternal death after community based VA conducted. The presentation outline included importance, criteria and process for response action.


Presentation by Keshu Kafle

Query, response and discussion during the session

Quality of Care at health facility:
QOC at any level of health facility is an important issue. Negligence in service delivery, unavailability of necessary services & equipment, poor standard of the available equipment and medicines are some of the serious issues that exist in most of our health facilities.

Oxytocin Issues:
Procedure for keeping the stocks of necessary commodities such as oxytocin in the health facility should be maintained and the market monitoring and necessary actions should be promptly done in case of poor quality of medicines from the responsible authority.

Eclampsia:
In Nepal, eclampsia is one of the main causes of maternal mortality, which can be prevented with quality ANC, institutional delivery and PNC. Therefore, it is important to address the issue and response on the gaps. On site coaching to the Health workers, timely monitoring of the services at health facilities, awareness activities on importance on maternal health at community level, coordination with the related stakeholders are some of the activities that can be included in the action plans that will help to prevent such tragedy.

Developing Action Plans (5 Why method and Fish bone problem)

Dr. Anoma provided some expert inputs in the session of **Identifying Action Plans and Response Mechanism.** Each maternal death is a tragedy and a family disaster. Failure to learn from 'why she died' is an injustice. So MPDSR is very important to prevent the death of any mother from the causes that could have been avoided. Among the various process of MPDSR, cause identification is the most important stage. If the actual and specific causes and avoidable factors of each death can be found out then the response action developed will be the most effective on implementation. So in this context, one can use the 5 Why method and Fish bone problem technique to find out the actual cause. In the fish bone technique, the head of fish represents the problem, and 4 bones of the fish represent the 4 problems (Person, Procedure, Place, Policy). So if one can go through these 4 problems in any deaths using 5 Why techniques then the actual and underlying cause of any death will be found out.

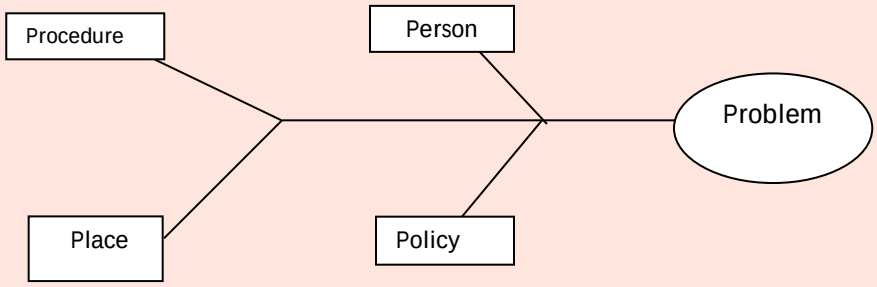


Fig: Fish bone method

Response action:

Once cause and avoidable factors are identified, specific action plans should be made targeting the avoidable factors. The action plans must be specific, time bound and should specify the responsible authority. Action plans can be prioritized on the basis of time, impact and available resources. The activities that can be done immediately with local level capacity should always be listed in the top priority. Long term activities which take more time and resources should be recommended to the higher level on hierarchy basis.

A case study was discussed to practice and clarify the process.

Case Scenario: A 21-year old had her 3rd baby at home. Her first baby died after a difficult delivery. Her second baby was premature and survived. During this pregnancy, she attended antenatal care at the local health center. She started bleeding 1 hour after delivery of a healthy baby. The local skilled birth attendant (SBA) came within 1 hour. She found the woman very pale and collapsed and gave her oxytocin and then misoprostol. The SBA suggested moving the woman to the local hospital, an hour away, as the bleeding continued. The husband did not agree and the woman died.

Dr. Chandani facilitating about case scenario in detail

Issues identified by Kaski**:**

- No institutional delivery
- No management of shock
- Lack of Referral

Recommendations given by districts:

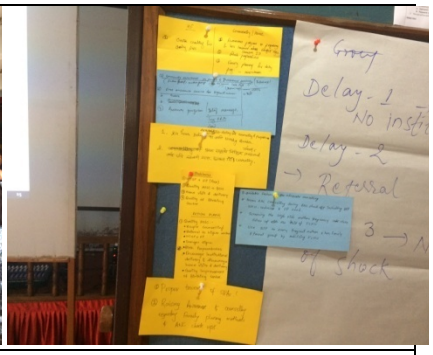
Kaski	Baitadi	Kailali	Banke	Solukhumbu	Dhading
Onsite coaching of SBA	Family planning need	Father and mother group orientation	Counselling of husband in Mother's group	Quality ANC Improvement in Birthing Center	Strengthen the local level policy for

Institutional delivery promotion Awareness program for both husband and wife	Onsite coaching for quality ANC EOC kit box at HF for home delivery management	Free ambulance service	meeting. Nursing Quarter for SBA.	FP counselling Birth Preparedness Packages	preventing early marriage.

Recommendations on case study

Recommendation give by Kailali group for above case scenario

Recommendation give by Dhading group for above case scenario



Issues and recommendation prepare by all 6 group

Session 6: Group work- Action Plan Preparation

Group work was followed after the session. The participants were provided with real verbal autopsy cases from districts and asked to identify the avoidable factors and recommend action plans.

Group A: Team Kaski

Discussion

BPP action card: According to the recommendation prepared in the action plan, it was suggested for printing the danger signs of pregnancy in the ANC card. In that case use of BPP action card was suggested as option. However, the group informed that the supply of BPP card has been stopped two years ago and currently it does not exist in any health facility. They requested to consider the procedure for the resupply of the BPP card.

Action plan presented by team Kaski

Insufficient VA information: VA team should use 5 Why techniques and fish bone problem approach to identify the root cause of problem. Most of the action plans are developed on assumptions, which is not the standard of VA. It shows that most of the VA forms contain incomplete information.

Response action: While developing response action specific activities should be mentioned. Activities that are too vague may create confusion.

Group B: Team Dhading

Discussion:

Support from local stakeholder: It has been the trend to blame the health system if any deaths occur at the health facility. Sometimes, despite of the health staff suggestions, patients do not follow the advice. In such condition, it is a better option to take help from the local authority to make the patient follow the health facility suggestions.

Action plan presented by team Dhading

Group C: Team Solukhumbu

Discussion:

Birthing Centre issue: In the difficult geographical area, access to health services is a challenge. Many of the women living in rural areas have to lose their lives due to long distance to the nearest health facility. Along with this, sometimes the health facility lacks health staff or the needed services or medicines. So the group discussed the possible solutions to avoid those challenges. DHO/DPHO can support the health post to upgrade their status in such conditions.

Group D: Team Banke

Discussion:

Hospital issues: In the big hospitals, there are most probable chances of case missing of maternal deaths mostly in the emergency wards. Because of the workload in the big hospital, staff find it hard to keep the record of the death. In such condition, the best option will be to go to the record room of hospital as they have all the record of the hospital from every department. The hospital record should be used in cause analysis if the informer does not provide sufficient information.

Dr. Pooja answering the queries about the hospital issues

Blaming system: It has already been mentioned that MPDSR must follow the No Name No Blame principle. However, in practice this is difficult. The community blames health facility for poor quality services and vice-versa. Therefore, it is better to appreciate what they have done and and what could have been done better for their better contribution.

Group E: Team Baitadi

Discussion:

Quality Vs Quantity: Mostly the effectiveness of any program is evaluated by its coverage hence quantity matters a lot. However, quantity alone cannot represent the true effectiveness of the program. The ANC coverage is increasing but it is very important to monitor the quality also. The capacity and attitude of health staff, the availability of services and their standards should be considered. Unless the

quality is carried out along with the quantity, the effectiveness of any program cannot be measured alone.

Women empowerment: As Nepalese society is patriarchal society. No matter how managed is the health services in our society ultimately the decision is in the hand of people to accept it. For receiving those services, decision-making roles in the family mostly depends on the males. Unless females are empowered, it is very hard for females to access the health service. So, female empowerment activities are also one of the important factors in reducing MMR.

Group F: Team Kailali

Discussion:

Cultural influences: In Nepal, Banke is the district with the highest MMR of the country. One of the main contributing factors for this is because of the cultural background of the residing communities. It is found that mostly in the Madhesi and Muslim community; females do not share their problems even with their husband. Such behavior makes them vulnerable for morbidities and mortalities. Hence, awareness activities should also be developed addressing such community issues.

Discussion in action plan presented by Kailali team

Closing remarks of Day Two

Dr. Sharad Sharma closed the 2nd day workshop by expressing gratitude towards all the participants for their active involvement with brief highlight on next day agenda and formally closed the second day.

REVIEW ACTIVITIES (THIRD DAY):

Session 7: Overview of MPDSR implementation in Federal structure

MDR was first designed by the Demography Section, FHD with technical support from WHO and implemented the MDR in Paropakar Maternity Hospital in 1990. In 1996/97 MDR as a part of Nepal MMM study was implemented in Kailali, Okhaldhunga and Rupandehi. After experiences, MDR is changed to MPDSR. Now community MPDSR has been implemented in six districts and FHD is planning to implement MPDSR in five more districts by 2018 i.e. Jumla, Surkhet, Rupandehi, Sarlahi and Sunsari. Similarly hospital-based MPDSR is expanded into 65 hospitals.

As the government structure has been changed into federal structure, the local structures have also changed in the health sector. There are already need in guidance for implementing programs including MPDSR in the changed federal context. Therefore, three groups were formed to identify issues, opportunities, challenges and way forward regarding implementation of MPDSR in federal context. The group formed were as follows:

1. Group 1: Kailali and Kaski

2. Group 2: Baitadi and Banke
3. Group 3: Dhading and Solukhumbu

The teams were assigned to do following tasks:

- **Group1:** Review the MPDSR guideline & program implementation guideline and suggest for possible changes to be made to implement MPDSR in Federal Structure
- **Group2:**
    a. Review the formation and function of existing MPDSR committee at different level suggest for possible changes for Federal Structure
    b. Who would be the MPDSR focal person & what would be the coordination mechanism to implement MPDSR in Federal Structure
- **Group3:** Identify capacity building/orientation activities and tentative budget to effectively implement MPDSR in Federal Structure

Group 1

Suggested for total 8 members in Palika level MPDSR committee which consist of: President/ vice president of local elected body, executive officer, unit incharge of Women and Children Office and education sector, medical officer, health co-ordinator as a secretary, ward level president where maternal death occurs as a invitee and one invitee as suggested by chair.

Similarly, revision was made on Financial provision i.e. 400 allowance for FCHVs and clients incentive. They suggested evaluating logistics monthly. Annual review meeting should be conducted in which both district MPDSR committee and hospital based MPDSR committee members should participate. Palika level committee should be made more responsible for response and orientation should be given to Palika level elected body.

Group 2

Has included total 9 members in MPDSR committee which consist of: Mayor as a chairperson, elected executive committee member, NGOs working on RH, doctor from nearly HF for cause assignment, PHN as a member, Health co-ordinator as a member secretary and FCHV of related ward who notify death. The invited members include: CP of related death, health representative of related ward. This group has explained that the MPDSR committee should be based on the principles which are listed below:

1. Action and response at local level
2. Consideration of Palika
3. Final structure of O & M survey
4. Technical support from province
5. VA at Palika
6. Cause assignment
7. Primary Hospital at Palika
8. Reporting from Palika to province.

Group 3

Has identified to conduct orientation in three level. In district level orientation, DCC/Stakeholder orientation and DToT should be conducted, Palika Orientation, Committee orientation and Health Worker Training at Palika level and FCHV orientation should be conducted in local level. Similarly the budget needed for different orientation as tabulated below:

For DCC/stakeholder orientation

	Unit	Cost	Total cost
Stationary	35	100	3500
TA for participants	35	500	17500
Training Materials	1	2000	2000
Hall rent	1 day	2000	2000
Facilitation charge	3	1000	3000
Supporting staff	2	500	1000
Office Aid	1	300	300
Refreshment	41	200	8200
Miscellaneous	1	2000	2000
Grand Total			**39500**

For Palika level orientation:

	Unit	Cost	Total cost
Stationary	50	100	50000
TA for participants	50	500	25000
DSA	3	8800	26400
Training Materials	1	1000	1000
Hall rent	1 day	1000	1000
Facilitation charge	3	1000	3000
Supporting staff	2	500	1000
Office Aid	1	300	300
Refreshment	56	200	11200
Miscellaneous	1	1000	1000
Grand Total			**74900**

Training conduction of Palika level MPDSR committee in district:

	Unit	Cost	Total cost
Stationary	15	100	1500
TA for participants	15	700	10500
DSA	2	8800	17600
Training Materials	1	500	500

Facilitation charge	2	1000	2000
Supporting staff	2	700	1400
Office Aid	1	300	300
Refreshment	20	200	4000
Miscellaneous	1	500	500
Grand Total			**38300**

Discussion of the group work:

Dr. Chandani presenting abut global updates

Chairperson of the MPDSR committee at Palika level: There was debate on whom to select as the chairperson of MPDSR committee at palika level. One team forwarded their view that Mayor should be the chairperson as he has more power and authority as compared to others and also because the maternal death does not occur much, he can manage the time for the meeting. While, other team forwarded their view that sub Mayor should be the chairperson because most of them are females and MPDSR is also the female issues so they will be more committed and they are also not as busy as Mayor so they will definitely give enough time for the MPDSR meeting. Finally it was decided to keep sub mayor as the head of committee.

Session 8: Global updates on Maternal Health

The main objective to present this was to share the status of Maternal and reproductive health on the basis of national data, global and regional technical updates. In Nepal, there are altogether 13 national policies supporting quality of care for mothers and newborns around time of birth out of which 10 policies are completed, one of them is partially completed and other 2 policies are still pending i.e. Implementation of policies on home-based postnatal care and MDSR mechanisms in place but policy adapted for maternal death notification.

Way Forward:

- Observed fertility decline is likely to be an important driver of change
- Life expectancy increased: women are enjoying better health
- Reduction in high risk pregnancies, possibly in relation to the fertility decline
- Societal changes also part of the decline: education and wealth quintile
- GFR, HDI, GEM, anaemia and age at first birth important factors found to explain variation in maternal mortality at district level
- Specific changes in obstetric care are observed and delivery care (health professional, health facility, met need for emergency obstetric care and Caesarean section) are all increasing.

Session 9: Use of Mobile Technology in maternal death notification

Medic Mobile is non-profit technology company on a mission to build mobile & web tools that help health workers reach everyone. There are altogether 7 forms formed by Medic mobile which provides information about pregnancy registration, ANC visit, delivery report, PNC visit, closing and reopening of client record, notification of death and notification of child health.

Discussion

- Data security issue
- Problems in the use of technology:
  - Due to the FCHV illiteracy level, most of them find it hard to use mobile.
  - Poor mobile Network in rural areas.

  -Maintenance issues once the mobile is broken.

  -No response after notification.

Session 10: Update on reporting in web-based system

Dr. Pooja discussed about online reporting of MPDSR report.

Discussion:

- Skip option
- Preeti front not accepted
- Nepali number not accepted in Ward no. option
- Option for manual typing in the birth date

Closing session

A formal session was conducted for concluding the workshop. Mr. **Dinesh Kumar Chapagain,** Senior Public Health Administrator, Kaski as representative from participants shared his appreciation for conducting the workshop and about the MPDSR program. He shared that MPDSR has sensitized the programs managers and the community towards accountability for reducing preventable maternal mortality. Further, he also added that it was a good learning opportunity from the discussion and experience shared with the teams. He also expressed his expectations that the issues raised during the workshop will be addressed by the center. He committed on a welcome feedback and monitoring from the center and the district will perform their best to achieve the objective of the program. At last, he remarked that coordination would be maintained in the upcoming federal structure transitioning to carry the MPDSR program in the best possible direction.

Dr. Anoma, Medical Officer, WHO SEARO preceded her remarks by appreciating the invitation and the warm welcome from the organizer and participants. She expressed happiness that our country is moving in the positive direction but still there is far more to reach. There is more need of such meetings where sharing of experiences will generate more ideas to lead the program in correct path. In MPDSR, each step carries their own importance but identification and notification need to be strengthened. However, response activities also should be done along with it. Without response, we will know only number and nothing beyond that. Therefore, every step should be done attentively and with high value. She also

requested participants to realize when a woman dies; entire community suffers. Hence, the health staff have a huge responsibility for preventing death of other women due to similar cause.

Mr. Binod Regmi, *General Secretary, NEPHA shared that NEPHA* was delighted to organize the workshop and thankful to the participants for coming in the program. He also mentioned that the program was fruitful due to active involvement from all the participants.

Dr. Sharad Sharma, Senior Demographer, FHD expressed his gratitude towards NEPHA and WHO for organizing the program and the participants for their active participation. Also all the issues raised by different districts shall be addressed and responded by the center in the upcoming MPDSR planning phase. Hence, the district team is also expected to play vital role in the coordination with Palika and Central level in the Federal Structure.

Conclusion

The three days' workshop on MPDSR was successfully completed. All invited participants participated actively, sharing experiences, discussion on MPDSR in federal context, sharing of global experiences and update. The main objectives of MPDSR review workshop were achieved. The district participants were enthusiastic to effectively implement of MPDSR for reduction of maternal and perinatal mortality to achieve the NHSS and SDG target. For further strengthening of the program following recommendations were suggested:

- Sufficient budget should be allocated for implementation of action plan, excess budget under heading of review can be transferred under the heading of action plan activities
- Analysis and interpretation of data received at local and national levels atleast annually
- Develop strong coordination framework to include all related stakeholder to take ownership at community level
- Consensus necessary for guideline revision for federal structure transitioning
- Community to province level orientation and training is necessary at every level. So request to allocate budget as per necessary.
  - Community level
  - Palika level health team
  - Technical training for cause identification team
- MPDSR should be incorporated in national plan and policy to align global perspectives as main activities to achieve the MMR reduction target
- Web based entry system amendment

Annex

List of participants

SN	Name	Organization	Designation	Contact	Email ID
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Agenda of 3 Day Review Workshop(17th- 19th September, 2017)

Day One

TIME	ACTIVITIES	FACILITATOR
10:00-10:15	Registration	
10:15-10:30	Introduction and objectives of the workshop	Dr. Sharad Sharma
10:30-10:45	Remarks	Dr. Naresh Pratap KC
10:45-11:30	Recent updates on MPDSR	Dr.Chandani Anoma Jayathilaka
11:30-12:30	Status of MPDSR implementation in Nepal	Dr. Sharad Sharma
12:30-01:30	Lunch	
01:30-03:00	Sharing of Community-based MPDSR: 3 districts	Keshu Kafle/Om Khanal
03:00-03:30	Tea break	
03:30-05:00	Sharing of Community-based MPDSR: 3 districts	Dr. Punya Poudel

Day Two

TIME	ACTIVITIES	FACILITATOR
10:00-10:30	Review of previous day	Participants
10:30-11:15	Identifying action plans and response mechanism	Keshu Kafle
11:10-12:30	Group work – Action plan preparation	Om Khanal
12:30-01:30	Lunch	
01:30-03:00	Reflection of the Group work	Dr. Sharad Sharma
03:00-03:30	Tea break	
03:30-04:00	Overview of MPDSR implementation in Federal	Dr. Sharad Sharma
04:00-05:00	Group work – Issues, opportunities, challenges	Dr. Pooja Pradhan

Day Three

TIME	ACTIVITIES	FACILITATOR
10:00-10:15	Review of previous day	Participants
10:15-11:15	Reflection of the Group work on Day 2	Dr. Punya Poudel
11:15-12:00	Global Updates on Maternal Health	Dr. Chandani Anoma Jayathilaka
12:00-01:00	Lunch	
01:00-02:00	Use of Mobile technology in maternal death	Om Khanal
02:00-02:30	Update on reporting in web-based system	Dr. Pooja Pradhan
02:30-03:00	Closing session	
03:00-03:30	Tea break	
03:30-04:00	Administrative work	Participants

Workshop Report

Review on Community-based Maternal Death Surveillance and Response (MDSR)

September 17-19, 2017, Kathmandu

World Health Organization Nepal

Nepal Public Health Association

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