NATIONAL PROTOCOL

ON

MATERNAL DEATH AUDIT

MINISTRY OF HEALTH
NATIONAL REPRODUCTIVE HEALTH PROGRAM

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By JICA Project for Improving MCH Service

In Rural Areas in Cambodia

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INTRODUCTION

Mothers all over the world die from the same major complications of pregnancy: hemorrhage, hypertension, sepsis and unsafe abortion. The majority of these deaths are avoidable. Approximately 2000 Cambodian women die each year of pregnancy and childbirth-related causes. Deaths can happen among women with no detectable antenatal signs of risks. Thus, every woman should be assessed every time she comes to the health center and should be considered as a potential emergency case at any time during pregnancy, labor, and delivery and after delivery.

A study in a developing country found that 1 out of every 10 women who died as the result of pregnancy- related complications died on the way to the hospital (sometimes families do not know how to contact a transport worker, no transport is available, it is expensive, or security might be an issue particularly traveling at night).

Gender inequity also shapes maternal and peri-natal outcomes: delays in seeking care (decision-makers or healers), delays in getting to a health facility (own the means of transport or means to pay for it) and delays in receiving treatment once there (high numbers of male health staff) . All three delays show the importance of men's involvement in safe motherhood and that their positive involvement with other resources and activities can help to curb maternal mortality and morbidity.

All maternal deaths must be reported including those that occur at the community level up to those that occur at the tertiary level of health facilities. By itself, the reporting system for maternal deaths is inadequate in providing information regarding the real causes of maternal mortality and morbidity. A Maternal Death Audit can find out important information needed for facilitating access to safe motherhood.

In Cambodia there two maternal death audit pilot projects were carried out between 1999-2000 in Kampong Chhnang and Prey Veng operational districts and are now working independently. UNICEF is also currently supporting three provinces (Kampong Speu, Stung Treng and Syay Rieng) in carrying out maternal death audits.

The purpose of this National Protocol is to provide guidance on how to conduct a Maternal Death Audit (MDA).

GENERAL OBJECTIVE:

To improve the quality of maternal care services and consequently reduce maternal mortality

SPECIFIC OBJECTIVES:

1. To improve national, provincial, district and village level health care systems for safe motherhood by reviewing the circumstances surrounding a maternal death.
2. To strengthen the referral system/linkages between health facilities at different levels.
3. To determine criteria for emergency referral to appropriate health facility.
4. To use the data as a means of evaluating the effectiveness of various strategies and interventions for safe motherhood.
5. To use the data for planning safe motherhood program strategies and activities.

Maternal Death Audit

I-Maternal Death

The death of women while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accident or incidental cause.

Direct maternal death:

Death resulting from obstetric complications of the pregnant state (pregnancy, labor, and puerperium) and abortion or from intervention, omission and incorrect treatment

Indirect maternal death:

Those resulting from previous existing disease or disease that developed during pregnancy or was aggravated by the physiological effects of pregnancy

Late maternal death:

The death of women from direct or indirect cause more than 43 days and one year after abortion, miscarriage or delivery. They can be due to Direct or Indirect causes

II-Maternal death audit

A Maternal Death Audit (MDA) is a qualitative investigation of the causes and circumstances surrounding maternal deaths in a health facility or in the community. The review could be used:

- as part of a Safe Motherhood Needs Assessment (SMNA) or as a stand alone activity.
- to initiate a system to strengthen/institutionalize maternal death reporting and analysis for Safe Motherhood.

Method of MDA could be used:

1. Confidential inquiry into what happens in a referral hospital / health center
2. Verbal autopsy obtaining information from individuals in the community

Deaths occurring in a referral hospital / health center must be reviewed and traced to the community to reconstruct "the road to death" and find available causes of death.

UNDERLYING PRINCIPLES:

-Confidentiality
-Every maternal death must be reviewed
-Information must be shared freely
-MDA should not be a faultfinding exercise or punitive action

a- Confidentiality:

All information gathered couldn't be discussed with anyone who is not part of the MDA Committee. All MDA documents need to be kept in a secure place. Thus, every attempt must be made to maintain confidentiality at all times.

b-Every maternal death must be reviewed:

Every death of a pregnant woman or within 42 days of termination of pregnancy must be investigated:

All cases of maternal deaths must be identified and reviewed. Therefore, the system established must cover referral hospitals and health centers and community.

c-Information must be available freely:

There must be close rapport between referral hospitals, health centers, community, private sector providers and government staff.

D-MDA should not be a faultfinding exercise or punitive action:

MDA are quality improvement tools for safe motherhood that provide learning opportunities to improve the maternal care system. The MDA follows the "No blame policy". We want to identify the problem areas to prevent further deaths occurring. The following principles have to be recognized in the investigation or review system There must be a system of cross-review of investigations which must be comprehensive and rapid that impartiality of investigations has to be ensured.

III- Component of MDA committee

Maternal death audit committee may include:

National level committee:

- Reproductive health program
- National maternal and child health center
- Department of planning and health information system

  This committee is the leader of MDA process and receives the report of province, city and operational district investigation team on avoidable factors.

Terms of Reference for the committee:

1-Review the causes and circumstances surrounding maternal deaths
2-Making recommendation and establish the strategy to reduce maternal death
3-Organize and conduct national annual workshop on maternal death audit

Provincial level committee:

The committee will consist of the following permanent members:

1- Director/Vice Director, Provincial Health Department	Chief
2-Chief /Vice Chief, Technical Bureau	Vice chief
3- MCH Chief Province/city	Secretariat
4-Director, Operational District (all ODs)	members
5-OD MCH Chief (all ODs)	members
6-Director, Referral Hospital	members
7-Chief maternity ward Referral Hospital	member
8-Two midwives from Provincial MCH	members
9-Health information system and planning	members

The nomination base on the situation of each province

Terms of Reference for the committee:

1-To organize meeting

2-To investigate all reported cases of maternal death within one week after notification.

3-To organize special meetings concerning a maternal death case, within one week after the investigation.

4-Tomake recommendations for action aimed at reducing the number of preventable maternal deaths and follow up on the implementation of the action plan.

5-To produce a report about every investigated maternal death case, and distribute this to the Provincial Health Department, Referral Hospitals and Health Center. Make the report and annual plan of maternal death investigation.

INVESTIGATION PROTOCOL

1. **Notification of maternal death**: As soon as possible after the death of a woman during pregnancy or within 42 days of abortion or delivery, the health worker who becomes aware of the death should complete the *"Notification of Maternal Death Form"* and send it immediately to the Chief of Provincial MCH. This should complete for all deaths whether they occur at home, in the health center or the referral hospital.

2. **Investigation of maternal death**: Within one week of receiving the notification, the Chief of Provincial MCH will select an investigation team consisting of three committee members (select from PHD and OD) and a midwife from the health center closest to the home of the dead woman. The team will interview the family and complete the *"Investigation of Maternal Death Form"*.

3. **Review of the maternal death by the committee**: Within one week after the questionnaire being completed the committee will meet to discuss the findings. If the death occurred in the hospital and the records are available, the committee may use this information to add to the information obtained from the family. The committee will decide on the information available what is the most likely cause of death and what other factors may have contributed to the death. The committee will especially be looking for preventable causes of death.

4. **Making recommendations by the committee**:
   The committee will make recommendations for actions aimed at preventing further deaths. Recommendations may include:
   - Offering training and / or counseling for the Traditional Birth Attendant (TBA), midwife, doctor or other person assisting with the care of the mother where it is felt this would help them manage a similar case better next time.
   - Recommend training for all midwives or doctors and TBAs in areas where the investigation suggests that knowledge needs to be improved ect…

Terms of Reference for the chief of Provincial MCH:

- Receiving the notifications
- Arranging the investigation team
- Convening the committee meeting
- Recording the recommendations of the committee in the following format:

Problem identified	Action to be taken	Who is responsible for the action	When is the action to be taken
1.			
2.			
3.			
4.			

- Recording at the next meeting what action has been completed and what needs to be done.

INFORMATION COLLECTED

A. Direct Inquiry into Maternal Death

There is several *"Investigation of Maternal Death Form(s)"* that have been pre-tested and approved by the National Reproductive Health Program (NRHP) for use. The Committee for the Investigation of Maternal Deaths at the operational district is responsible to selecting which form best meets their needs. The common details covered in all these forms is listed below:

. Identification details of mother who died
. Name, designation and signature of investigator
. Personal particulars of mothers to include education and occupation
. Details of death and cause of death
. Past medical and obstetric history
. Previous obstetric and medical history before death
. Details of antenatal, delivery and postnatal care given to mothers including emergency care
. Comments and conclusions by the investigation team for the use of the committee for investigation of maternal deaths
. Information available in this format should include the following:

Antenatal care:
-Adequacy of care (national guideline)
-Appropriateness of care (national guideline)
-Referrals made / compliance of mother
Delivery:
-Appropriate of management
-Detection and management of complications
-Delays in management
-Problems encountered in referrals
-Category of staff involved in management
Postnatal Care:
-Timely detection of complications
-Adequate management of complications
Probable cause of death

B. Verbal Autopsies for Maternal death:

Verbal autopsy is a technique developed to ascertain the cause of death in situations where access to medical care is limited and where a significant proportion of maternal deaths occur at home in the absence of trained medical personnel.

It consists of interviewing people who are knowledgeable about the events leading to the death. This technique provides information beyond the immediate cause of death, which can point out to possible interventions to prevent similar situation in the future

Any interview to ascertain causes of death should address the non-medical circumstances leading to death as well as the obstetric/medical causes of death. The description of all the events surrounding each maternal death is important because it serves

as a basis for development of more comprehensive strategies for prevention. The maternal death interview can consist of:

Verbal determine of the clinical causes of death
Interview with relatives (neighbors) of the deceased to reconstruct events prior to death in order to reach a medically accepted, obstetric/medical diagnosis.

Verbal determination of the non-clinical causes of death
This is a reconstruction of factors associated with care-seeking behavior and access to and delivery of services.

Verbal history taking
These include age, parity, education and other social variables.
The following should be included in all questionnaires:

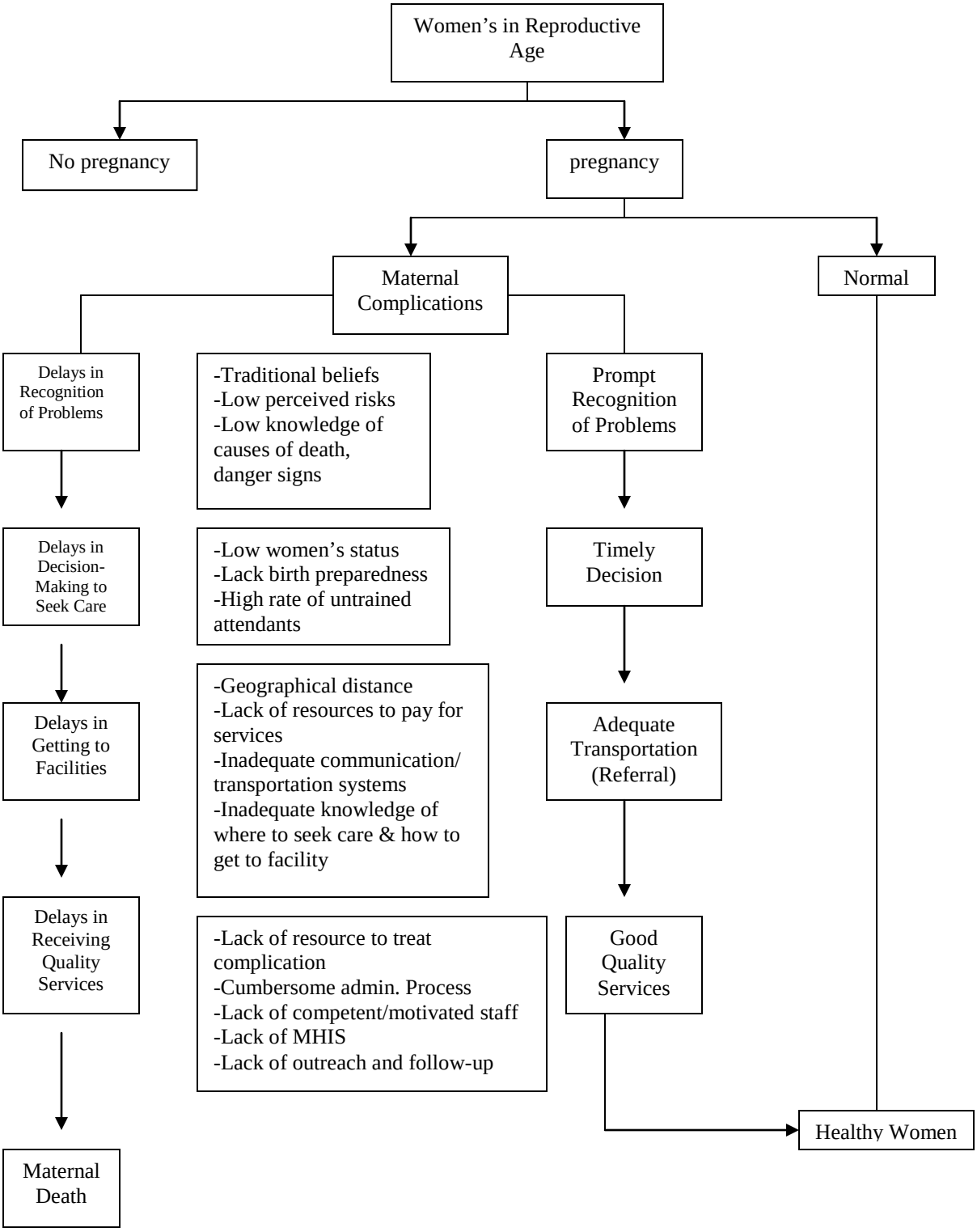
-Identification of respondents
-Identification of deceased
-Time of death
-Place of death
-Cause of death as reported by respondents
-Place of delivery
-Socioeconomic characteristic of the household
-Maternal age
-Previous history (profession, gravida)
-Attendants at delivery
-Outcome of the pregnancy
-Care received before labor (use of antenatal care)
-Care received during labor
-Mode of delivery

Contributing factors of death includes all the factors which influence the care sought and received during pregnancy and the puerperium. Contributing factors are less easy to classify than medical syndromes or diseases. Nevertheless, a group of broad issues should be addressed in each post-partum interview for the identification of causes of death. The broad groups of questions have to do with the delays in receiving treatment and quality of the health services. Factors related to medical management, although recognized as a potentially important cause of death, could not be arrived at through a postpartum interview of the family.

A list of broad causes to be addressed includes:

1. Delay:
   -Delay in seeking care
   -Delay in arriving at appropriate level of care
   -Delay in receiving care at the institution
2. Resources
3. Personnel

Flowcharts for causes of maternal death



COLLECTING THE DATA

This step is more likely to be supported if all staff / health providers are given good information early on about the purpose of conducting a review of maternal death. A sensitive approach will assist interviewees to trust the data collectors/interviewers. Service shortcomings and individual professional responsibilities will be explored, but the main point to convey from the outset is that the research is for finding ways to improve care rather than to blame.

Collecting Data from the Health Facility

Medical records:
Using the list of maternal deaths in the facility, the data collector will just aim to find the medical records. If the records are found, the data collector can extract details for the maternal death form.

Staff interviews:
Inspection of the medical records should reveal the main care providers from time of admission and to the time of death.

The aim of conducting a staff interview is to involve the main care providers for each maternal death under review. Interviews should be held at a time convenient to the interviewee and in an environment in which privacy can be guaranteed, and preferably also free from interruptions.

The data collector needs to start by introducing himself and then re-emphasize the purpose of the interview. An explanation should be given that written notes, together with reassurance that staff confidentiality will be maintained, will record the interview.

In most cases, it is likely that the interview will be an individual staff interview, if a group interview is conducted, ground rules need to be set and agreed upon regarding the strict confidentiality of the discussion.

As a source of data, the interview aims to build upon the picture of events surrounding the death which emerged from the medical records. The data collector will already have formulated a picture but it is important that this does not dominate the interview. Instead it should highlight those issues needing further elaboration.

For example, the records may say that the relatives of a woman refused her being given a blood transfusion, so the interview may help us to understand reasons for this, such as cost of the transfusion, religious objections or lack of screened blood.

The interview is also the opportunity for staff to express their views, and the data collector should allow the discussion to be directed by them as much as possible. A balance needs to be maintained between this freedom of expression and the need to cover key topics. A checklist of these topics can assist the data collector.

Again a balance is needed between facilitating the interview and recording the discussion. Verbatim (word for word) recording of the conversation by hand is not feasible, rather the data collector should aim to note the flow of topics in the discussion and key phrases which highlight points or strong views expressed by the interviewee(s).

The checklist of topics does not have to follow any particular order, although usually a chronological approach helps recall. For example, the discussion may begin with woman's admission, proceed with her deterioration, and end with the death.

Staff should also be asked about their understanding of relevant factors about care and treatment before the woman arrived at the facility. The interview may conclude with the interviewee's opinion of avoidable factors (that is circumstances or actions which if avoided would or could have averted the death). For example, availability of antibiotics is likely to have avoided a death owing to puerperal sepsis.

The categorization of avoidable factors should be based on the interviewee's opinion, without direction from the data collector. The pooling of all interviewees' responses, together with findings from the interviews in the community and the medical record extract, will be used by the MDR team at each facility to arrive at an overall judgment on avoidable factors for each case, as discussed later.

Collecting Data from the Community:

Having finished gathering data at the health facility, the data collector can proceed to trace back the woman's "road to death". This can be a challenging phase of the review and requires considerable detective skills and diplomacy. It is important that the data collector is fully aware from the outset of the extreme care and sensitivity needed in discussing maternal deaths in the community, especially with close relatives.

As with the interviews at the facility, the aim is to speak to those individuals who are most knowledgeable about a maternal death, and particularly the events before the woman arrived at the facility. Who these individuals are will vary case by case. Sometimes for example, it may be the woman's mother or husband; other times it may be the TBA. The data collector will need to make a judgment separately for each death, and seek out the two or three most informed persons.

Identifying these people may start at the facility through the information on the medical records indicating who accompanied the woman and who is the next of kin, may interview those people.

In some settings, permissions and approvals from a local authority must be needed before any interviewing can take place. These authority figures may also help find the address of the respondent being sought.
In some cases, the situation may be impossible and no relative or other knowledgeable person can be located; here the story cannot be completed, although usually the information from the health facility may still be useful.

Where relatives can be found, it may be appropriate to let them know in advance about the case-review and get their co-operation. Setting appointments for interviews may be feasible and will help to avoid wasted visits.

To enable the respondent to influence the discussions from the beginning, it is suggested that the first question is broad and open, such as:

-Can you tell me what happened before she died?
-What do you think caused her to die?

The data collector should be sensitized to terms, which capture the respondent's feelings, rather than trying to record all that is said.

Avoidable factors can be used here as a way to conclude the interview. The aim is to find out the respondent's personal opinion on the major factors contributing to the death. Research studies have suggested that discussing types of delays in the woman receiving appropriate care can help focus the discussion. Where there is uncertainty about aspects of the woman's care, the data collector may ask whether the woman had her own Mother's Health Record and, if so, is it available. The data collector may encounter a number of barriers during the community interviews:

-Relatives may be reluctant to talk about the death, particularly if a traditional belief there is.
-There could be an unwillingness to talk about abortion-related deaths.
-Some respondents may feel particularly responsible for the tragedy, such as the TBA who delayed referring the woman, or the husband who could not afford to pay for transport.

In all these situations, the skills of the data collector will be highly tested. Both the initial selection of data collectors and their subsequent training or supervision, should take into account the real challenges of conducting a MDA.

Summarizing the data:

The data collection process for each maternal death will have generated detailed information. The next step is to bring the elements together to create as complete and clear a picture as possible of the events surrounding the death. This key step should involve all members of the review team. Dedicated time should be put aside for the team to meet at this stage.

In preparation for this meeting, the main data collector should prepare a short written summary for each death of the events as they see them, incorporating all sources of data- from the facility and community.

The summary should highlight:

- key points from the checklists
-avoidable factors and details of their classification
-delays in seeking and receiving care
-quotations from interviewees that illustrate key points
-inconsistencies between the various data sources.

The review team should use this summary as a starting point for their discussions, but also consult the other sources. The end-point for each maternal death reviewed is a consensus statement on avoidable factors. This can be arrived at by asking each team member to individually rank factors which they feel were significant, for these rankings to be shared, and then final agreement reached by the team.
In many instances, specific areas for improvement of practices within the community and facility will emerge from the review process.

USING THE FINDINGS FOR ACTION:

Avoidable problems and possible solutions is not an end in itself. The MDA team needs to agree on the strategy for disseminating the findings and stimulating action. Dissemination will need to occur at several levels and to several different audiences. The MDA team should target the key messages they wish to make to each audience.

At least four main groups should receive the overall findings:

- the local communities from which the cases originated
- the staff at the facilities where the deaths took place
- the operational district / provincial MDA team
- the decision-makers and authorities at provincial or national levels.

Feedback should also include appropriate acknowledgements to people who co-operated, and the views of local communities.

At the level of health facilities, the coordinators may identify specific actions, such as changes in assignments or in-service training in obstetric life-saving skills. Here the district representative, who participated in the MDA team, should undertake to raise these points with the appropriate authorities. Feedback should aim to be constructive rather than destructive, with an emphasis on ways to improve services for future. Staff at the facility should be given an opportunity to comment on the findings and offer suggestions on how any future MDA could be enhanced.

Notification of maternal death form

The notification form is to be completed and forwarded to the Chief Provincial MCH as soon as possible after a maternal death wherever it occurred-at home, at the health center, hospital or elsewhere.

NOTIFICATION OF MATERNAL DEATH FORM

Name of Deceased: ----------by-name: ----------

Age: ----------

No. of Pregnancies: ----------

Husband Name: ----------

Close relative or husband ----------

Village: ----------

Commune: ----------

District: ----------

Province/city: ----------

Date of Death: ----------

Place of Death: ----------

Cause of Death: ----------

Reported to: ----------

Reported by: ----------

Date of report: ----------

INVESTIGATION OF MATERNAL DEATH FORM

Date of fill in: ----------

Name of filler: ----------

Position of filler: ----------

I. Maternal death detail

Name of Deceased: ----------by-name: ----------Age:--------Profession:----------

Educational: ----------

Husband's Name: ---------- by-name: ----------Age:----------Profession:----------

Educational: ----------

Address: ----------

Name of interviewee: ---------- relationship with woman----------

Date of Death: ----------Time: ----------Place: ----------

Distance from woman home to HC: ----------Kilometer

Transportation means and duration: ----------

Gestation Age before death (week /month): ----------

II. Medical history

Has she ever had serious illness or cesarean section? ☐Yes ☐No

If yes, describe: ----------

III. Pregnancy history (Not last pregnancy)

Number of pregnancy: ----------

Number of abortion: ----------induced abortion----------

Number of delivery: ----------

Problem during pregnancy: ----------

Problem during delivery: ----------

Problem after delivery: ----------

IV. Antenatal care (last pregnancy)

Care received	☐ Yes	☐ No	☐ Don't know
If yes provide by	☐ Doctor	☐ Midwife	
	☐ TBA	☐ Other	
Visit at	☐ Home	☐ HC	
	☐ Private clinic	☐ Other	
Mother health record	☐ Yes	☐ No	
If yes	☐ Fill in	☐ don't fill in	☐ don't know
Numbers of visit	☐ 1-2 times	☐ 3-4 times	
	☐ > 4 times		

Gestation age on fist visit: ----------month

Reason of visit	☐ Yes	☐ No	☐ Don't know

If yes describe: ----------

V. Medical and death history (last pregnancy)

Fever	☐ Yes	☐ No	☐ Don't know
Hypertension	☐ Yes	☐ No	☐ Don't know
Eclampsia/convulsion	☐ Yes	☐ No	☐ Don't know
Edema/blurred vision	☐ Yes	☐ No	☐ Don't know
Bleeding	☐ Yes	☐ No	☐ Don't know
Death during	☐ pregnancy	☐ labor/delivery	
	☐ after delivery	☐ abortion	

Maternal Death in Spontaneous Abortion

VEBAL AUTOPSIES FOR MATERNAL DEATH

Date of abortion: ----------

Place of abortion: ----------

Trauma (related the pregnancy): ----------

Medicine used ☐ Yes ☐ No ☐ Don't know

If yes, what kind of medicine? ----------

Fever ☐ Yes ☐ No ☐ Don't know

Genital infection ☐ Yes ☐ No ☐ Don't know

If yes specify: ----------

Lower abdominal pain ☐ Yes ☐ No ☐ Don't know

Vaginal bleeding ☐ Yes ☐ No ☐ Don't know

If yes, quantity of blood: ----------length:----------

Expulsion the fetus ☐ Yes ☐ No ☐ Don't know

Expulsion the placenta ☐ Yes ☐ No ☐ Don't know

If no, received the treatment at ☐ home ☐ private clinic ☐ health service

Intervention ☐ Yes ☐ No ☐ Don't know

If yes, who do intervention? ----------

After abortion:

Fever ☐ Yes ☐ No ☐ Don't know

Vaginal bleeding ☐ Yes ☐ No ☐ Don't know

If yes, quantity of blood: ----------smell: ----------

Abdominal rigidity ☐ Yes ☐ No ☐ Don't know

Suspect diagnosis: ----------

Could the death preventable? ☐ Yes ☐ No

If yes how to manage? ----------

Detail of the event related to maternal death

(Write the event including the family information and other information source such as mother health record or hospital record if available).

Signature of investigator

Maternal Death in Induction of Abortion

VEBAL AUTOPSIES FOR MATERNAL DEATH

Date of abortion: ----------

Place of abortion: ----------

Medicine used	☐ Yes	☐ No	☐ Don't know
Other used	☐ Yes	☐ No	☐ Don't know
Abortion by	☐ Myself	☐ TBA	☐ Health staff
Pain in abdomen	☐ Yes	☐ No	☐ Don't know
Heavy bleeding	☐ Yes	☐ No	☐ Don't know

After abortion:

.Fever	☐ Yes	☐ No	☐ Don't know
.Bleeding	☐ Yes	☐ No	☐ Don't know

If yes specify: ----------

If yes, quantity of blood: ----------smell:----------

.Abdominal rigidity	☐ Yes	☐ No	☐ Don't know
.Convulsion	☐ Yes	☐ No	☐ Don't know

Suspect diagnosis: ----------

Could the death preventable? ☐ Yes ☐ No

If yes how to manage? ----------

Detail of the event related to maternal death

(Write the event including the family information and other information source such as mother health record or hospital record if available).

Signature of investigator

Maternal Death during Pregnancy

VEBAL AUTOPSIES FOR MATERNAL DEATH

Convulsion	☐ Yes	☐ No	☐ Don't know
Edema	☐ Yes	☐ No	☐ Don't know
Edema of face	☐ Yes	☐ No	☐ Don't know
Hypertension	☐ Myself	☐ TBA	☐ Health staff

If yes, measure blood pressure ----------

Blurred vision	☐ Yes	☐ No	☐ Don't know
Tired while do minor work	☐ Yes	☐ No	☐ Don't know
Pallor	☐ Yes	☐ No	☐ Don't know
Thin	☐ Yes	☐ No	☐ Don't know
Diarrhea	☐ Yes	☐ No	☐ Don't know

If yes duration: ----------day

Fever	☐ Yes	☐ No	☐ Don't know
Jaundice	☐ Yes	☐ No	☐ Don't know

If yes duration: ----------day

Vaginal bleeding	☐ Yes	☐ No	☐ Don't know

If yes quantity of blood: ----------

Vaginal examination while bleeding	☐ Yes	☐ No	☐ Don't know
Vaginal examination increase bleeding	☐ Yes	☐ No	☐ Don't know
Pain while bleeding	☐ Yes	☐ No	☐ Don't know
Bleeding during pregnancy	☐ Yes	☐ No	☐ Don't know
Abdominal injury	☐ Yes	☐ No	☐ Don't know
Abdominal distension before death	☐ Yes	☐ No	☐ Don't know

Smelling fluid ☐ Yes ☐ No ☐ Don’t know

Other disease during pregnancy ☐ Yes ☐ No ☐ Don’t know

If yes, detail: ----------

Suspect diagnosis: ----------

Could the death preventable? ☐ Yes ☐ No

If yes how to manage? ----------

Detail of the event related maternal death

(Write the event including the family information and other information source such as mother health record or hospital record if available).

Signature of investigator

Maternal Death during Labor /Delivery/after delivery for 24 hours

VEBAL AUTOPSIES FOR MATERNAL DEATH

Baby birth before mother death ☐ Yes ☐ No ☐ Don't know

Duration of labor: ----------

Date of birth: ----------

Birth place ☐ home ☐ private clinic ☐ health service

Birth attendant ☐ doctor ☐ midwife ☐ TBA

Number of baby inside the abdomen ☐ one ☐ two ☐ three

First baby:

Live birth ☐ living ☐ death ☐ Don't know

Present alive ☐ living ☐ death ☐ Don't know

If death, age:----------hours

delivery with intervention ☐ Yes ☐ No ☐ Don't know

If yes, mode of intervention:----------

Presentation ☐ head ☐ foot ☐ other

Second baby:

Live birth ☐ living ☐ death ☐ Don't know

Present alive ☐ living ☐ death ☐ Don't know

If death, age of death:----------hours

Delivery with intervention ☐ Yes ☐ No ☐ Don't know

If yes, mode of intervention:----------

Presentation ☐ head ☐ foot ☐ other

Third baby:

Live birth ☐ living ☐ death ☐ Don't know

Present alive ☐ living ☐ death ☐ Don't know

If death, age:----------hours

Delivery with intervention ☐ Yes ☐ No ☐ Don't know

If yes, mode of intervention:----------

Presentation of baby ☐ head ☐ foot ☐ other

Situation of woman before death:

Convulsion before death ☐ Yes ☐ No ☐ Don't know

If yes how many time:----------

Stop convulsion after birth ☐ Yes ☐ No ☐ Don't know

Vaginal bleeding ☐ Yes ☐ No ☐ Don't know

Vaginal examination while bleeding ☐ Yes ☐ No ☐ Don't know

Vaginal examination increase bleeding ☐ Yes ☐ No ☐ Don't know

Pain during bleeding ☐ Yes ☐ No ☐ Don't know

Spontaneous placenta delivery ☐ Yes ☐ No ☐ Don't know

If no mode of intervention: ----------

By whom: ----------

Duration of delivery the placenta: ----------

Medicine taken before delivery ☐ Yes ☐ No ☐ Don't know

Fever before death ☐ Yes ☐ No ☐ Don't know

Jaundice appear in delivery ☐ Yes ☐ No ☐ Don't know

Jaundice appear during death ☐ Yes ☐ No ☐ Don’t know

If yes length of jaundice: ----------

Suspect diagnosis: ----------

Could the death preventable? ☐ Yes ☐ No

If yes how to manage? ----------

Detail of the event related maternal death

(Write the event including the family information and other information source such as mother health record or hospital record if available).

Signature of investigator

Maternal Death within 42 days of Delivery

VEBAL AUTOPSIES FOR MATERNAL DEATH

Baby birth before maternal death ☐ Yes ☐ No ☐ Don't know

Duration of labor: ----------

Date of birth:----------

Birth place ☐ home ☐ private clinic ☐ health service

Birth attendant ☐ doctor ☐ midwife ☐ TBA ☐ other

Number of baby inside the abdomen ☐ one ☐ two ☐ three ☐ > three

First baby:

Live birth ☐ living ☐ death ☐ Don't know

Present alive ☐ living ☐ death ☐ Don't know

If death, age:----------hours

Delivery with intervention ☐ Yes ☐ No ☐ Don't know

If yes, method of intervention:----------

Presentation ☐ head ☐ foot ☐ other

Second baby:

Live birth ☐ living ☐ death ☐ Don't know

Present alive ☐ living ☐ death ☐ Don't know

If death, age:----------hours

Delivery with intervention ☐ Yes ☐ No ☐ Don't know

If yes, mode of intervention:----------

Presentation ☐ head ☐ foot ☐ other

Third baby:

Live birth ☐ living ☐ death ☐ Don't know

Present alive ☐ living ☐ death ☐ Don't know

If death, age:----------hours

Delivery with intervention ☐ Yes ☐ No ☐ Don't know

If yes, mode of intervention:----------

Presentation of baby ☐ head ☐ foot ☐ other

Condition of woman before death:

Convulsion before death ☐ Yes ☐ No ☐ Don't know

Stop convulsion after birth ☐ Yes ☐ No ☐ Don't know

Vaginal examination ☐ Yes ☐ No ☐ Don't know

If yes quantity of blood: ----------

Vaginal examination while bleeding ☐ Yes ☐ No ☐ Don't know

Vaginal examination increase bleeding ☐ Yes ☐ No ☐ Don't know

Pain during bleeding ☐ Yes ☐ No ☐ Don't know

Spontaneous placenta expulsion ☐ Yes ☐ No ☐ Don't know

If no, do interventions by: ----------

Duration of intervention: ----------

Duration of placenta expulsion: ----------

Medicine taken before delivery ☐ Yes ☐ No ☐ Don't know

Fever before delivery ☐ Yes ☐ No ☐ Don't know

Jaundice in delivery ☐ Yes ☐ No ☐ Don't know

Jaundice in death ☐ Yes ☐ No ☐ Don't know

If yes, length of jaundice: ----------

Suspect diagnosis: ----------

Could the death preventable? ☐ Yes ☐ No

If yes, how to manage? ----------

Detail of the event related maternal death

(Write the event including the family information and other information source such as mother health record or hospital record if available).

Signature of investigator