DEPARTMENT OF PUBLIC HEALTH AND FAMILY WELFARE, GOVERNMENT OF MAHARASHTRA

Guidance on

MATERNAL AND CHILD DEATH REVIEW AT DISTRICT LEVEL

Improving maternal and child survival and development is one of the key goals of National Health Mission (NHM). It is acknowledged that most maternal and child deaths occurring in the State are preventable as reasons for such deaths are the most common conditions, for which the prevention and treatment strategies are available and implemented. So every maternal and child death therefore is unfortunate and there are actionable points to be drawn from each such death so that the underlying causes can be identified and gaps in the implementation and delivery maternal and child health services are addressed through actions at various levels of the healthcare delivery system.

The purpose of this guidance note is to establish a process through which all maternal and child deaths are investigated and reviewed. Also this will help district and block level functionaries in identification of societal/community and health system related causes leading to deaths for which necessary actions are taken through the public health system.

I hope that this guidance note on maternal and child death review will streamline the process of review and audit across the State and will help districts to prepare most appropriate and timely action plans for local conditions in rural and urban areas.

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Maternal and Child Death Review is already been in place district level as a strategy for identifying gaps and response for these identified gaps.

The already established system and platforms like district maternal / child death review committee will benefit from the this document for identification of gaps and strengthening program implementation at local level This will bring greater accountability at district level from frontline workers upto district officials and also empower them with actionable information for preparation of local level action plan and implementation

We hope that the understanding of the gaps and systemic bottlenecks related to major causes of maternal and child deaths will help us in directing our all efforts into the most important and critical interventions for the most vulnerable geographical areas and populations.

I give my best wishes to district and State team for the preparation of actionable plans and reducing maternal and child mortality further.

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FOREWORD

State is already implementing programs for maternal and child death review as per guidelines given by MoHFW for last many years. This guidelines give instructions regarding immediate reporting, brief and detail investigation, data transmission from PHC to district for monthly reporting. Also guidelines regarding district level review of sample child death cases and all maternal death cases are already in place where in district level officers review these deaths in detail and find out common areas which require immediate action.

This document contains additional templates for investigating gaps related to society/family, health service delivery, monitoring of program and policy level issues for major causes of maternal and child death. This specific death cause wise guidance template will help districts to identify gaps related to specific causes of maternal and child deaths and gaps in delays related to these deaths.

Also template for preparation of action plan and monitoring of suggested activities is given for district to assess the progress made on various activities.

For preparation of action plan, a brief summary of major causes of deaths having information related to definition, risk factors, major interventions is also given as a readymade template for guiding district committee.

This document is expected to use for individual death review/audit and also cumulative data analysis. This data analysis in detailed and systematic fashion is expected to facilitate formation of district specific road map for achieving single digit maternal and child death.

I hope this document will help district level committee for proper identification of gaps and preparing actionable plan for reducing future maternal and child deaths.

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EXECUTIVE SUMMARY

State has made substantial improvement in the reducing the number of maternal and child deaths since the start of National Health Mission in 2005. However many preventable maternal and child deaths still occur because of lack of quality of care, socioeconomic issues, gaps in health delivery especially in remote, rural and tribal areas of the State. In order to reduce the number of maternal and child deaths further, State needs to improve quality of care given around birth and address the modifiable factors that contribute to majority of deaths.

Understanding the circumstances and the modifiable of factors that lead to maternal or child death can prevent these deaths. Audit and review of maternal and child deaths is an important tool for identifying gaps in health service provision at facility or community level. This also helps in identification of socioeconomic factors which are directly or indirectly leading to mortality. This identification of gaps in service delivery can help in planning various interventions to improve the quality of care in health facilities and in communities. This is also essential for identifying new health interventions and reforms in health system at local and State level.

For this purpose, all public health facilities providing services to pregnant women and children need to establish an effective system for maternal and child death reviews. Also, at block and district level, committees on maternal and child death review need to have regular monitoring and review of maternal and child deaths. Maternal and child death audits along with reviews provide in detail information regarding how a similar death may be avoided in the future.

This document helps in providing guidance to district and block level health functionaries for establishing and conducting maternal and child death reviews as part of improvement in overall quality of care provided at facility and in community.

The guidance note describes in detail the key parameters of maternal and child death audit and review at facility and district level. The steps in the death audit and review are: (i) Notification of Death, (ii) Investigation of Death (First Brief Investigation and Detailed Investigation including verbal autopsy, Identifying the causes of death and potentially modifiable factors) (iii) Data Transmission iv) Analysis of data and recommending solutions or actions, (v) implementing an action plan (vi) monitoring the implementation of action plan.

This guidance note includes forms for notification, investigation of death. This also includes template to identify gaps in society/family, health service delivery, monitoring and policies for major causes of maternal and child deaths. Also, a short summary brief information on major causes of deaths, definition, risk factors associated, diagnosis and preventive actions is given for districts to plan interventions.

The annexures in the guideline provide forms for notification of death, brief and detail investigation of deaths for assigning cause of death, templates for asking key questions for major causes of maternal and child deaths regarding gaps in different areas (society/family, health service delivery, monitoring and policies) and level of delays, summary line list format for death review meeting and summary action plan format for preparation of action plan along with compliance.

CHAPTER 1: BACKGROUND AND PURPOSE

BACKGROUND

Reducing maternal and child mortality is one of the key goals under National Health Mission. There are various programs implemented to prevent maternal and child mortality. Over the years there has been decline in maternal and child deaths. Maharashtra has already achieved SDG goals for maternal and child mortality. However, there are some variations in urban and rural areas as per SRS surveys. So, to reduce mortality further down focus has to be given on areas, age groups where mortality is high. For this purpose, specific interventions are to be made for major causes of maternal and child mortality. This requires identification of gaps in health service delivery, monitoring of programs and issues related to socioeconomic conditions.

Districts are required to undertake this in-depth analysis for identification of gaps and formulation of local context specific implementation plan on key maternal and child health strategies identified based on mortality patterns. This will be possible if special efforts are made to investigate maternal and child death in depth for identification of information required to prepare plans specific to districts. This kind of analysis will help district and State program managers to identify key gaps for health service delivery at facility and community level.

The objectives of maternal and child death audit are

- To report all maternal and child deaths
- To ensure that each death is assigned a cause or causes
- To ensure to identify preventable causes and areas of improvement
- To investigate in detail about health services provided and whether they are provided as per guidelines and treatment protocols
- To identify 3 types of delays in each case of death as well as reasoning for these delays and to identify the actionable actions to reduce these delays.
- To investigate the social, family and individual related risk factors for any death;
- To identify gaps in health service delivery, monitoring of programs and policies
- To identify geographical areas having high mortality
- To identify possible modifiable factors in all such areas
- To plan interventions to change modifiable factors to improve the quality of care and avoid similar deaths in future
- The death audit also shall be used as tool for monitoring the implementation of activities/program to reduce the maternal and child death
- The ultimate aim of death audit is to improve the quality of care, to prevent maternal and child deaths.

Purpose of this document

State has already issued guidelines for conducting maternal and child death audit. This document suggests the possible approach towards doing maternal and child death review which will help district level officers to identify gaps for major reasons of maternal and child deaths in various areas like societal/family issues, health service delivery, monitoring of programs and policy level gaps. Also, template will help to identify reasons behind level of delay related to above areas.

This document will help district officers to prepare action plan based on identified gaps and monitoring of plan to achieve desired results.

The purpose of this document is to;

- To enlist the steps for MDR and CDR at the health facility and community levels.
- To identify specific cause related gaps in individual or societal issues, health service delivery, monitoring of programs and policies along with causes for level of delay in these areas.
- To prepare plan based on identified gaps and monitoring of action plan by district level committee.
- To provide guideline related to notification, investigation and data transmission under MDR and CDR programs.

Chapter 2: Key Steps in Maternal Death Review

Key steps of maternal death review are summarised in this section. Details of maternal death review have been given in the guidelines issued previously by the department. (Annexure No. 9 & 10)

- All the maternal deaths reported during month, should be investigated irrespective place of the death. Every death shall be investigated within 15 days of reporting by district committee.
- Maternal death review process should be taken at both community and facility level.
- Linelist of all maternal deaths is to be prepared every month.
- It is crucial that district officials should monitor the reporting deaths from high delivery load facilities as well as from high priority areas in the district.
- Focus on the blocks or facilities who have reported zero deaths.
- Special emphasis should be given to deaths occurred during home delivery and during transit.

A. Community based maternal death review

- Verbal Autopsy - Interview of family members or neighbours who are knowledgeable about the events leading to the death.
- All maternal deaths should be reviewed to explore the personal, family and community factors.

Steps-

- **Notification:** All deaths of women in the age group of 15 to 49 years irrespective of the cause i.e. maternal or non-maternal will be reported by ASHA within 24 hours to ANM and Medical Officer PHC / UPHC / Health Post. This is to be given in the FORM No. 1 (annexure no. 10)

After receipt of information from ASHA/Informant, ANM and Health Supervisor will verify whether death occurred during pregnancy or in post-natal period (within 42 days). After verification ANM will countersign format and send to MO PHC/UPHC.

- **Investigation:** Verbal autopsy to be done within 3 weeks by the three-member team comprised either of Medical Officer/CHO, LHV, ANM, ASHA BF, ASHA. Ensure that at least one member should be a woman. This team will undertake the analysis of social factors, health service delivery and monitoring gaps, policy level gaps and delays associated with the death (templates for asking questions regarding above areas for different causes of maternal deaths attached in annexure no.1 to 2)
- **Data transmission:** Send line list of maternal deaths to district / corporation nodal officer on the 5th of every month; share the completed investigation format to district as well
- **Analysis:** Analysis of data at block level and share the findings to district
- **Review:** District MDSR committee (CS as chairman) and Committee under chairmanship of CEO, Zila Parishad will review the data collected from community level audits.

B. Facility based maternal death review

Facility based maternal death review helps in improving the quality of maternal care and responsiveness of the health facility in the emergency conditions.

All district hospitals, medical colleges, subdistrict hospitals and rural hospitals should conduct monthly facility based maternal death review.

Steps-

- **Notification:** Information of death to Facility In-charge by Medical Officer on duty and from facility in-charge to district within 24 hours of death.
- **Investigation:** Detail investigation of maternal death is to be done at facility level. In case of Medical Colleges, Officer no lower than Associate Professor level along with treating doctors is expected to

investigate the case in detail. At DH/SDH/RH, MS/ACS/Facility Incharge along with senior Gynaecologists will investigate the death case.

- **Data transmission:** Facility in-charge will send investigation formats to district / corporation officials within 48 hours and line list of maternal deaths before 7th of every month
- **Analysis:** Analyse the line of management done, if necessary, conduct in detail clinical audit.
- **Review:** Facility In-charge will conduct review meeting every month at facility level. Based on gaps identified during review, actions should to be implemented at facility level and review of action points suggested during last month meeting is to be done and documented.
-

MDSR process for migrant death

- If migrant death is occurred in ambulance during transit, medical officer / paramedical staff on ambulance will inform the death to district / corporation nodal officer of district /corporation in which ambulance is located
- If migrant death is reported from community, district / corporation nodal officer will inform the domicile district / corporation of the migrant. In case of migrant death from other state, district / corporation nodal should inform SNO of the State of migrant mother.

Chapter 3: Key Steps in Child Death Review

State has already given guideline for Child Death Review at district level. (Annexure No 11 & 12). Summary regarding is given as below;

Child death Review will be of two types:

- Community Based Child Death Review (CBCDR)
- Facility Based Child Death Review (FBCDR)

Community Based Child Death Review (CBCDR)

Steps for CBCDR are as follows:

Step 1: Notification of child death:

ASHA will report any death in her area (even if death takes place at health facility, home or in transit) within 24 hours after death of child to ANM/SN and MO PHC/UPHC/Health Post

Step 2: Investigation of child death:

- A line list of all child deaths within block/corporation area will be prepared. Duplicate entries of child deaths reported by facility within block and by ASHAs through PHCs need to be removed. A final list will be prepared combinedly by THO and MS of health facilities. Similar procedure is to be done at Corporation level.
- Based on line list, detailed investigation of 6 child deaths of different age groups (0-28 days, 29 days – 1 year and 1-5 year) will be done every month by an investigation team.
- Investigation team consisting of THO, MO DTT, District PHN will investigate in detail in rural and council areas.
- In corporation area, a team of Medical Officer, Health Supervisor/SN will investigate the child death.
- This team will undertake the analysis of social factors, health service delivery and monitoring gaps, policy level gaps and delays associated with the death (templates for asking questions regarding above areas for different causes of child deaths attached in annexure no.5 to 6)
- Monthly at least 6 deaths shall be investigated by the team.
- Formats 3a, 3b and 3c will be used for detailed community-based investigations.
- Format 4a & b shall be used for facility-based investigation.
- For every facility-based investigation community-based investigation also needs to be done.

Step 3: Data transmission

Block Level / Ward / UPHC level

- THO / Ward /UPHC Office will prepare a line list of all child deaths reported by ANMs / SNs in the block/ward/UPHC area every month.
  Report of all the verbal autopsies of the month should reach the district by 10th of next month
- **District / Corporation level**
- Verbal Autopsy forms will be reviewed and the cause of death will be assigned with support from Paediatricians at district / corporation level.
- Also, district / corporation office will send key information from brief and Detailed investigations undertaken in the entire district / corporation through **forms 5a, 5b** to State.
- District / Corporation level office must ensure that all the deaths reported through CDR reporting system and are also reported on HMIS portal at appropriate levels.

Step 4: ***Analysis of the data followed by making suitable action plans from it -*** is common for both

CBCDR & FBCDR

- A detailed District / Corporation child death report should be prepared on monthly basis.
- In addition, a **District/Corporation Child Death Review Report** will be prepared for presentation in the **DCDRC /Corporation level Committee under Civil Surgeon/MOH** based on the detailed analysis.
- For this purpose, District / Corporation team will undertake the analysis of social factors, health service delivery and monitoring gaps, policy level gaps and delays associated with the death for sample cases identified. (templates for asking questions regarding above areas for different causes of child deaths attached in annexure no. 5 and 6)
- After the DCDRC meeting, committee under chairmanship of the CEO ZP/ Commissioner Municipal Corporation will review random cases from total cases reported at district office (CS/DHO/MOH) every month.
- Detailed report prepared from the analysis of verbal autopsy forms will also be shared with the State.
- Based on DCDRC and CEO/Commissioner meetings, action plan will be prepared by district with timeline and responsible persons.
- Also, compliance on action plan suggested for last meeting will be compiled and shared with State.

<u>Facility Based Child Death Review (CBCDR)</u>

Facility based child death review will be conducted at all public health hospital (DH/WH/GH/SDH/RH) and medical colleges.

Steps for FBCDR are as follows:

Step 1: Notification of child death

All child deaths in the hospital should be informed immediately by the Medical Officer / Senior Resident on duty (at the time of death) to the **Facility In-charge (MS/ACS/Facility In-charge at Corporation hospital/CMO at GMC Hospital).** He will fill details of death in the ***Notification Card*** **(Form 1)** and send it to the office of the Facility In-charge **within 24 hours** of death.

Step 2: Investigation of child death

Detailed investigation should be conducted in **all cases of child deaths taking place in a hospital.** The **Facility Based Neonatal & Post-Neonatal Death Review Forms (Forms 4a & 4b)** should be filled for the child death (depending on the age category) by the **on duty Medical Officer.** The **Treating Medical Officer will assign the medical cause of death.** Medical cause of death is to be ascertained based on the **ICD 10 (Annexure - II)** and recorded in the Death Certificate. The form should be filled **within 48 hours** of death. Facility In-charge will review the FBCDR forms for completeness.

Step 3: Data transmission

Facility In-charge will prepare a line list of all child deaths (0-5 years) that have taken place in the hospital during the month in the ***Facility Level Reporting Form (Form 5c)*** and send it to district level. Also, one copy of format 4 a / 4 b of all child deaths will be sent to district office.

These reports will be compiled and analysed at the district level and key findings and recommendations will be included in the report to be presented in the **DCDRC meeting**

Step 4: Analysis of the data followed by making suitable action plans from it – As given in the community based review

Chapter 4: Use of Guidance Templates – MDR and CDR

The booklet and contents are to be used as a guidance note for child and maternal death review. The format is to guide how to approach the maternal and child death individually as well as a cumulative analysis. The causes, reasons mentioned are not in any way exhaustive and committee need to go into identifying the preventable causes as well as systemic failure which can be corrected. These guidelines are developed to facilitate committee as well as district administration to formulate district specific action plan to reduce maternal as well as child death. Committee is expected to approach the death review from hospital as well as community point of view and also with broader view of developing implementable action plan and evidence-based action plan.
The committee and district are at complete liberty to explore the data in more comprehensive way to achieve this goal.

A. Guidance Template for Maternal Death Audit and Review (Annexure No. 1 to 4)

Maternal deaths occur as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy and most are preventable or treatable. In some cases, complications may exist before pregnancy but are worsened during pregnancy.

Definition: The maternal death is the defined as the death of the woman who die from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy.

Maternal death review (MDR) helps in identifying the gaps in the existing health care delivery systems, prioritize and plan for intervention strategies and to strengthen health services.

This document is intended to assist district officials/programme managers to conduct maternal death audit effectively with the objective of reducing maternal deaths due to preventable causes.

This guidance templates should be used to analyse each of the maternal deaths to identify the multifaceted underlying causes, gaps in health care service delivery, level of delays.

It consists of 4 Annexures which will assist in making effective action plan to address the identified gaps.

Annexure 1- Gap analysis at community, health system, monitoring and policy level
Annexure 2- Gap analysis as per Three-delays model
Annexure 3- Line list format for maternal death review at district level
Annexure 4- Plan of action and compliance report of maternal death review meeting

Details of annexures is given in following sections.

Annexure 1- Gap analysis at community, health system, monitoring and policy level

- This sheet has some pointers for identification of gaps with respect to most important causes of maternal deaths i.e. APH/PPH, PIH, Sepsis, Abortion, Anemia and also regarding home / transit deaths
- For above mentioned causes of death some questions are suggested which are to be asked in each maternal death case regarding previous history, gaps at community/individual level, health system and service delivery level, monitoring of programs and policy level.
- This will help in finding gaps at various levels, program implementation, monitoring etc.
- This analysis should be done to identify underlying gaps for each cause of maternal death.

A) Details regarding underlying areas of gaps is as follows-

1. **Previous History:** Detail previous history before the maternal death is to be investigated.

2. **Community, Society or family:** Enlist the causes existing among the community or at individual level which are related to particular cause of maternal death. For example, following questions may be asked

- If there are any misconceptions?
- What is the awareness level of the bereaved family?
- Are the family members resistant to seek institutional help?
- If there any geographic or infrastructural constraints?

3. **Gaps in health service delivery:** Explore the gaps in service delivery which would have been proved beneficial to the deceased mother.

For example, following questions should be asked to assess the gaps in service delivery.

- Was the deceased mother visited by ASHA/ANM for ANC?
- Was the ambulance available in that particular area?
- Were the due services given to deceased mother as per her high-risk status?

4. **Gaps on health policies:** Committee should review the policies which could have addressed the maternal death. Committee can also suggest the policies needed to address such events.

Sample questions-

- Presence of IEC/BCC policy which is covering the misbeliefs and resistance in the area
- Is there any policy which is engaging local healers in providing health services?
- Is there need of any policy which will provide the special health services to migrated or floating population?
- Is there need of any human resource policy modifications?

5. **Gaps in monitoring and implementation of health programmes:**

Ongoing national and state health programmes should be reviewed for their implementation in the concerned area. **Also, monitoring and follow up of high-risk mothers should be analysed.**

Following sample questions should be considered to review the monitoring and implementation of the health programmes.

- What is the status of PMSMA services in the concerned area?
- Is there proper monitoring of high-risk mothers going on?
- Are ASHA home visits being monitored?
- Is line list of high-risk mothers being maintained?

6. **Identification of facilities/areas/blocks/PHCs:** Investigate about the trends of the maternal deaths in the given area/facility for at least 3 years. It will guide the committee to identify hotspots of poor maternal health service coverage and high maternal deaths. If the concerned area / facility has repeated events of maternal deaths, then review the maternal and child health care services at these facilities. Plan the supportive supervision visit to concerned area/hospital to review the field level activities.

7. **Programs which address these problems/gaps:** Identify the ongoing national and state programmes which are involved in reducing maternal deaths. For example, investigate about the implementation status of JSSK, PMSMA and identify the programme which need to be strengthened for reduction of maternal mortality.

8. **Status of programs in the field/facility:** Review the maternal health programme implementation status in the given areas of maternal deaths. Further, investigate about the benefits of

the ongoing health programmes received by the deceased. Analyse and identify the gaps in receiving the benefits of the health programmes which are intended to reduce maternal mortality.

9. Action Points: After analysing the causes, the action points should be suggested to prevent future deaths with defined roles of responsibilities of concerned health workers/officials.

10. Compliance on action plan: Take follow up of suggested action points in next meeting. Analyse the bottlenecks in implementing the action points for example shortage of human resources, lack of trained staff, supervision visits etc.

Template for analysing the causes of maternal death for finding the gaps has been given in **Annexure No 1.**

It can be used for finding the gaps and making action plan for various causes of maternal death.

Annexure 2- Three-delays model for preparing action plan to reduce maternal deaths

The 3-Delays Model helps in the identification of barriers in accessing the maternal health services. It identifies the causes at household, community and health system levels which are responsible for the maternal death.

Identify the level of delay responsible for the maternal death. Three delays in accessing the health care services as given as-

i. First Delay- Delay in the decision seeking care

ii. Second Delay- Delay in identifying and reaching the health facility

iii. Third Delay- Delay in receiving treatment at the facility

Each maternal death should be analysed for each level of delay and gaps need to be identified. Questions should be asked in each maternal death case for each level of delay for following areas

1. **Enlist the reasons behind level of delay responsible for the maternal death for each area** i.e., Society/Individual area, Health service delivery in facility/field, Policies and Monitoring of programs.

For example, in case of maternal death due to APH, for level 1 delay question in the area of society or family level can be asked regarding misconceptions about bleeding during ANC or no belief on government services

2. **Common areas/facilities:** Assess that whether the identified reasons for the level of delay is the common phenomenon in the concerned area or facility. Investigate whether the concerned area / facility is prone to identified reasons. This will give a high priority area for maternal deaths.

3. **Programs to tackle delays:** Identify the ongoing programmes which would address the identified delays and its reasons.

4. **Status of program implementation in these areas/facilities:** Also assess the implementation status of these programs useful to tackle various levels of delay and to strengthen the related programmes.

5. **Action Plan:** After identifying and assessing the delays and its reasons and related programmes, committee should suggest action points to address delays leading to the maternal mortality.

6. **Compliance on suggested action plan:** All the suggested action points must be followed up in next monthly meeting.

Annexure No 2 can be used as template to investigate the delays and making action points to address them.

Annexure 3- Line list format for maternal deaths reviews at district level

- Annexure-3 is designed for the summarizing maternal deaths at district level meeting
- Enlist the maternal deaths with details of causes of deaths, reasons for the cause leading to deaths, type of delays and its reasons and proposed corrective measures.
- This format can also be used to present the maternal and child death information to district collector and CEO.
- This format will give brief information about the cause of deaths in the given month which will help to prioritize the preventive measures.

Annexure 4 - Summary format for maternal death review meeting at district level

- Summarize the meeting minutes reviewing maternal deaths at district level meeting in separate sheet
- Summarize common preventable reasons leading to deaths, common problems identified with service delivery and common areas involved. Also identify programs for the said reasons.
- Based on these inputs, prepare common preventive measures for reducing maternal deaths and activities to be implemented in the district.
- Also take follow up of action plan prepared in the last meeting of maternal death audit and actions taken for the same.
- Mention about any improvement in the programs/indicators based on actions implemented as per last meeting.

B. Guidance Note for Child Death Audit and Review (Annexures 5 to 8)

Child mortality is one of most important public health concern. Although Maharashtra has shown substantial decline in child mortality, intrastate variation still warrants the attention to strengthen the preventive measures. About 75 percent of the child deaths occur due to preterm birth, birth asphyxia, infections and birth defects. Most of these complications are observed during first month of life and are preventable or treatable.

Child death review (CDR) helps in identifying the gaps in the existing health care delivery systems, prioritize and plan for intervention strategies and to strengthen the child health services.

This document is intended to assist district officials/programme managers to conduct child death audit effectively with the objective of reducing child deaths due to preventable causes.

This guidance templates should be used to analyse sample of child deaths (atleast 5 cases) every month to identify the multifaceted underlying causes, gaps in health care service delivery, level of delays. It consists of 4 Annexures which will assist in making effective action plan to address the identified gaps.

Annexure 5- Gap analysis at community, health system, monitoring and policy level
Annexure 6- Gap analysis as per Three-delays model
Annexure 7- Line list format for child death review at district level
Annexure 8- Plan of action and compliance report of child death review meeting

Details of annexures is given in following sections.

Annexure 5- Gap analysis at community, health system, monitoring and policy level

- This sheet has some pointers for identification of gaps pertaining to most important causes of child deaths i.e. Prematurity / low birth weight, Sepsis / Pneumonia, Birth Asphyxia and also regarding deaths occur at home or during transit
- For above mentioned causes of death, some questions are suggested which are to be asked in each child death case regarding previous history, gaps at community/individual level, health system land service delivery level, monitoring of programs and policy level.
- This will help in finding gaps at various levels, program implementation, monitoring etc.
- This analysis should be done to identify underlying gaps which can be attributed to the child death for a sample of 6 child deaths every month.
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Details regarding underlying causes / areas of gaps is as follows-

1. **Previous History –** For each child death case, previous history is to be asked in detail for the cause of death as given in template.

2. **Community, Society or family Gaps:** Enlist the causes existing among the community or at individual level which are related to particular cause of child death. For example, following questions may be asked
   i. If there are any misconceptions?
   ii. What is the awareness level of the bereaved family?
   iii. Are the family members resistant to seek institutional help?
   iv. If there any geographic or infrastructural constraints?

3. **Gaps in health service delivery:** Explore the gaps in service delivery which would have been proved beneficial in preventing the child death.

For example, following questions should be asked to assess the gaps in service delivery for death due to Prematurity or Low birth weight

- Was maternal weight gain monitoring done during ANC period by ASHA/CHO?
- Was Inj Dexa (antenatal steroids) given to mother for premature delivery before 34 weeks
- Was counselling for KMC done during home visits by ASHA under HBNC?

4. **Gaps on health policies :** Committee should review the policies which could have addressed the child death. Committee can also suggest the policies needed to address such events.

Sample questions which can be asked in case of child death due to Sepsis/Pneumonia are

- Any policy for referral linkage for transfer of sick newborn?
- Any policy on CHO involvement in management of newborn and child diseases?

5. **Gaps in monitoring and implementation of health programmes:**

Ongoing national and state health programmes should be reviewed for their implementation in the concerned area / health facility.

Also, monitoring and follow up of the child and high-risk pregnant women should be analysed.

Following sample questions should be considered to review the monitoring and implementation of the health programmes related to cause of child death –

E.g., For child death due to Birth Asphyxia

- Was high risk ANC monitoring done or not?
- Was health facility preparedness monitored to tackle cases of birth asphyxia or prevent cases of birth asphyxia
- Was monitoring of referral of labor cases monitored or not?
- Was regular skill assessment of staff working in labor room monitored?

6. **Identification of facilities/areas/blocks/PHCs:** Investigate about the trends of the child deaths in the given area/facility for at least 3 years. It will guide the committee to identify hotspots of poor child health service coverage. If the concerned area has repeated events of child deaths, then review the maternal and child health care services. Plan the supportive supervision visit to concerned area/hospital to review the field level activities.

7. **Programs which address these problems/gaps:** Identify the ongoing national and state programmes which are attributed in reducing child deaths. For example, investigate about the implementation status of SNCU, NBSUs, JSSK, HBNC, Home Based KMC, RI and identify the programme which need to be strengthen for higher impact in reduction of maternal mortality.

8. **Status of programs in the field/facility:** Further, investigate about the benefits of the ongoing health programmes received by the deceased child. Analyse and identify the gaps in receiving the benefits of the health programmes which are intended to reduce maternal mortality.

9. **Action Points:** After analysing the causes, the action points should be suggested to prevent future deaths with defined roles of responsibilities of concerned health workers/officials.

10. **Compliance on action plan:** Take follow up of suggested action points in next meeting. Analyse the bottlenecks in implementing the action points for example shortage of human resources, lack of trained staff, supervision visits etc.

Template for analysing the causes of child death for finding the gaps has been given in **Annexure No 5**. It

can be used for finding the gaps and making action plan for various causes of maternal death.

Annexure 6- Three-delays model for preparing action plan to reduce maternal deaths

The 3-Delays Model helps in the identification of barriers in accessing the child health services. It identifies the causes at household, community and health system levels which are responsible for the child death.

Identify the level of delay responsible for the child death. Three delays in accessing the health care services as given as-

i. First Delay- Delay in the decision to seek care

ii. Second Delay- Delay in identifying and reaching the health facility

iii. Third Delay- Delay in receiving treatment at the facility

1. **Enlist the reasons behind level of delay responsible for the child death for each area** i.e. Society/Individual area, Health service delivery in facility/field, Policies and Monitoring of programs.

For example in case of child death at home, for level 1 delay, question in related to society or family level can be asked eg. Family members do not know about danger signs in child, Family didn't call for ambulance etc.

2. **Common areas/facilities:** Assess that whether the identified reasons for the delay is the common phenomenon in the concerned area. Investigate whether the concerned area / facility is prone to identified reasons. This will give a high priority area for child deaths.

3. **Programs to tackle delays:** Identify the ongoing programmes which would address the identified delays and its reasons.

4. **Status of program implementation in these areas/facilities:** Also assess the implementation status of these programs useful to tackle various levels of delay and to strengthen the related programmes.

5. **Action Plan:** After identifying and assessing the delays and its reasons and related programmes, committee should suggest action points to address the child mortality t

6. **Compliance on suggested action plan:** All the suggested action points must be followed up in next monthly meeting.

Annexure No 6 can be used as template to investigate the delays and making action points to address them.

Annexure 7- Line list format for Child deaths reviews at district level

- Annexure-4 is designed for the summarizing child deaths at district level meeting
- Enlist the child deaths with details of causes of deaths, reasons for the cause leading to deaths, type of delays and its reasons and proposed corrective measures.
- This format can also be used to present the maternal and child death information to District collector and CEO.
- This format will give brief information about the cause of deaths in the given month which will help to prioritize the preventive measures.

Annexure 8 - Summary points of Child death review

- Summarize the meeting minutes reviewing child deaths at district level meeting in separate sheet
- Summarize common preventable reasons leading to deaths, common problems identified with service delivery and common areas involved. Also identify programs for the said reasons.
- Based on these inputs, prepare common preventive measures for reducing child deaths and activities to be implemented in the district.
- Also take follow up of action plan prepared in the last meeting of child death audit and actions taken for the same.
- Mention about any improvement in the programs/indicators based on actions implemented as per last meeting.

Chapter 5: District Maternal / Child Death Review Committees

A. Committees for Maternal Death Review

Maternal Death and Surveillance Review Committees should be constituted at different level as given in following sections. (As per SFWB Letter dated 19/09/2019 attached in Annexure No 9)

1. Facility Based Maternal Death Review Committee (FBMDRC)

Committee should meet every month even if there are no maternal deaths reported in the given month. The Facility In-charge should fix the date after discussion with Civil Surgeon and communicate with other members of the committee.

1	Obstetrics and Gynaecologist, Class-1	Chairperson
2	Staff in charge of Labour room, ANC clinic and PNC Ward	Member
3	Anaesthetist	Member
4	Medical Officer- Blood Bank	Member
5	Physician	Member
6	Facility Nodal Officer (FNO)	Member-Secretary

2. District Level Maternal Death Review Committee

Monthly meeting should be organised at district level to discuss each maternal deaths and to review the actions suggested in the previous meeting. The structure of the district level maternal death review committee is given in the following table.

1	Civil Surgeon, District Hospital	Chairperson
2	Medical Officer-Health, Municipal Corporation	Member
3	Senior Obstetrics and Gynaecologist, District Hospital	Member
4	General Surgeon, District Hospital	Member
5	Senior Anaesthetist, District Hospital	Member
6	Pathologist, District Hospital	Member
7	Medical Officer- Blood Bank	Member
8	Matron, District Hospital	Member
9	FOGSI representative	Member
10	District RCH Officer	Member
11	Resident Medical Officer- Outreach	Member-Secretary

Committee should select at least 3 cases for the review meeting of CEO, ZP/Commissioner, Corporation.

3. Brihanmumbai Municipal Corporation (BMC) Maternal Death Review Committee

Maternal death review committee for BMC, Mumbai should be constituted as given below. Frequency of the meetings should be once in a month. ToR for the committee should be same as given in guidelines

1	Executive Medical Officer, BMC, Mumbai	Chairperson
2	Head of Department, Obstetrics and Gynaecology, Government/Corporation Medical College	Member
3	General Surgeon,	Member
4	Senior Anaesthetist, District Hospital	Member
5	Medical Officer- Blood Bank	Member
6	President, Indian Medical Association, Mumbai	Member
7	President, FOGSI, Mumbai	Member

8	Matron, Obstetrics and Gynaecology, Government/Corporation Medical College	Member
9	Deputy Executive Medical Officer, Mumbai	Member-Secretary

4. Maternal Death Review Committee for Other Municipal Corporations

Maternal death review committee for municipal corporation other than BMC, Mumbai should be formed as follows.

1	Medical Officer Health, Municipal Corporation	Chairperson
2	Senior Obstetrics and Gynaecologist, Municipal Corporation area	Member
3	Senior General Surgeon, Municipal Corporation area	Member
4	Senior Anaesthetist, Municipal Corporation area	Member
5	FOGSI representative, Municipal Corporation area	Member
6	RCH Officer, Municipal Corporation	Member- Secretary

B. Committees for Child Death Review

(As per SFWB Letter dated 19/05/18 attached in annexure no 10)

1. Committee under Civil Surgeon

1	Civil Surgeon, District Hospital Chairperson	
2	District Health Officer	Co Chairperson
3	Additional Civil Surgeon	Vice Chairperson
4	Senior Gynecologist, District Hospital	Member
5	Senior Anaesthetist, District Hospital	Member
6	Senior Pediatrician, District Hospital	
7	Senior Pediatrician, Medical College	
8	Pediatrician, SNCU	Member
9	Senior Gynecologist, Medical College	Member
10	Matron, District Hospital	Member
11	IAP representative	Member
12	MS and THO (All Facilities and blocks)	Member
13	PHN (District / Women Hospital)	
14	Resident Medical Officer- Outreach and DRCHO	Member-Secretary

2. Committee for Corporation Level

1	Commissioner MC	Chairperson
2	Medical Officer, Municipal Corporation	Member- Secretary
3	RCHO Officer	Member
4	Senior Pediatrician, Medical College, Municipal Corporation area	Member
5	Senior Pediatrician, Corporation Hospital	Member
6	IAP representative, Municipal Corporation area	Member
7	Matron/PHN Corporation	Member
8	Medical Officer (concerned facility)	Member

3. Committee at District Level - CEO ZP

1	CEO ZP	Chairperson
2	Civil Surgeon, District Hospital and District Health Officer	Co Chairperson
3	Resident Medical Officer- Outreach and DRCHO	Member-Secretary

4	Senior Pediatrician, District Hospital	Member
5	PHN, District Hospital	Member
6	PHN ZP Member	
7	IAP representative	Member
8	MS and THO (All Facilities and blocks)	Member

Guidance for District level Committees under MDR and CDR

Ø District Committee will look into details of all maternal deaths and at least 6 child deaths every month (3 facility deaths and 3 community deaths)

Ø Criteria for selection of child deaths will be major causes of child deaths in the newborn (0-28 days), infant (29 days -1 year) and more than 1 year of age. Also deaths at home or in transit will be selected.

Ø For each major cause of maternal and child death, gaps at the level of society/family, health services delivery, monitoring of programs, policy level matters and level of delay are to be identified. Based on these gaps, status of health programs implemented in the district is to be reviewed. For identification of these gaps for each major cause of maternal/child death in various areas, GUIDANCE TEMPLATE given for each cause of death or home /transit deaths is to be used as given in template

Ø Based on identification of gaps, summary of each maternal/child death case is to be written in a format. For this purpose format given is to be used by district committee.

Ø Based on gaps identified in individual death case audit as per GUIDANCE Template for maternal and child deaths, status of health programs in the district and monthly reports received from facilities and blocks, district committee will prepare action plan. For this purpose format given in annexure is to be used.

Ø This action plan format should contain details about number of deaths for which detail audits are done, common reasons, common problems in service deliveries, common areas/facilities for particular cause of deaths, program involved, preventive measures suggested, activities to be implemented.

Ø Also this action plan will review action taken as per last meeting and compliance on the actions suggested. Any improvement seen since last meeting will be noted down.

District Review Meeting under CEO ZP / Commissioner Corporation

Ÿ All maternal deaths and at least 3 child deaths which are reviewed by the DCDRC (under CS/MOH) will be presented in the district review under CEO ZP/ Commissioner, Municipal Corporation. The child death cases should be identified as per detail guidelines given

Ÿ The parents/relatives (max. 2 persons) of the deceased child or mother would be invited for the meeting. The health service providers who had attended the mother or child (either in facility or in community) will also be called for this meeting.

Ÿ Details regarding this are given in guideline (annexure no 9 and 11)

Annexure 1: Maternal death review - Gap analysis at community, health system, monitoring and policy level

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
1	Home Death/ Transit		1. Previous H/o Home birth 2. Is Home birth a isolated incidence in the village/area or common occurrence 3. Home death is common to the village or taluka or whole district	1. Gone to local faith healer 2. Not aware about health facility/Not willing for taking government hospital help/No faith in modern medicine 3. No road/communication network 4. Teenage preganancy 5. Unmarried 6. Not aware about 102/108	1. No visit by ASHA or ANM in last trimester/last month 2. No visit by health worker as patient is recently shifted/came back from migration 3. Non availability of ambulance/delay in reaching ambulance/Non response from ambulance services 4. Non identification of refusal families and no follow-up 5. No action taken on previous similar H/o 6. No high-risk factor identified	1. No proper IEC/SM strategies for refusal families 2. No policy for engagement of faith healers in such areas 3. No specific policies for intersectoral involvement for this area	1. High risk areas are not mapped and activities not monitored from districts 2. Monitoring of Gram samittee activities and their involvement 3. Monitoring of Gram samittee activities and their involvement is not taken in meetings of district administration 4. No monitoring of ambulance services 5. No monitoring of delivery points for conducting high risk cases 6. Premature delivery and not anticipated by health worker	1. What is the trend of home birth over the period 2. How many affected areas due to similar reasons	1. JSSK/JSY 2. EMS services 3. IEC/BCC/SM 4. ANC care services e.g ANC visits, specialist visit 5. Perinatal visits			
2	APH / PPH		1. Was there any complication during last delivery of mother eg. APH/PPH, rupture, retained placenta etc? 2. Was mother	1. Gone to local faith healer 2. Not aware about health facility 3. Not willing for taking government hospital help/No faith	1. high risk ANC not identified during ANC period 2. No visit by ASHA or ANM in last trimester/last month 3. No action taken on previous similar H/o PPH	1. No IEC/SM strategies for refusal families 2. No policy for engage	1. No strict monitoring of high-risk ANCs at all levels 2. No monitoring of PMSMA	1. What is trend of APH PPH cases in the facility? 2. Is there any common facilities	1. ANC care services e.g ANC visits, specialist visit 2. Dakshata 3. JSSK 4. ASHA Program			

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			identified as a high risk ? eg. Previous placenta abruption, rupture, Severe anemia, previous LSCS, PIH, coagulopathy etc 3.Was high risk mother treated for the cause of high risk during ANC? 4.was mother monitored for labor using partograph or safe childbirth checklist?	in modern medicine/No faith in Govt institute 4. Do not know where to contatct in case of emergency / danger signs of APH 5. Physical violence in family 6. Misconceptions about bleeding during pregnancy 7. No road/communication network	4. Premature delivery and not anticipated by health worker 5. Refusal families not identified and no followup for treatment of high risk causes 6. No Counselling by Health care workers regarding danger signs in pregnancy 7. No USG done during ANC or USG facility not available 8. No check up by Specialists under PMSMA 9. No proper examination (lack	ment of faith healers in high risk areas 3. No training or reorientation training policy for staff 4. No Near Miss Cases audit policy 5. No Policy on non rotation	program 3. No monitoring of health facility preparedness 4. No monitoring of JSSK services eg blood transfusion, diagnostic - USG 5. No monitoring of post delivery	where there is problem with APH/PPH management. 3. are their common facilities	5. PMSMA 6. 102/108 7. SUMAN 8. LaQshya 9. E Aushadhi 10. JSSK 11. FRUs			
			5.Was third stage of labor managed as per guideline (AMTSL)? 6.Was mother delivered by trained staff or whether doctor attended delivery? 7.was there any complication during delivery eg. Rutpure, retained planceta, tear? 8.was there any prolonged or obstructed labor? 9.was mother suffering from	8. Refusal from Family to seek Medical care	in quality care - Anemia, Wt gain monitoring, BP) 10.Timely referral to higher facility not done 11.No nearby facility with blood transfusion 12.No nearby FRU/ Specialist not available at FRU 13.No availability of treatment protocols at facility 14.Drugs and logistics not available at facility 15.Staff not trained for management of APH / PPH 16.Post delivery monitoring not	of trained staff working in LR	visits by ANM/ASHA 6. No monitoring of identification, management of APH PPH cases at all levels					

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			any infection during labor? 10 was blood transfusion given and if yes was it done as per protocol? 11. was mother on any anticoagulants?		done as per guidelines 17 No use of Partograph/safe childbirth checklist as per guidelines 18 No monitoring of admitted cases at facility 19 Treatment proto col not followed 20. In home delivery cases - no check up by ANM / MO within 24 hours 21 Post delivery home visits by ANM/ASHA not done 22. Non availability of ambulance/delay							
					in reaching ambulance 23. Non response from ambulance services 24. ANM / Staff not trained for identification of high risk cases /SBA Training 25. No preferral management							
3	Hypertensive Disorders in pregnancy		1.Was there similar complications during her last pregnancy?	1 Non compliance to drug (Calcium,	1 Non Identification of High Risk Pregnancy during ANC check up	1 No propoer IEC/SM strategies	1 No monitoring of health	1 What is trend of HDP/Eclampsia	1. ANC care services e.g ANC visits,			

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			2. Was mother identifed as a high risk for PIH? 3. Was mother identified having PIH? 4. If identified as PIH, was mother on any treatmen t for PIH? 5. If already identified as high risk for PIH or mother having PIH, was the delivery conducted at FRUs 6. Before referral was any loading dose of Inj MgSO4 given? 7. Was any IV drip	antihypertensive drugs) 2. Not aware about danger signs 3. Do not know where to contatct in case of emergency / danger signs of APH 4. Not aware about health facility 5. Did not think that the illness is significant 6. Gone to local faith healer 7. No faith in modern	2. Errors in noting Blood pressure by health staff 3. No check up of high risk ANCs during PMSMA Day or No examination by Specialist during ANC period 4. No identification of danger signs during home visit by health workers 5. No Counselling by Health care workers regarding treatment and danger signs 6. No Counselling regarding diet (salt intake) in case of H/o HTN. 7. Staff not trained for	for refusal families 2. No policy for engagement of faith healers in such areas 3. No Near Miss Cases audit policy	facility preparedness 2. No monitoring of identification, management of PIH cases at all levels 3. No monitoring of PMSMA program 4. No monitoring of referred cases - for	mortality in the facility? 2. What is trend of HDP/Eclampsia mortality in the block? 3. What is trend of identification of hypertension among pregnant women furing ANC in the facility or block?	specialist visit 2. PMSMA 3. FRUs 4. ASHA Program 5. SUMAN / LaQshya 6. JSSK 7. Dakshata - Training 8. E Aushadhi 9. IPHS			
			of MgSO4 was started during referral? 8. was mother treated at private facility? 9. If treated at private facility, was treatment given as per protocol? 10. was eclampsia identified during intrapartum period at facility? 11 Was safe childbirth checklist used during delivery? 12. Was delivery attended by Gynecologists?	medicine/No money available for treatment 8. No road/communication network/cut off villages/pada	diagnosis and management of PIH 8. Non availability of logistics (BP appa.), drugs with FLW and at facility 9. No follow up of PIH cases by FLWs 10. Delay in referral 11. Prereferral management of PIH cases not done as per guidelines 12. Patient not seen by Specialists at FRU 13. No proper documentation of health status when admitted in facility 14. Treatment		outcome					

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			13. Was treatment given as per protocol at facility for PIH? 14. Was delivery terminated after eclampsia as per protocols?		protocol not followed 15. No monitoring of admitted cases at facility 16. Non calibrated Sphygomanometer/ Digital B.P Apparatus							
4	Sepsis		1. Was mother identified as high risk eg. Malnourished / Low BMI, Anemia etc 2. was mother normal delivered or through C section 3. Was delivery conducted by untrained staff? 4. Was safe childbirth checklist used during delivery? 5. Were multiple PVs were done against protocol? 6. Was monitoring of mothers health condition done after C section during post partum period as per protocol? 7. Was there any premature rupture of	1. Home Delivery 2. Not aware about dangers signs of sepsis 3. Unhygienic practices followed after pregnancy 4. Gone to local faith healer 5. Did not think that the illness is significant 6. Do not know where to contatct in case of emergency / danger signs 7. No road/communication network/cut off villages/pada 8. Didn't call to ambulance services	1. DAMA/LAMA in case of C-Section Delivery 2. Infection control practices not followed in facility 3. No use of Partograph/safe childbirth checklist as per guidelines 4. Treatment protocol not followed 5. No antibiotic policy followed 6. Monitoring of C section cases at facility not as per protocol 7. No check up by MO ANM in case of home delivery with 24 hours 8. Training of staff on infection control practices not done 9. No proper documentation of monitoring during hospitalisation 10. Treatment protocols not available with facility 11Disfunctional Infection control	1.No policy of near miss case audit 2. No policy for engagement of faith healers in such areas	1.No monitoring of Microbiological surveillance 2. No monitoring of infection control practices at facility 3. No monitoring of PNC visits by ANM/ASHA	1.What is trend of Sepsis in PNC cases in facility or block/areaa ? 2. What is trend of deaths due to sepsis in facility or block?	1. FRU 2. LaQshya 3. Dakshata 4. PNC Visits - HBNC 5. IPHS 6. TRAINING 7. E AUSHADHI 8. Infection control program 9. 28 DAYS PROGRAM			

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			member (PROM) and if yes any antibiotic given as per protocol? 8. were all hygienic conditions followed during delivery and after? 9. Was family planning operation done after delivery? 10. Did mother stayed for all 7 days after C section or 3 days after normal delivery? 11At the time of discharge whether counseling regarding danger signs done or not? 12. was mother followed by ANM/ASHA after discharge at home?		committee 12. Late referral 13. No treatment before referral 14. Beneficiaries not informed about 102/108 services 15. No road / communication network 16. Non availability of ambulance/delay in reaching ambulance 17. No response from ambulance services 18. Driver posts Vacant on 102 19. Diesel not available at the time of referral							
5	Severe Anemia		1.Was mother identified with iron deficiency anemia/hemoglobinopathies/ other anemias	1.Non compliance to IFA tablets due to traditional myths and side-effects 2. Did not take complete dose	1No testing for anemia / hemoglobinopathies during ANC visits 2. Birth Planning for SCD, Severe anemia cases not		1No monitoring of severe anemic pregnant women detection and	1aggregation of such cases if any in the district	1Anemia Mukt Bharat/ WIFS 2.BSU / BB 3.FRU 4.TRAINING			

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			during her pregnancy? 2. If mother was anemic, any treatment given during ANC period? 3. was complete treatment for iron deficiency anemia was given (inj iron sucrose) during pregnancy? 4. Was mother tested for Hb at the time of admission for delivery? 5. Was birth planning for	of Iron sucrose 3. Did not think that the illness is significant	done as per high risk status - (eg . Delivery at tertiary care level/FRUS) 3. ASHA do not know where to take severe anemic mother 4. No tracking of severe anemic mothers 5. Full dose of Inj Iron sucrose / BT not given as per protocol during ANC 6. No followup taken for severe anemic mother after detection/iron sucrose treatment 7. No followup of anemic PNC		treatment 2. No monitoring of severe treatment of anemic cases at facility 3. No monitoring of performance of BSU/BB					
			delviery of high risk case done at FRU level 6. If mother was high risk, was the delivery conducted at FRU having blood transfusion facility? 7. was mother treated at private facility? 8. If treated at private facility, was treatment given as per protocol? 9. was there any		mother by ANM or MO at PHC 8. Delivery was not conducted at FRU in case of severe anemic mother 9. Hb testing not done when admitted to facility for labor or after 10. BSU not functional at facility 11. Transfusion not given due to non availability of blood group							

SN	Reasons	Percentage	Previous H/o	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area/village/pada/hospital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			complication during delivery ? 10. Was the delivery conducted by trained staff or specialists? 11. Was any blood transufion done at the time of delivery or after? 12. If mother was anemic after delivery was any treatment given? 13. Was hb test done at the									
			time of discharge from facility? 14. was mother followed by ANM/ASHA after discharge at home?									

Annexure 2: Maternal death review - Gap analysis as per Three-delays model

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/ hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
1	**Home Death/Transit**		1. Type One 2. Type Two	1. Societal Cause 2. Health Care delivery 3. Monitoring 4. Health Services 5. Policies 6. Monitoring	1. Family unaware of dangers of home delivery or not seeking medical help 2. Family refused medical help 3. Underage marriage 4. No access to health facility 5. Due to emergency didn't get the time/Didn't call to ambulance services 6. Delay in reaching health facility due to poor road connectivity 7. No IEC of existing health services/ high risk factors/health seeking advice 8. High risk areas are not mapped and activities not monitored from districts 9. Monitoring of Gram samittee activities and their involvement is not taken in meetings of district administration 10. No awareness about 102/108 ambulance service 11. Non availability of ambulance/delay in reaching ambulance/Non response from ambulance services 12. Non availability of ASHA/ANM 13. No free alternate transportation policy 14. Monitoring of Ambulance service is lacking from District	1. Common occurance or isolated incidence		1. JSSK 2. 102 3. IEC 4. IEC 5. VHNSC 6. EMS 7. HR			

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/ hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
2	**APH/PPH/Severe anemia**		Type One Type Two Type Three	1. Societal/family cause 2. Health Care delivery 3. Policies 4. Monitoring 5. Health Care delivery 6. Policies 7. Monitoring 8. Health Care delivery 9. Policies 10 Monitoring	1. Gone to local faith healer 2. No faith in modern medicine/No faith in Govt institute 3. No road/communication network 4. Self Negligence to seek Medical care/Refusal from Family to seek Medical care 5. Danger signs about APH / PPH not known/Unaware about precautions to be taken during pregnancy 6. Do not know where to contatct in case of emergency / danger signs of APH 7. Misconceptions about bleeding during pregnancy 8. Misconceptions about bleeding during pregnancy 9. No Counselling by Health care workers regarding danger signs in pregnancy 10. Not awareness about 102/108 11. No good experience with Govt hopsitals/services 12. Not aware about appropriate health facility 13. Non identification of			1. ANC care services e.g ANC visits, specialist visit 2. VHSND 3. 28 days program /ASHA 4. LaQshya 5. PMMVY 6. Dakshata - Training 7. SUMAN 8. 102108 9. E Aushadhi 10. USG - JSSK			

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/ hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					refusal families and no folowup 14. No propoer IEC/SM strategies for refusal families/ engagement of faith healers 15. Non Identification of High Risk Pregnancy / refusals and their counselling 16. No visit by health worker as patient is recently shifted/came back from migration 17. No visit by ASHA or ANM in last trimester/last month 18. Non availability of ambulance/delay in reaching ambulance/Non response from ambulance services 19. Timely referral to higher facility not done 20. No nearby hospital with blood transfusion facility 21. No proper IEC for JSSK 22. No policy for alternate transport arrangement 23. No monitoring of ambulance functionality 24. Specialist not available at FRU 25. No availability of treatment protocols						

S N	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					at facility 26. Lack of Skilled H.R 27. No pre-referral management 28. Policy of No Rotation of trained staff working in LR 29. Lack of infrastructure/ equipments/ logistics 30. No policy for revision in DP as per need and data 31. No monitoring of logistics/drugs availability in facilities 32. No monitoring of health facility preparedness						
3	**Hypertensive disorders of Pregnancy**		Type One Type Two	1. Societal cause 2. 3. Health Care delivery 4. Societal cause 5. Health Care delivery	1. Gone to local faith healer/No faith in modern medicine/No faith in Govt institute 2. No road/communication network 3. Self Negligence to seek Medical care 4. Refusal from Family to seek Medical care 5. Danger signs about HDP not known 6. Do not know where to contatct in case of emergency / danger signs of HDP 7. No			1. ANC care services e.g ANC visits, specialist visit 2. ASHA Program 3. PMSMA 4. 102/108 5. **Matritva Anudan Yojana** 6. Dakshata - Training 7. LaQshya 8. PMMVY 9. E Aushadhi 10.			

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/ hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			Type Three	6. Policies 7. Monitoring 8. Health Care delivery 9. Policies 10. Monitoring	Counselling by Health care workers regarding danger signs in pregnancy 8. Not aware about 102/108 9. No good experience with Govt hopsitals/services 10. Non identification of refusal families and no folowup 11. No visit by health worker as patient is recently shifted/came back from migration 12. No follow up of PIH cases by FLWs 13. No money for transportation 14. No road/communication network/cut off villages/pada 15. Non availability of ambulance/delay in reaching ambulance 16. No response from ambulance services 17. No policy for alternative transport 18. No monitoring of ambulance functionality 19. No monitoring of availability of drivers 20. No monitoring of admitted cases at						

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					facility 21. Treatment protocol not followed 22. No proper documentation of health status when admitted in facility 23. Non availability of logistics (BP appa.), drugs with FLW and at facility 24. Staff not trained for management of PIH 25. Prereferral management of PIH cases not done as per guidelines 26. Patient not seen by Specialists at FRU 27. Timely referral to higher facility not done 28. Policy of NO Rotation of trained staff working in LR not followed 29. No monitoring of logistics/drugs availability in facilities 30. No monitoring of health facility preparedness 31. No death audit in facility						

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/ hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
4	**Sepsis**		Type One Type Two Type Three	1. Societal cause 2. Health Care delivery 3. Policies 4. Monitoring 5. Societal cause 6. Health Care delivery 7. Policies 8. Monitoring 9. Societal cause 10. Health Care delivery	1. Gone to local faith healer 2. No faith in modern medicine 3. No faith in Govt institute 4. No road/communication network 5. Self Negligence to seek Medical care 6. Refusal from Family to seek Medical care 7. Danger signs about sepsis not known 8. Unaware about precautions to be taken during pregnancy 9. No Counselling by Health care workers regarding danger signs in pregnancy 10. Not aware about 102/108 11. No good experience with Govt hopsitals/services 12. Not willing for taking government hospital help 13. Not aware about health facility 14. Non identification of refusal families and no folowup			1. LaQshya 2. Dakshata 3. PNC Visits - HBNC 4. VHSND 5. TRAINING 6. E AUSHADHI 7. 28 DAYS PROGRAM			

S N	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
				11Policies 12. Monitoring	15. No propoer IEC/SM strategies for refusal families 16. No policy for engagement of faith healers in such areas 17. Non Identification of High Risk Pregnancy / refusals 18. No visit by health worke r as patient is recently shifted/came back from migration 19. No money for transportation 20. Didn't call to ambulance services 21. Don't know ambulance services 22. Non availability of ambulance/delay in reaching ambulance 23. Timely referral to higher facility not done 24. Non response from ambulance services 25. No proper IEC for JSSK 26. No policy for alternate transport arrangement 27. No monitoring of ambulance functionality 28. No monitoring of						

SN	Reasons	Percentage	Common /Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency	Common area/village/pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					availability of drivers 29. No nearby FRU/ Specialist not available at FRU 30. No availability of treatment protocols at facility 31. Lack of Skilled H.R 32. No preferral management 33. Policy of NO Rotation of trained staff working in LR 34. Lack of infrastructure/ equipments/ logistics 35. No policy for revision in DP as per need and data 36. No monitoring of logistics/drugs availability in facilities 37. No monitoring of health facility preparedness 38. No daily monitoring of facility and critical areas						

Annexure 3: Maternal death review - Line list format for maternal death review at district lev el

District/Corporation											
Date of MDA											
Number of Deaths audited											
SN	Name	Age	Date of Death	hospital audit done? (Y/N)	Community audit done? (Y/N)	Cause of Death	Reasons for the cause leading to death	Delay	Reasons for delay	Proposed corrective measures	Activities proposed for corrective measures

Annexure 4: Maternal death review - Plan of action and compliance report of maternal death review meeting

District/Corp oration			
Date of MDA			
Number of Deaths audited			
SN	**Summary Points**	**Compliance**	**Remarks**
1	Number of of audit completed		
2	What are the common preventable reasons leading to deaths		
3	What are the common problems identified with service deliveries		
4	What are the common areas involved		
5	What are the programs involved		
6	What are the common preventive measures suggested		
7	What are the activities will be implemented in the district to prevent		
8	What was the sugegstions in last d eath audit		
9	What was the actions teken on last meeting minuites		
10	What is the improvement seen		

Maternal Death Causes Details and Preventive action

Maternal Death Causes						
SN	Important Causes	Definition	Causes	Risk Factors	Diagnosis/ Identification	Prevention
1	APH		APH - placenta previa and placental abruption, Primary/Immediate PPH - Occurring during delivery till 24 hours postpartum 4'T's 1. Tone - Atonic PPH - Most common cause (80-90%) 2. Tears or trauma 3. Tissue - retained or incomplete placenta, membranes 4. Thromboembolic - Coagulopathy	1.APH- abruption in a previous pregnancy, recurrent abruption, 2. Other risk factors for placental abruption include: pre-eclampsia, fetal growth restriction, non-vertex presentations, polyhydramnios, advanced maternal age, multiparity, low body mass index (BMI),pregnancy following assisted reproductive techniques, intrauterine infection, premature rupt ure of membranes, abdominal trauma (both accidental and resulting from domestic violence), smoking and drug misuse (cocaine and amphetamines) during pregnancy 3.Other risk factors for placenta previa: Previous caesarean sections, Previous termination of pregnancy, Multiparity, Advanced maternal age (>40 years), Multiple pregnancy.		PPH 1. Focused ANC care 2. Anemia prevention and early detection & complete treatment 3. Identification of previous and current co-morbidities 4. Ensuring skilled attendant at birth, 5. high-risk deliveries to be conducted at FRUs

Maternal Death Causes						
SN	Important Causes	Definition	Causes	Risk Factors	Diagnosis/ Identification	Prevention
	PPH	PPH - 1. Loss of 500 ml or more of blood during delivery and up to 6 weeks after delivery (may be less in anemia) OR 2. Blood loss sufficient to cause signs and symptoms of hypovolemia OR 3. Woman soaks 1 pad or cloth in <5 min" Secondary/Delayed PPH - From 24 hours postpartum till 42 days or 6 weeks 1. Infection in the uterus 2. Retained placental fragments		1. Anemia in pregnancy 2. Multiple Pregnancy 3. Preeclampsia 4. Fetal Macosomia 5. Prolonged third stage of labor 6. Retained Placenta7. Episiotomy 8.Placenta accreta 9. Perineal laceration 10. Failure to progress in second stage of labor 11. Previous PPH 12. women with preexisting bleeding disorders and taking anticoagulants	PPH - 1.Loss of 500 ml or more of blood during delivery and up to 6 weeks after delivery (may be less in anemia) OR 2. Blood loss sufficient to cause signs and symptoms of hypovolemia OR 3. Woman soaks 1 pad or cloth in <5 min	PPH 1. Focused ANC care 2. Anemia prevention and early detection & complete treatment 3. Identification of previous and current co-morbidities 4. Ensuring skilled attendant at birth, 5. high-risk deliveries to be conducted at FRUs 5. Early identification of prolonged and obstructed labor by partograph. Avoid exhaustion, dehydration. 6. Avoiding unnecessary augmentation, fundal pressure and episiotomies 7. Controlled head delivery with perineal support 8. Active Management of Third stage of Labor (AMTSL) 9. Checking of completeness of placenta 10. Routine immediate postpartum care 11. monitoring: 4th Stage of Labor - Observe vital signs, atony, bleeding and treat 12. Early initiation of breastfeeding 13 All labor room should be equipped with PPH Box. 14. Postpartum patient - monitored

Maternal Death Causes						
SN	Important Causes	Definition	Causes	Risk Factors	Diagnosis/ Identification	Prevention
						for at least 2 hours after delivery. 15. Ensure properly applied TVUAC (transvaginal uterine artery clamp) clamps, UBT, condom tamponade or effective packing should be done depending on the type of PPH along with IV Fluids 16. BSU to be made operational in all FRU. 17.Community awareness-BCC & IEC

Maternal Death Causes						
SN	**Important Causes**	**Definition**	**Causes**	**Risk Factors**	**Diagnosis/ Identification**	**Prevention**
2	Hypertensive Disorders in Pregnancy	1. Raised BP in pregnancy: The BP is 140/90 mmHg or more. The systolic blood pressure has increased by 30 mmHg, & diastolic blood pressure has increased by 15 mmHg. 2.Pre - eclampsia - Hypertension associated with proteinuria and oedema occurring primarily in Nulliparous after 20th week's gestation and most frequently near term. 3.Eclampsia - Eclampsia is the occurrence of seizures that cannot be attributed to any other cause in a pre-eclampsia patient		For preeclampsia - Risk factors – 1. Nulliparity (primi) 2. Multifetal pregnancy 3.polyhydramnios 4.history of chronic htn 5. Maternal age < 18 0r > 35 yrs 6.obesity 7. H/o diabetes, preeclampsia 8. Family h/o preeclampsia in first degree relative **Medical risk factors for preeclampsia** 1. Chronic hypertension 2. Secondary causes of chronic hypertension such as hypercortisolism, hyperaldosteronism, pheochromocytoma, or renal artery stenosis 3. Preexisting diabetes (type 1 or type 2), especially with microvascular disease 4. renal disease 5. Systemic lupus erythematosus 6. Obesity 7.Thrombophilia **Placental/fetal risk factors for preeclampsia** 1. Multiple gestations 2. Hydrops fetalis 3. Gestational trophoblastic disease (GTD)Triploidy	DIAGNOSTIC CRITERIA FOR PREECLAMPSIA - Minimum criteria - BP >140/90mmHg after 20wks- Proteinuria >300mg/24hrs or >1+ dipstick Diagnostic criteria for EclampsiaSeizures that cannot be attributed to any other cause in a patient with pre - eclampsia.	

Maternal Death Causes						
SN	**Important Causes**	**Definition**	**Causes**	**Risk Factors**	**Diagnosis/ Identification**	**Prevention**
3	Sepsis	Life threatening condition defined as organ dysfunction resulting from infection during pregnancy, childbirth, postabortion, or postpartum	Aerobic: 1. Group A Streptococci: (Toxic shock syndrome, necrotizing fasciitis in Episiotomy wounds, C section wound 2. Group B Streptococci: (Neonatal deaths, septicemia, RD, Meningitis) 3 Others: S aureus, E coli, klebsiella, pseudomonas Anaerobic: Streptococci, Bacteroides, clostridia	1. Malnutrition 2. Anemia, UTI, TB DM, Malaria 3. Preterm labor 4. PROM (chorioamnionitis) 5. Repeated PV exam 6. Traumatic delivery 7. Retained products of conception 8. Placenta previa 9. APH/PPH 10. C section 11. Forgotten mop / cotton in vagina, abdomen	SIRS - Systemic Inflammatory Response Syndrome 1. Temperature - >100.4 or< 96.8 2. RR: >22 3. HR: >90 4. WBC: >12000 OR <4000 10% Band cells 5. PCO2: <32 mm/hg Sepsis - SIRS (any 2 signs) + Confirmed or Suspected Infection	**Antenatal:** Improving nutritional status, Hb, treating infective foci **Intra natal:** Full surgical asepsis, hand hygiene, PV exam 4 hourly in first stage of labor in low-risk cases 1. No PV exam without hand hygiene 2. Use of sterile gloves for internal exam 3. Catheterization by NO TOUCH method 4. Allowing spontaneous delivery of placenta…NO routine MRP in c section 5. No mopping of uterine cavity in C-section 6. Tissue respect while suturing … NO strangulation 7. Rule out RTI/STI before IUCD insertion 8. NO TOUCH TECHNIQUE for IUCD insertion 9. Evacuation procedure by MVA only 10. Checking IV site daily. 11 **Antibiotic prophylaxis: Inj cephalosporine- what is the reference** 1 hr. before skin incision for c section, PPROM, MRP, 3rd 4th degree

Maternal Death Causes						
SN	Important Causes	Definition	Causes	Risk Factors	Diagnosis/ Identification	Prevention
						tear, mother with GBS colonization 12. Vaginal cleaning with povidone iodine before c section 13. Postpartum period - Use of sterile vaginal pads Other Actions: 1. Ensure 100% institutional deliveries. 2. Follow up during post-natal period 3. Signs of sepsis should be picked up at the earliest for timely diagnosis and intervention. 4.Antibiotic to be started by ANM before referral 4.Proper sterilization of instruments to be ensured and adequate sets of instruments to be kept ready after autoclaving depending on the number of delivery load.

Maternal Death Causes						
SN	**Important Causes**	**Definition**	**Causes**	**Risk Factors**	**Diagnosis/ Identification**	**Prevention**
4	Anemia	Anemia is defined as decrease in the oxygen carrying capacity of the blood due to decrease in number of RBCs or hemoglobin or both. 1.In adult female less than 12 gm Hb % in peripheral blood is called anemia. 2.As per WHO definition...Hb % ...<11 gm in 1st and 3rd trimester <10.5 gm in 2nd trimester. 3.Degrees of anemia: Mild anaemia- 9 to 11 gm Hb, Moderate- 7.1 to 9 gm Hb Severe- <= 7 gm Hb Very severe- <= 4 gm Hb	Causes of anemia: 1)Physiological. Due to physiological hemodilution during pregnancy. Increase in plasma volume as compared to RBC mass. 2) Nutritional - Iron deficiency. Folate &/or vit B12 deficiency,Dimorphic 3) Hemorrhagic...Acute Chronic 4) Haemoglobinopathies 5) Hemolytic Congenital Acquired 6) Aplastic anemia.	Risk factors: Major cause for anemia in pregnancy is Nutritional anemia. 1) Mothers eating diet with low iron intake. 2) mothers with depleted iron stores. 3) poor absorption because Indian diet is predominantly vegetarian which contains inhibitors like phytates in cereals, tannins in tea, polyphenols in coffee, oxalates in vegetables, phosphates. 4) poor utilization - as the bioavailability of non- heme iron (vegetarian diet) is poor and is slowly absorbed. 5) Poor reserve of iron- because there is inadequate nutrition during adolescent period 6) Increased loss- due to high incidence of malaria and Hook worm infestation, Excessive menstrual loss before pregnancy.	Diagnosis/ identification: 1.Clinical history of fatigue, weakness, dizziness, giddiness, headache, dyspnea on exertion, palpitation, edema 2.Clinical examination:Pallor, glossitis, stomatitis, koilonychia, tachycardia. 3.Investigations: 1) For diagnosis and degree of anemia- Hb estimation Hb < 11gm RBC count...<3 million PCV- <30 % 2) For Type of anemia: A) peripheral smear (morphology of RBCs) B) Hematological indices (MCV, MCH, MCHC) C) serum iron D) Total iron binding capacity E) serum ferritin level F) bone marrow examination (not routinely done) 3) For diagnosing cause of anemia: A) urine examination. Routine and microscopy B) stool examination...ova, cysts, occult blood C) serum protein **Special tests:** Serum folate Serum vit B12 Serum bilirubin Coombs test- Sickle test Hb, electrophoresis ,NESTROF test Red cell osmotic fragility test	1. Screening of adolescent girls in school and giving iron supplements 2. IFA supplementation to women in reproductive group as per AMB guidelines. 3. Education and motivation for taking iron rich diet 4. Change in food habits i.e., avoiding tea or coffee for at least 2 hours after meals, Cooking in iron utensils 5. Fortification of food by iron and fortification of common salt by iron 6. Treatment and prevention of Anemia by providing IFA supplementation in ANC and PNC as per AMB guidelines. 7. Prevention of hookworm and malaria. 8. Ensure Hb level estimation of pregnant women (Minimum 4) during ANC visits. 9. Integrated approach to prevent maternal anemia and treatment of severe anemic mothers by Inj Iron sucrose at PHC level. 10. Severely anemic Pregnant women (<5 gm % Hb) should be referred urgently to DH/FRU for

Maternal Death Causes						
SN	Important Causes	Definition	Causes	Risk Factors	Diagnosis/ Identification	Prevention
						evaluation and blood transfusion 11. Screening of Sickle cell disease 12. Antepartum management of SCD pregnant women. 13. Adequate birth spacing 14. Follow-up by ASHA/ANM/CHO of high-risk mother ie severe anemic for complete treatment 15. Conducting high risk delivery at FRUs having blood transfusion services

Maternal Death Causes						
SN	**Important Causes**	**Definition**	**Causes**	**Risk Factors**	**Diagnosis/ Identification**	**Prevention**
5	Abortion	Abortion is defined as the spontaneous or induced termina-tion of pregnancy before fetal viability. World Health Organization defines abortion as pregnancy termination before 20 weeks' gestation or with a fetus born weighing < 500 g.		Spontaneous abortion 1. Fetal anomalies Chromosomal and Structural 2. Uterine defects. Congenital Leiomyomas, Incompetent cervix 3. Placental causes- Abruption, previa, defective spiral artery transformation, Chorioamnionitis 4. Maternal disorders. Autoimmune, Infections, Metabolic 5.Induced Abortion - Therapeutic or Elective		1. Preventing unintended pregnancy 2. Increase contraceptive services 3. Training of staff & medical officers 4. Transfer patients to a medical facility that is capable of providing emergency care when a complication arises 5. Postabortion family planning counseling 6. Follow up of abortion cases by ASHA /ANM/CHO for any complications

Annexure 5: Child death review- Gap analysis at community, health system, monitoring and policy level

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas- village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
1.	Home Death/ Transit		1. Previous H/o newborn deaths during birth at Home 2. Is Home death a isolated incidence in the village/area or common occurence	1. Gone to local faith healer 2. Not aware about health facility 3. Not willing for taking government hospital help 4. No faith in modern medicine 5. No faith in Govt institute 6. No good experience with Govt hopsitals/services 7. No road/ communication network 8. No money available for treatment 9. No hope for survival of the child	1. Not aware about 102/104 2. No visit by ASHA or ANM 3. No visit by health worker as patient is recently shifted/came back from migration 4. Non availability of ambulance/delay in reaching ambulance 5. No response from ambulance services even if called 6. non availability of 102 ambulance in the health	1No propoer IEC/SM strategies for refusal families 2. No policy for engagement of faith healers in such areas 3. No specific policies for intersectoral involvemnet for this area	1. High risk areas are not mapped and activities not monitored from districts 2. Monitoring of Gram samittee activities and their involvement 3. Monitoring of Ambulance services 4. Monitoring of ANC visits/High risk ANCs followup	1. What is the trend of over the period ? 2. Any facilities or areas with high deaths ? 3. Any particular months / period having more deaths ? 4. How many affected areas due to similar reasons	1JSSK 2. Pick Up and Drop Back 3. 108 4. IEC/BCC/SM 5. ANC care services e.g ANC visits, specialist visit 6. 28 days program				

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
				10. Did not think that the illness was serious	center 7. Non availability of ASHA/ANM in village at the time of labor pains 8. Non identification of refusal families and no followup 9. No action taken on previous silmilar H/o 10. No high risk factor identified 11 Premature delivery not anticipated by health worker								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
2	Birth Asphyxia		1. history of birth asphyxia in a previous birth 2. Was mother high risk case eg. Severe anemia, PIH etc 3. was mother severe anemic or having baby with IUGR ? 4. Was mother had any bleeding during antepartum period 5. was there any fetal distress during intrapartum period? 6. Was partograph used during delivery? 7. Was there any delay in identification of high risk during intrapartum	1. Practice of home delivery by local dai 2. Family do not know nearby delivery point or health facility or prefer home delivery 3. Mother is not aware about danger signs during preganacy or of newborn 4. Taken child to local faith healer 5. Mother / family members do not know whom to contact in case of danger signs 6. No road/ communication network	1. ASHA/ANM not able to identify danger signs of asphyxia in case of home delivery 2. ASHA/ANM do not know referal plan 3. ANM didn't attend the delivery 4. PIH/risk factors not identified during ANC period or during labor 5. No counselling or birth preparedness plan as per high risk status of Pregnant	1. Referral linkage policy 2. Policy of "No rotation of staff in labor room or SNCU" 3. Referral audit policy 4. Capacity building policy	1. High risk ANCs monitoring not done 2. No mechanism of monitoring of high risk ANCs from block or district 3. Health facility preaparedness monitoring not done (eg. NBCC in LR) 4. No regular Skill assessment of staff working in labor room on management of birth asphyxia 5. No monitoring of health facilities with high rate of birth asphyxia or	1. Are there any facilities with high birth asphyxia deaths? 2. Are there any blocks/PHCs/areas having high birth asphyxia deaths ? 3. What is the trend of over the period ? 4. Any facilities or areas with high deaths ? 5. Any particular months / period having more deaths ?	1. JSSK 2. ANC Care 3. FRU and DP 4. Training - Dakshata, NSSK 5. NBCC 6. LaQshya 7. SNCU 8. 108/102 9. HBNC				

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas- village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			period ? 8. history of obstructed or prolonged labor? 9. Was there any placental abruption/ rupture of uterus 10. Was ther any cord prolapse 11Was any birth companion present during labor? 12. Was there any delay in treatment of severe preeclampsia/eclampsia during labor? 13. Was high risk mother not treated as per protocol during ANC period eg for hypertensio		mother 6. Mapping of Delivery points not done properly 7. Delay in identification of prolonged or obstructed labor 8. Delay in identification of premature delivery by health care provider 9. Non assessment of high risk pregnancies by Gynecologists during labour 10. Staff not trained on SBA or Dakshata / NSSK 11. Staff not trained		deaths due to birth asphyxia 6. No monitoring of referral outcomes						

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			n? 14. Was resuscitation of newborn baby done after birth? 15. Was there any delya at private facility for treatment? 16. Were there any mutliple referral at various facilities? 17. was there any unnecessary augmentation of labor during intrapartum period? 18. was mother high risk and delivered at SC/PHC level?		on management of preeclampsia or eclampsia 12.Partograph and Safe Child birth checklist not used for monitoring labor 13.Inappropriate use of Oxytocin during labor 14.No specialist available at FRU 15.No NBCC at Delivery point or NBCC not maintained properly 16.Essential Newborn Care not done as per								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					guidelines 17.Referral not done timely for prolonged or obstructed labor 18.No breathing support during referral transport 19.No skilled staff during transport of asphyxiated newborn 20.Referral transport guidelines not followed - prereferral stabilisation, commuication with higher hospital 21.In SNCU, managem								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					ent of Birth Asphyxia not done as per treatment protocol. Pediatrician not available while receiving /managing baby in SNCU.								
3	Sepsis / Pneumonia		1. Any H/o of repeated episode of pneumonia 2. How long the symptoms were there before death and before approach to health system 3. Any H/o private treatment. Whetehr that was a quack or registered practitioner 4. Whetehr Safe delivery kit used?	1. Not aware about danger signs of Sepsis / Penumonia 2. Exlcusive breastfeeding not followed 3. Did not think that the illness was serious 4. Gone to local faith healer 5. Not aware about health	1. Non availability of ASHA/ANM or No visit by ASHA as per HBNC program 2. ASHA/ANM not able to identify danger signs or delay in identification of danger signs 3. family was not made aware	1. No proper IEC/SM strategies for refusal families 2. No policy for engagement of faith healers in such	1. High risk areas are not mapped and activities not monitored from districts 2. No monitoring of drugs and logistics at facility and field level 3. Faulty supply chain management 4. MAA	1 What is the trend of sepsis / Pneumonia deaths over the period ? 2. Any facilities or areas with high deaths due to Sepsis/ Pneumonia ? 3. Any particular months / period having more	1. JSSK 2. 108 3. IEC/BCC/SM 4. 28 days program 5. HBNC 6. HBYC 7. HBKMC 8. SAANS 9. MAA 10. RBSK 11. JSY 12. SNCU 13. NBSU 14. IMNCi / FIMNCI 15. PCU				

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			Where were delivery occurred? Who did delivery? 5. Whether children was SAM /MAM or having any other disease 6. In case of neonatal sepsis - was there prematue rupture of membrane and was any antibiotics given for the same to mother 7. Were multiple PV examinations done during delivery of mother? 8. In case of neonatal sepsis - was it early or late onset sepsis 9. Was mother having fever or any infection at the time of	facility 6. Not willing for taking government hospital help 7. No good experience with Govt hopsitals/services 8. PCV, MR Penta vaccines refusal	about danger signs by health staff 4. No regular knowledge updation of ASHAs in monthly meeting 5. No visit by health worker as patient is recently shifted/came back from migration 6. Refusal families not identified and no followup done for them 7. No action taken on previous silmilar episodes 8. Serious newborn with sepsis / pneumonia not referred	areas 3. No specific policies for intersectoral involvemnet for this area 4. No policy for reorientation training of frontline health workers 5. No policy on referral linkage 6. No policy of CHO involvement	meetings monitoring not done 5. Review of monthly SAANS program reports not done 6. Not conducting refresher trainings / capacity building 7. No monitoring of HBNC program 8. No monitoring of Sepsis cases and deaths in SNCU/ward 9. No daily monitoring rounds by ACS/Metron to SNCUs/ Pediatric wards 10. No monitoring of NBSUs in the district 11. No monitoring of LBW and high risk	deaths due to Sepsis/ Pneumonia?	16.EAUSHADHI 17.CHO 18.VHSND				

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			delivery and any antibiotics given for the same? 10. Did mother applied anything to umbilical cord or was newborn baby having any umbilical cord infection 11. was baby on breastfed or on top feed and any prelacteals given 12. Whether all vaccines were given as per schedule? (MR, Penta, DPT, PCV) 13. were Vitamin A doses given as per schedule? 14. Was child suffering from any congenital		directly to SNCU by ASHA 9. High risk children identification and follow up not done by ANM/CHO/MO 10. Beneficiaries not informed about 102/108 services 11. Non availability of ambulance/delay in reaching ambulance/No response from ambulance services/Driver posts Vacant on 102/Diesel not available at the time of referral 12. Ant	in newborn and chld disease management	children 12. No moniotoring of SNCU/NBSU discharged children in field 13. No regular review of ASHA/ANM regarding HBNC, PNC visits by MO/THO.						

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas- village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Sugges ted Actions	What actions actually implemented in the district
			defects like CHD, cleft palate 15. Was any treatment given by ANM before referral to higher facility? 16. Was child LBW or SAM and anytime admitted with NRC/CTC? 17. Was child identified by ASHA/ANM during home visits and referre d ? 18. Was any prereferral treatment given by ASHA/ANM before referral? 19. In case of denial of referral, were antibiotics given by		ibiotic policy not followed in SNCU / Health Facility 13. Infection control practices not followed in SNCU/Health Facility 14. No triaging of newborn in SNCU at the time of admission 15. MR, PCV, Penta Vaccines not given timely 16. No prereferral treatment given by ASHA / ANM / SN/MO at facility/prereferral stabilisation, commuica								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas- village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			ANM at home level?		tion with higher hospital not done 17. Staff / ASHA ANM not trained on SAANS treatment protocols 18. Medicines not available with frontline workers or health facilities								
5	**Prematurity and LBW**		1. Any previous H/o of LBW/prematurity 2. Any signs/symptoms suggestive of premature labour identified 3. Age of the mother 4. Whether she received all	1. Not aware about danger signs 2. IFA supplementation / Treatment not taken by pregnant mother as advised 3. Misconceptions about eating during pregnancy - leading to large size	1. No service delivery/ early registration by ASHA/ANM/Health worker and no early identification of high risk. 2. No maternal weight monitoring, no	1No policy of CHO involvement in newborn and chld disease management 2.No policy on referral linkage 3. No propoer IEC/SM	1. No monitoring of high risk ANCs 2. No review of high risk ANC follow up at PHC/Block/ District/Facility 3. No monitoring of drugs and logistics at facility and field level 4. No	1. Which are the areas with high proportion of prematurity and LBW 2. What is the trend of Child death due to Prematurity & LBW over the period 3. How many affected areas due	14 ANC Checkup 2. PMSMA 3. JSSK 4. JSY 5. Amrut Ahar Yojana in tribal areas 6. Use of Inj Antenatal Steroids 7. HBNC HBYC 8. HBKMC 9. FRU and				

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			food suppliments in AWW during preganancy 5. Any migration during ANC period 6. What is the status of physical labour 7. Whether offered Maherghar facility. 8. Whether received Inj Dexa. 9. Who refer the patient or travelled on own after labour pain 10. Place of delivery 11. Was mother having severe anemia/ hypertension / diabetes during pregnancy? 12. Were there any	baby 4. PW with low BMI 5. THR not taken / Amrut Ahar (in tribal areas) not taken 6. Stressful life/domestic violence 7. Not aware about health facility about ANC Care /delivery services 8. Gone to local bhumaka/padiyal/ faith healer 9. Not willing for taking government hospital help 10. No faith in modern medicine/ Trust on traditional treatment 11No faith in Govt institute/staff	abdominal girth taken and no early intervention 3. No examination by Gynecologist 4. No nutrition counselling and no regular food supplimentation in Anganwadi 5. No Folic Acid , IFA ,Calcium supplementation or irregular supplimentation 6. No identification of severe anemic mother and treatment 7. NO check up	strategies for refusal families v	monitoring of LBW babies 5. No monitoring of SNCU discharged babies 6. No monitoring of KMC practices in SNCU/NBSU/PNC ward 7. No monitoring of breastfeeding practices in LR/SNCU/PNC wards 8. No monitoring of identification of preterm deliveries and use of antenatal corticosteroids 9. No maternal weight monitoring, no abdominal girth	to similar reasons	DP 10.SNCU NBSU 11.NBCC 12.NRC CTC				

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			complications during pregnancy/intrapartum period - Placental bleeding, infections etc 13. was high risk cases treated as per guideline during ANC period or during intrapartum period? 14. Were any sonography done during ANC period? 15. was mother detected for IUGR during ANC period? 16. Pregnancy with Twins/triplet 17. PW with low BMI 18. Was child breastfed or	12. No good experience with Govt hopsitals/services/staff 13. No money available for treatment 14. No road/communication network/cut off villages/pada 15. No hope for survival of the child 16. Did not think that the illness is significant 17. Didn't call to ambulance services 18. Early bathing done for newborn with lbw 19. Not willing to give KMC at home 20. Do	done by Medical officer /CHOs(at least 4 ANC Check up) 8. No refreal of High Risk Mother at proper time 9. USG not conducted as per guideline 10. Followup and tracking of migrated pregnant women not done 11. No followup as per EDD/EPD of pregnant women 12. Antenatal corticosteroids not given for preterm delivery or before		monitoring and no early intervention 10. No monitoring of AWW diet for pregnant women						

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas- village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			top fed 19. Were any nutritional supplements eg. Multivitamin drops with Zinc, Vitamin D, Calcium/ Phosphorus given for lbw baby? 20. was baby having any congenital defect? Eg heart diseases 21. was child SAM/anytime admitted in NRC in case of SAM? 22. Was child detected for sickness by ASHA during HBNC / HBYC visits? 23. Were any check up/ visits given by	not know how to keep baby warm 21. Not willing to stay in Maher Ghar (tribal area) 22. Not willing to stay in SNCU/NBSU 23. Not confident about breastfeeding of preterm or very low birth weight newborn 24. Discharge taken against advise from SNCU/NBSU	referral to higher centre 13. No advance funds are provided to ASHA for transportation of PW 14. Early intiation of Bareast feeding not done 15. counseling for KMC at home not done 16. 102 /108 services not available on time 17. No response from ambulance services 18. Diesel not available at the time of referral 19. ASHA or ANM was								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/ hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			CHOs/MOs to high risk children 24. was child referred timely to higher facility? 25. was resuscitation done before and during referral? 26. was surfactant or CPAP used for preterm delivery? 27. High Risk Mother - Multipara, spacing less than 2 years, addiction, short height, 28. Teenage or elderly or multigravida pregnancy 29. Pregnancy with Twins/triplet/ other		not present while reffering 20. No prereferral treatment given by ASHA / ANM / SN at facility 21. Referral transport guidelines not followed - prereferral stabilisation, commuication with higher hospital 22. Not prompt referal of Newborn to NBSU/SNCU 23. Unavailabilty of Specialist / check up by specialist								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			30. Previous H/o premature delivery 31. H/o Abortion, H/o PIH/DM 32. Any medical complications in ANC period 33. History of Birth defects		24. No NBCC in facility 25. Essential newborn care not done after delivery 26. No breastfeeding within 1 hour after delivery 27. No triaging of newborn in SNCU at the time of admission 28. Staff do not know about identification of preterm delivery 29. NBSU not functional 30. Staff / ASHA ANM not trained on KMC / Breastfeeding - IYCF protocols								

SN	Reasons	% of deaths to total deaths (During annual review)	Previous H/o, Associated history to be elicited	Underlying causes related to society/family	Underlying causes related to Health service delivery	Underlying causes related to policies	Underlying causes related to Monitoring	Common area or repeated areas-village/pada/hopsital. Trend of similar episodes in the district/facility.	Progrms which address these problems	Whether this baby reveied all benefits of the program.If not where is the GAP.	Status of these programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					31. Staff do not know treatment protocols 32. Medicines not available with frontline workers or health facilities 33. No utilization of Maher Ghar Yojana/non functional Maher ghar/non availability in remote area								

Annexure 6- Child death review- Gap analysis as per Three-delays model

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
1	**Home Death/ Transit**		Type One **Type Two**	**Individual / family / Societal cause** **Health Care delivery** **Policies** **Monitoring** **Health Care delivery** **Policies Monitoring**	1.Do not know about danger signs 2.Do not know high risk Status of child 3.Gone to local faith healer 4.No hope for survival of the child 5.Didn't call to ambulance services 6.Didn't think that illness is serious 7.No faith in modern medicine/Governemnet hospital 8.No one advised to visit facility/No visit by ASHA or ANM as per HBNC or other program 9.Do not know nearby delivery point or health facility 10. Not willing to go to government hospital 11. No good experience			1.JSSK 2. ANC Care 3. IEC 4. DP / FRU 5. JSSK 6. 102/108			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					with Govt hopsitals/services 12. No policy on awareness/helath seeking behaviour 13. No policy for engagement of faith healers 14. No monitoring of home deaths - areas wise 15. No monitoring of refusal families/communities by field level staff/PHC/Block level officers 16. No nearby Delivery point or FRU 17. Delay in ambulance services due to - No Govt ambulance available/Ambulance driver was not available/Private ambulances not identified in case of emergency						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					18. Referral not done timely 19. JSSK IEC Not done in remote areas 20. No policy for any alternat ive transport arrangement 21. DP mapping not done considering remote/hard to reach areas 22. No monitoring of 24 *7 ambulance availability 23. No monitoring of driver availability 24. No monitoring of performance of ambulances						
2	**Birth Asphyxia**		**Type One**	1.Individual / family / Societal cause 2. 3.Health Care delivery	1. Do not know about danger signs/high risk status eg. Eclampsia, PROM 2. Gone to local faith healer/No faith in Govt institute/No			1. JSSK /ANC care 2. IEC 3. DP FRU 4. SNCU 5. NBSU 6. IEC			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			Type Two **Type Three**	4.Policies 5.Monitoring 6.Individual / family / Societal cause 7.Health Care delivery 8. **Policies** 9. 10. Monitoring 11. Health Care delivery	faith in modern medicine 3. No hope for survival of the child 4. Didn't think that illness is serious 5. Do not know nearby delivery point or health facility 6. No good experience with Govt hopsitals/services/not willing to go to governement hospital 7. Home birth not attended by trained birth attendent 8. No counselling regarding health facility availability/High risk status /hospital delivery 9. No policy for IEC for awareness 10. No monitoring in refusal families or resistant areas			7. Monitoring and Review 8. JSSK / IEC 9. DP / FRU 10. JSSK 11. Referral Transport Guidelines 12. TRAINING 13. ANC Care 14. Dakshata 15. LaQshya MusQan 16. NBCC 17. FRUs/ DP 18. IPHS 19. Training 20. SNCU 21. Training 22. DP FRU 23. Monthly Meetings 24. LaQshya MusQan 25. LaQshya MusQan			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					11. Do not know whom to contact for ambulance 12. No nearby Delivery point or FRU						
				12. Policies 13. Monitoring	13. No Govt ambulance available/Ambulance driver was not available/Private ambulances not identified in case of emergency 14. Referral not done timely 15. Referral transport guidelines not followed - prereferral stabilisation, commuication with higher hospital 16. Referal points not mapped so inappropriate referral or multiple referalas. 17. JSSK IEC Not done in remote areas 18. DP mapping not done considering						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					remote/hard to reach areas 19. No policy for any alternative transport arrangement 20. No monitoring of 24 *7 ambulance availability 21. No monitoring of driver availability 22. No monitoring of performance of ambulances 23. Staff not trained on SBA or Dakshata / NSSK 24. Delay in identification of prolonged or obstructed labor 25. Birth Companion policy not followed in specific facilities or area - block/district 26. Staff not trained on management of preeclampsia or eclampsia 27. Partograph						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					and Safe Child birth checklist not used for monitoring labor 28. Lack of esesntial newborn care 29. No NBCC at Delivery point or NBCC not maintained properly 30. No specialist available at FRU/high risk delivery not attended by Pediatrician 31. Staff in SNCU not trained on NSSK 32. In SNCU, management of Birth Asphyxia not done as per treatment protocol 33. Not attended by specialist on time 34. No intimation to facility prior to referal so delay in starting treatment 35. No training policy - priority						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					for FRU staff training, reorientation on important topic etc 36. No policy of DP or FRU identification and revision in facilities 37. No policy for non rotation of staff in LR, SNCU 38. Perinatal management preparedeness monitoring is not regularly monitored at institutional level 39. Audit is not being conducted regularly at facility level 40. Refered in management time lag need to be monitored						
3	**Sespis / Penumonia**		**Type One**	**Individual / family / Societal cause** **Health Care delivery**	1. Not aware about danger signs of Sepsis / Penumonia 2. Exlcusive breastfeeding not followed 3. Did not think that the illness was serious 4. Gone to local faith healer/No faith in Govt institute/Not aware about health facility			1.ASHA Program 2. 3. Routine Immunisation,VHSND 4. SNCU 5. NBSU 6.IEC			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			Type Two **Type Three**	**Policies Monitoring** **Societal cause** **Health Care delivery** **Policies Monitoring** **Health Care delivery (Facility and field)** **Policies Monitoring**	5. No hope for survival of the child 6. Didn't call to ambulance services 7. Migrated parents 8. PCV, MR Penta vaccines refusal 9. No examination in HBNC/No PNC visits 10. Health worker not able to identify high risk signs 11. Not done awareness about disease and treatment facilities available 12. SAM children not refered to NRC or CTC 13. Specific awareness policy 14. No specific monitoring of refusal families or resista nt areas 15. No monitoring of HBNC/PNC visits			7.IEC 8. JSSK IEC 9.JSSK IEC 10. Referral Transport guidelines 11. SAANS 12. IMNCI F IMNCI 13. HBNC HBYC 14. Training 15. CHO 16. SAANS 17. HBNC			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					16. No awareness about JSSK scheme 17. Beneficiaries not informed about 102/108 services 18. ASHA/ANM didn't refered on time 19. Non availability of ambulance/delay in reaching ambulance/No response from ambulance services/Ambulance driver was not available/Diesel not available at the time of referral 20. Private ambulances not identified in case of emergency 21. CHOs not oriented on appropriate referral protocol of sick children 22. No policy for any alternative transport arrangement 23. No monitoring						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					of 24 *7 ambulance availability 24. No monitoring of performance of ambulances 25. No pre-referral treatment given by ASHA / ANM / SN at facility 26. Referral transport guidelines not followed - pre-referral stabilisation, commuication with higher hospital 27. Delay in identification of sepsis / pneumonia signs by ASHA/ANM / CHO or at facility 28. Staff / ASHA ANM not trained on SAANS treatment protocols 29. Facility Staff do not know treatment protocols 30. Medicines not						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					available with frontline workers or health facilities 31. No appropriate antibiotic protocols in SNCU / Health Facility 32. Not attended by MO/Specialist on time 33. No policy of CHO involvement in newborn and chld disease management 34. No monitoring of drugs and logistics at facility and field level 35. No monitoring of Sepsis cases and deaths in SNCU/ward 36. No daily monitoring rounds by ACS/Metron to SNCUs/Pediatric wards						
4	**Prematurity and LBW**		Type One	**Individual / family / Societal cause**	1. Not aware about danger signs , delivery conducted by local untrained dai 2. Gone to			IEC ANC CARE ASHA PROGRAM VHSND RI SESSIONS			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
			Type Two **Type Three**	**Health Care delivery** **Policies** **Monitoring** **Individual / family / Societal cause** **Health Care delivery** **Policies** **Monitoring** **Health Care delivery (Facility and field)** **Policies** **Monitoring**	local bhumaka/padiyal/ faith healer 3. Did not think that the illness is significant 4. No one advised to visit facility 5. Not aware about health facility /Not willing for taking government hospital help/No faith/No trust on modern medicine 6. No good experience with Govt hopsitals/services/staff 7. Delivery conducted by untrained personnel 8. No visit by ASHA or ANM as per HBNC or other program 9. No policy for engagement of faith healers in such areas 10. No propoer IEC/SM			MusQan ASHA Program JSSK Referral Transport CHO PROGRAM HWC Referral Transport - JSSK VHSND AMB NHM GB EC MEETING			

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					strategies for refusal families 11. No monitoring in refusal families or resistant areas or Home deliveries 12. Not aware about health facility/taken to local healer 13. No road/communication network/cut off villages/pada 14. ASHA/ANM didn't refered on time 15. Non availability of ambulance/delay in reaching ambulance/No response from ambulance services/Ambulance driver was not available/Diesel not available at the time of referral 16. Private ambulances not identified in case of emergency 17. CHO not						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					oriented on referral management protocol of sick children 18. No policy of CHO involvement in sick newborn and children referral and disease management 19. No Monitoring of Ambulances working or not/No monitoring of performance of ambulances 20. Health care worke r visisting home delivery is not trained in management of prematurity and LBW babies/Essential newborn care not done after delivery 21. Health facility is not initimated while refering for receipt of baby 22. No treatment given						

SN	Reasons	% of deaths	Common / Repeated Delay type	Reasons for Delay	Underlying Reasons	Frequency (Common occurance or isolated incidence)	Common area/village/ pada/hopsital	Progrms which address these problems	Status of These programs in these areas, taluks and district	Suggested Actions	What actions actually implemented in the district
					by Medical officer as per protocol/ baby not attended by MO or pediatrician. 23. Unavailability of Specialist / check up by specialist at health facility 24. Treatment protocols not available at facility level - sncu/nbsu/other facilities 25. Capacity building 26. No policy on referral linkage 27. No monitoring of high risk ANCs admitted by Specialists 28. No monitoring of drugs and logistics at facility and field level 29. No monitoring of LBW babies in wards 30. Premature discharge from SNCU 31. No monitoring of KMC practices in SNCU/NBSU/PNC ward 32. No monitoring of breastfeeding practices in LR/SNCU/PNC wards						

Annexure 7: Child death review- Line list format for child death review at district level

District/Corporation	
Date of CDA	
Number of Deaths audited	

SN	Name	Age	Date of Death	hospital audit done? (Y/N)	Community audit done?(Y/N)	Cause of Death	Reasons for the cause leading to death	Delay	Reasons for delay	Proposed corrective measures	Activities proposed for corrective measures

Annexure 8: Child death review- Plan of action and compliance report of child death review meeting

District/Corporation			
Date of CDA			
Number of Deaths audited			
SN	**Summary Points**	**Compliance**	**Remarks**
1	Number of of audit completed		
2	What are the common preventable reasons leading to deaths		
3	What are the common problems identified with service deliveries		
4	What are the common areas involved		
5	What are the programs involved		
6	What are the common preventive measures suggested		
7	What are the activities will be implemented in the district to prevent		
8	What was the sugegstions in last death audit		
9	What was the actions teken on last meeting minuites		
10	What is the improvement seen		

Child Death Causes Details and Preventive action

SN	Important Causes: Child death	Definition	Causes	Risk Factors	Diagnosis/Identification	Prevention
1	Birth Asphyxia	Clinically a neonate should be labeled as having suffered perinatal asphyxia if there is presence of any one of the following: 1. Gasping or ineffective breathing or lack of breathing at one minute of life. 2. Need for positive pressure ventilation for > 1 minute. 3. Apgar Score <3 at 5 minutes or longer. (Source: FBNC Training Booklet MoHFW)	1. Maternal events (hemorrhage, amniotic fluid embolism; hemodynamic collapse) 2. Placental events (acute abruption) 3. Uterine events (rupture) 4. Cord events (tight nuchal cord, cord prolapse/avulsion) 5. Intrapartum infection (maternal fever in labor) 1. Failure of gas exchange across the placenta – excessive or prolonged uterine contractions, placental abruption, ruptured uterus 2. Interruption of umbilical blood flow – cord compression, cord prolapse, delayed delivery, e.g. shoulder dystocia 3. Inadequate maternal placental perfusion, maternal hypotension or hypertension – often with intrauterine growth restriction (IUGR) compromised fetus – anemia, IUGR 4. Failure of cardiorespiratory adaptation at birth – failure to breathe.	1. Maternal Factors - Younger/older mother, Hypertension/pre-eclampsia, antepartum bleeding 2. Obstetric factors - Prolonged labor, Fetal distress 3. Neonatal factors - Prematurity, Low Birth Weight, Postdated delivery history of birth asphyxia in a previous birth.	1. Gasping or ineffective breathing or lack of breathing at one minute of life. 2. Need for positive pressure ventilation for > 1minute. 3. Apgar Score <3 at 5 minutes or longer.	1. Identification and monitoring of high-risk pregnancies eg. PIH, Anemia 2. Planning delivery of high-risk cases at FRUs 3. Timely referral of high-risk deliveries 4. Monitoring the labor progress through plotting of partograph 5. Emotional support with birth companions 6. Use of ANCS in pre-term births 7. Appropriate management of pre-eclampsia/eclampsia 8. Avoid un necessary augmentation of labor 9. Maintain hydration of mothers at all times 10. Allow mother to assume left lateral position during labor 11. Ask mother to push only during contractions 12. Ask mothers take deep breaths in between contractions 13. Do not apply fundal pressure during labor 14. Newborn corner in LR - Well equipped NBCC in LR of all hospitals 15. Trained Staff at Labor Room (SBA, NSSK trainings)

SN	Important Causes: Child death	Definition	Causes	Risk Factors	Diagnosis/Identification	Prevention
2	Sepsis	Neonatal Sepsis- Definition Neonatal sepsis is a clinical syndrome characterized by signs and symptoms of infection with or without accompanying bacteremia in the first month of life. It encompasses various systemic infections of the newborn such as septicemia, meningitis, pneumonia, arthritis, osteomyelitis, and urinary tract infections. Superficial infections like conjunctivitis and oral thrush are not usually included under neonatal sepsis.	1.Neonates acquire infection from a wide range of micro-organisms including bacteria, virus and protozoa. 2.Bacteria-mediated infection constitutes a common morbidity and accounts for nearly one-third of total neonatal deaths. 3.Infections can be superficial and systemic.	Risk factors for early onset sepsis (EOS) in Newborn are; 1. Very low birth weight (<1500 g) 2. Spontaneous preterm delivery 3. Foul smelling liquor 4. Rupture of membranes >24 hours 5. Single unclean or >3 sterile vaginal examination(s) during labor 6. Intra-partum maternal fever (>380C)Risk factors for late onset sepsis (LOS) in Newborn are; 1. Very low birth weight, prematurity 2. Lack of breastfeeding 3. Delayed enteral feeding 4. Frequent handling 5. Disruption of skin integrity with needle pricks and use of intravenous fluids 6. Poor hygiene 7. Poor maintenance of asepsis in neonatal units including improper hand washing techniques 8. Superficial infections (pyoderma, umbilical sepsis) 9. Previous or prolonged hospitalization	1. Blood culture: It is the gold standard for diagnosis of sepsis 2. Isolation of microorganisms from blood, CSF, urine or pus is diagnostic. 3. In clinically suspected cases of sepsis, blood culture should be sent prior to starting antibiotics. 4. Early onset sepsis (EOS), where the signs and symptoms of sepsis appear within 72 hours of birth. The source of pathogens is the maternal genital tract or the delivery area. 5.Respiratory distress due to congenital (intrauterine) pneumonia is the predominant manifestation of EOS. 6.Late onset sepsis (LOS), where the signs and symptoms of sepsis appear after 72 hours of age. The pathogens are acquired from community or hospital (nosocomial). 7.LOS commonly presents as septicemia, pneumonia or meningitis.	1. Appropriately manage maternal infections and use prophylaxis wherever needed, antibiotics in PROM >24 hours as per guidelines 2. Delivery of high-risk cases eg. IUGR at FRUs 3. Use of Partograph in labor, 4.Do not do unnecessary PV examination 4. Maintain "Six Cleans" during delivery 5. Perform hand hygiene every time before handling the baby 6. Early initiation of breast feeding and exclusive breast feeding, avoid pre-lacteal feeds, 7.KMC for lbw as early as possible, counseling for home based KMC 8. Dry cord care 9. Avoid unnecessary interventions for the baby like routine suctioning of every newborn 10. Immunization as per schedule 11. Early identification of danger signs during home visits by ASHAs/ANM/CHOs 12. Monitoring of high-risk children by ANM/CHOs eg. LBW, SNCU discharged 13. Antibiotic Policy for SNCU 14. Prompt Referral mechanism along with pre-referral treatment 15. Infection control practices in SNCU and other health facilities

SN	Important Causes: Child death	Definition	Causes	Risk Factors	Diagnosis/Identification	Prevention
3	Pneumonia	Pneumonia is a form of acute respiratory infection that affects the lungs.	Pneumonia is caused by several infectious agents, including viruses, bacteria and fungi. The most common are the following; 1.Streptococcus pneumoniae is the most common cause of bacterial pneumonia in children. 2. Haemophiles influenzae type b (Hib) is the second most common cause of bacterial pneumonia. 3. Respiratory syncytial virus is the most common viral cause of pneumonia. 4. In infants infected with HIV, Pneumocystis Jiroveci is one of the most common causes of pneumonia.	1. Birth defects like cleft palate, congenital heart disease etc. are important contributors of recurrent childhood Pneumonia 2. Malnutrition - SAM / SUW children 3. Pre-existing illnesses, such as symptomatic HIV infections and measles 4. Infants who are not exclusively breastfed. 5. Indoor Air Pollution 6. Children whose immune systems are compromised	1. Severe Pneumonia - General danger signs (inability to breastfeed or drink, lethargy or reduced level of consciousness, convulsions) or Chest indrawing 2. Pneumonia Fast breathing: (Respiratory rates: • 2-11 months ≥50/min •12-59 months ≥40/min)	1. Exclusive breastfeeding for 6 months 2. Adequate complimentary feeding 3. Vitamin A Supp 4. Vaccines - Pertussis, measles, Hib, PCV and rotavirus 5. Monitoring of high-risk children like children with birth defects, heart diseases SAM, LBW etc. 6. Awareness regarding Handwashing with soap 7. Availability and use of Safe drinking water and sanitation practices 8. Reduce household air pollution 9. Early referral & treatment of pneumonia cases 10. Availability of antibiotics with ASHAs for prereferral treatment 11. In case of denial of referral home treatment by ANM of injectables as per guidelines 12. SAANS trainings of all frontline workers

SN	Important Causes: Child death	Definition	Causes	Risk Factors	Diagnosis/Identification	Prevention
4	Prematurity and LBW	Preterm birth is defined by WHO as all births before 37 completed weeks of gestation or fewer than 259 days since the first day of a woman's last menstrual period. Low birth weight infants defined as babies born with a birth weight below 2.5kg regardless of gestational age	1. **IUGR** - **Maternal** - Undernutrition, Maternal hypoxia, e.g. cyanotic heart disease, chronic respiratory disease, high altitude. Drugs, e.g. cigarettes, alcohol, illicit drug use. **2.Placental** - Reduced maternal uterine vascular supply – pre-eclampsia, chronic maternal disease, e.g. hypertension, diabetes mellitus, renal disease. Placental vascular thrombosis and/or infarction, e.g. sickle cell disease. Unequal sharing of uteroplacental vascularity – multiple gestation **3.Fetal** Chromosomal disorders, e.g., trisomy 18 and other syndromes 4.**Preterm** - Most preterm births happen spontaneously. common causes include multiple pregnancies, infections and chronic conditions, such as diabetes and high blood pressure; Short inter -pregnancy interval of<6 months, previous premature birth, infections in pregnancy, anemia, Maternal nutrition – low BMI (body mass index), Obese mothers, Problems with the uterus, cervix or placenta, Some infections, mainly those of the amniotic fluid and lower genital tract, High levels of maternal psychological or social stress, Smoking cigarettes, taking illicit drugs or drinking alcohol, underage or elderly pregnancy.		Preterm birth can be further sub-divided based on gestational age: extremely preterm (<28 weeks), very preterm (28 - <32 weeks) and moderate preterm (32 - <37 completed weeks of gestation)	**Services for married couples** 1. Increase spacing between pregnancies 2. In Preconception period - Folic acid supplementation, anemia correction, Smoking, tobacco cessation counseling **During ANC** 1. All 4 ANC Checkups, weight gain monitoring, lab tests and sonography, 2. Anemia detection and treatment (facility/PHC wise performance) 3. Identification of high-risk cases and treatment eg. PIH, sickle cell, IUGR, GDM 4. Counseling regarding smoking, tobacco cessation, diet, supplementary nutrition 5. Monitoring Amrut Ahar, THR, supplementary nutrition taken by ANC 6. Birth preparedness plan of high-risk cases at FRUs **Intra partum Care –** 1. Antenatal corticosteroids 2. Use of antibiotics for Preterm premature rupture of the membranes (PPROM) 3. Use of CPAP and surfactants if required 4. Trained staff at LR

SN	Important Causes: Child death	Definition	Causes	Risk Factors	Diagnosis/Identification	Prevention
						(NSSK, SBA) 5.Well equipped LR with NBCC 6. Early referral of high-risk cases at FRUs, Delivery of IUGR cases at FRUs. **Post Partum –** 1. Early and exclusive breastfeeding, complementary feeding counseling and monitoring 2. Kangaroo Mother Care: For all LBW babies at facilities 3. Home Based KMC Counselling by ANM/MO and ASHAs 4. Strengthening HBNC and HBYC visits of ASHAs 5. Nutritional supplements for LBW as per guidelines (Vitamin D, Calcium and Phosphorus, IFA, Multivitamin with Zinc)6. Vitamin A supplementation 7. IFA syrup as per AMB guidelines and Deworming of all children, detection of anemia in children and treatment 8. Monitoring of high-risk children - SAM, LBW, CONGENITAL DEFECTS like Heart diseases 9. Early identification of growth failure and management 10. Health checkup of all high-risk children on monthly basis by CHOs/ANM 11. Identification of

SN	Important Causes: Child death	Definition	Causes	Risk Factors	Diagnosis/Identification	Prevention
						SAM cases and referral to NRC/CTC, follow-up after discharge 12. Follow-up and monitoring of SNCU discharged children at home by CHO/ANM

फॉर्म क्र.१

आशांसाठी ० ते ५ वर्षे मृत बालकांचे सुचना पत्र (Notification Card)

कार्यालयीन उपयोगासाठी फक्त	
सुचनापत्र मिळाल्याची तारीख	
सुचनापत्र घेणाऱ्याचे नाव	

सुचना

१) आशा कार्यकर्तीने आपल्या रहिवासी क्षेत्रातील ० ते ५ वर्षे वयोगटातील मृत्यु झालेल्या बालकांची (जरी बालकाचा मृत्यु आरोग्य संस्थेत उदा. एसएनसीयु, आरएच, एसडीएच, वैद्यकिय महाविद्यालय इत्यादी/ प्रवासा दरम्यान , **घरी** झाला असला तरीही) भरावी.

२) गावपातळीवरील मृत्युंची (CB CDR) २ प्रतीमध्ये माहिती भरावी. (एक प्रत आरोग्य परिचारिका यांस सादर करावी व एक प्रत मृत्यु झालेल्या बालकाच्या कुटूंबास दयावी.)

३) सुचना पत्र मोठया अक्षरात लिहा.

४) योग्य प्रतिसादास गोल करा किंवा आवश्यकतेनुसार टिक मार्क करा.

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१) बालकाचे नाव :- ________________________________
(नवजात शिशू असल्यास, मातेच्या नावाचा उपयोग करा. उदा. निर्मलाचे बाळ)

२) जन्म तारीख (उपलब्ध असल्यास): ☐☐ दिवस, ☐☐ महिना, ☐☐☐☐ वर्ष

३) वय: ☐☐ वर्ष, ☐☐ महिना, ☐☐ दिवस, ☐☐ तास

४) लिंग : ☐ पुरुष, ☐ स्त्री

५) आईचे नाव: ________________________________

६) वडिलांचे नाव: ________________________________

७) पुर्ण पत्ता: ________________________________

घर क्रमांक:________________________________

मोहल्ला/ कॉलनी:________________________________

गाव/ नगर/ शहर:________________________________

तालुका:________________________________

जिल्हा/ तहसिल:________________________________

राज्य: ________________________________

पिनकोड: ________________________________

८) जवळची खुण असल्यासः ______________________________

९) पालकांचे/ कुटूंबातील व्यक्तीचा दुरध्वनी क्रमांक (एकाच घरात राहणारे)

☐ घरचा : ______________

☐ भ्रमणध्वनी (मोबाईल) क्रमांक : ______________

१०) मृत्युचा दिनांक ☐☐ दिवस, ☐☐ महिना, ☐☐☐☐ वर्ष

११) मृत्युचे ठिकाणः-

अ) घर ☐, ब) दवाखाना ☐, (दवाखान्यात मृत्यु झाला असल्यास नाव नमूद करा)

क) प्रवासात ☐

आशाचे नाव : ______________________ वेळ ______________

स्वाक्षरी सुचना पत्रचा दिनांक ______________

हे कार्ड बालकाच्या पालकांना दयावे त्यामुळे बालकाच्या मृत्युची तपासणी आाशाने केल्याची खात्री होईल तसेच इतरांना मृत्यु झाल्याची माहिती देणे शक्य होईल व प्रक्रिया पुन्हा पुन्हा करावी लागणार नाही.

प्रिय पालक,

आपले बाळ गेल्याचे आम्हाला खुप दुःख होत आहे. तुमच्या बाळास झालेल्या आजाराबाबत व मृत्युस कारणीभुत असलेल्या अजुनही काही बाबीची अधिक माहिती आम्हास हवी आहे जेणेकरुन भविष्यात होणारे असे मृत्यु टाळणे शक्य होईल. या संदर्भात काही आरोग्य कर्मचारी येत्या आठवडयामध्ये आपणास भेट देतील.

आपणास विनंती करण्यात येते की, आपण बाळाची व मातेची आरोग्यासंबंधीची सर्व माहिती (document) जपुन ठेवावी.

आरोग्य कर्मचाऱ्याच्या भेटीच्यावेळी कृपया हे पत्रक (कार्ड) आरोग्य कर्मचाऱ्यास दाखवावा.

माहिती देणाऱ्याची स्वाक्षरी

हुद्दाः-

दिनांकः-

फॉर्म क्र. २

पहिला थोडक्यात माहिती/चौकशी अहवाल

सुचना :-

१) आरोग्य परिचारिकेने (एएनएम) भरावा.
२) योग्य मोठया अक्षरात लिहावा.
३) प्रतिसादास गोल करा किंवा आवश्यकतेनुसार टिक (√) करा.

विभाग अ :- सुरुवातीची माहिती (Background Information)

१) बालकाचे नाव :- ____________________

२) जन्मतारिख (असल्यास):.......................................

३) वय : ...... वर्षे ......महिना.........दिवस (१ महिन्याच्या आतील बालकांसाठी)
.... तास (१ दिवसाचे आतील बालकांसाठी)

४) लिंग : ..... पुरुष..... स्त्री

५) पत्ता :____________________

६) प्रा.आ.केंद्राचे नाव :____________________

७) उपकेंद्राचे नाव :____________________

८) जन्माची (खेप) संख्या :.....१.....२.....३.....४......५

९) जात प्रवर्ग : अनुसुचित जाती /जमाती....इतर मागास वर्गीय ....सर्वसाधारण.....

१०) कुटुंब हे दारिद्रय रेषेखालील कार्डधारक आहे काय ....होय.....नाही.

११) लसीकरण स्थिती :- (लसीरकरण झालेले असेल तर टिक (√) करा.)

- जन्मत: १) ओपीव्ही-झिरो २) बीसीजी- ३) Hep.B -
- ६ आठवडे - १) ओपीव्ही-१ - २) आरव्हीव्ही-१ ३) एफआयपीव्ही-१ ४) पेन्टावलेन्ट-१ ५) पीसीव्ही -१
- १० आठवडे - १) ओपीव्ही-२ - २) आरव्हीव्ही-२ ३) पेन्टावलेन्ट-२
- १४ आठवडे - १) ओपीव्ही-३ - २) आरव्हीव्ही-३ ३) एफआयपीव्ही-२ ४) पेन्टावलेन्ट-३ ५) पीसीव्ही -२
- ९ ते १२ महिने - १) एमआर-१ - २) एफआयपीव्ही-३ ३) पीसीव्ही बुस्टर ४) जेई - १
- १६ ते २४ महिने- १) ओपीव्ही बुस्टर- २) एमआर २ - ३) डिपीटी बुस्टर-१ ४) जेई - २
- ५ ते ६ वर्ष - डिपीटी बुस्टर-२

१२) वजन (माता व बाल संरक्षण कार्डमध्ये नमुद असेल तर) :- .....,....कि.ग्रॅ.

१३) वाढीचा आलेख (३ वर्षाखालील बालकांचेसाठी, एमसीपी कार्ड तपासा) :-
अ. हिरवा झोन... ब. पिवळा झोन...... क. केसरी झोन.....

१४) एखादया आजार/ॲक्सिडेंटचा इतिहास आहे का? :- होय..... नाही....

१५) होय असल्यास आजाराचा प्रकार :-

१६)	आजारपणातील लक्षणे	योग्य प्रतिसादास गोल करा	होय असल्यास, लक्षणांचा कालावधी
अ	खाण्यामध्ये असमर्थता	होय/नाही	.......दिवस
ब	ताप	होय/नाही	.......दिवस
क	पातळ संडास	होय/नाही	.......दिवस
ड	उलटया	होय/नाही	.......दिवस

१६)	आजारपणातील लक्षणे	योग्य प्रतिसादास गोल करा	होय असल्यास, लक्षणांचा कालावधी
इ	जलदश्वास (धाप)	होय/नाही	.......दिवस
फ	आकडी	होय/नाही	.......दिवस
ग	त्वचेवर पुरळ	होय/नाही	.......दिवस
ह	इजा (फ्रॅक्चर/जखम)	होय/नाही	.......दिवस
ई	इतर लक्षणे (जर असतील) नोंदवा.........	होय/नाही	.......दिवस

१७) उपचाराबाबत माहिती :-

१) आजारपणासाठी उपचार घेतले किंवा नाही. होय.....नाही....
(नाही, असल्यास विभाग ब पहावा)

२) होय असल्यास, उपचार कोठे करण्यात आले :-

अ. सार्वजनिक आरोग्य संस्था :- प्रा. आ.केंद्र, ग्रामीण रुग्णालय, उपजिल्हा रुग्णालय, सामान्य रुग्णालय, स्त्री रुग्णालय, जिल्हा रुग्णालय, युसीएचसी

ब. खाजगी दवाखाना/सुश्रुषा रुग्णालय (Nursing Home)

क. खाजगी परवानाधारक ॲलोपॅथी दवाखाना...

ड. आयुष दवाखाना.....

इ. Unqualified provider (quack, informal provider) ....

फ. Traditional healer ....

विभाग ब. मृत्यूच्या कारणांची शक्यता :-

अ. अतिसार.... ब. न्युमोनिया..... क. हिवताप.....
ड. गोवर... इ. सेप्टिसेमिया (जंतुसंसर्ग).... फ. मेंदूज्वर....
ग. जखम.... ह. इतर कारण (ठराविक).......
च. न ओळखण्यासारखे कारण....

विभाग क. जवाब नोंदवणारी व्यक्तीच्या मतानुसार (पालक, कुटुंबातील जवळचे नातेवाईक) मृत्यूचे कारण काय आहे.

विभाग ड. कोणत्या स्तरावरुन उशिर झालेचे आपणास निदर्शनास आले.

१. **घरी झालेला उशिर** (उदा. आजाराचे गांभीर्य ओळखता आले नाही. उपचार घेतले नाहीत, फारच उशिरा उपचार घेतले, उपचार घेण्यासाठी कुटुंबातील व्यक्तींनी परवानगी दिली नाही.)

२. **वाहतुक दरम्यान झालेला उशिर** (उदा. वाहतूक व्यवस्था उपलब्ध नव्हती, स्थानिक वाहतूकीसाठीचा खर्च करणे शक्य नव्हते, अवघड डोंगराळ भाग, आरोग्य संस्था जास्त अंतरावर)...

३. **आरोग्य संस्था स्तरावर झालेला उशिर** (उदा.वैद्यकीय अधिकारी/ परिचारिका उपलब्ध /हजर नव्हते, औषधे व उपकरणे उपलब्ध नव्हती, उपचार उशिरा सुरु करण्यात आले.)

विभाग इ. मृत्यू झाल्याच्या परिस्थितीचे अवलोकन केले असता, तुमच्या दृष्टीने मृत्यू कसा वाचवता आला असता.

१) ....
२) ....
३) ....

परिचारिकेचे नाव :.................. सही:...............

आरोग्य केंद्राचे नाव :.................. तारिख:.............

२

FORM 3a

VERBAL AUTOPSY FORM: NEONATAL DEATHS

Instructions

1. NOTE: This form must be completed for all neonatal deaths (0-28 days)
2. Write in capital letters
3. Circle the appropriate response (or) place a √ (tick) wherever applicable

District: ………………………….. Block / Ward :…………………….. Village / Area :……………………………

PHC / UPHC :…………………….. Sub-Centre: ……………………………………………………………….

RCH Number: ………………………………. Date: …../……/……………

Name of Head of the Household:																
Full Name of the deceased:																
Name of mother of deceased:																

Section A: Details for Respondent and Deceased

Details of the Respondent:

1.	Name of Head of the Household: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐					
2.	Relationship of the respondent with the deceased:					
a. Brother/ Sister ☐	b. Mother/ Father ☐	c. Neighbor/ No relation ☐	d. Grandfather/Grandmother ☐	e. Other relative ☐		
3.	Did the respondent live with the deceased during the events that led to death?					
a.	Yes ☐	b.	No ☐			
4.	What is the highest standard of education the respondent has completed?					
a.	Literate and literate with no formal education		☐			
b.	Literate, Primary or below ☐	c.	Literate, Middle ☐	d.	Literate, Matric (Class-X) ☐	
e.	Literate, Class XII	f.	Graduate & Above ☐			
5.	Category: a. SC/ST ☐	b.	OBC ☐	c.	General ☐	
6.	Religion of the head of the household					
a. Hindu ☐	b. Muslim ☐	c. Christian ☐	d. Sikh ☐			
e. Buddhist ☐	f. Jain ☐	g. No religion ☐	h. Others, Specify………… ☐			

Details of deceased

7.	Deceased's Sex : a. Male ☐	b. Female ☐				
8.	Age in Completed days:	a. Less than 1 day ☐	b. 01-28 days ☐			
9.	Date of birth : ___/___/______					
10.	Date of death : ___/___/______					
11A	House address of the deceased					
11B	PIN : ☐☐☐☐☐☐					
12.	Place of death:					
a.	Home ☐	b. On way to health facility/in transit ☐	c. Sub Center ☐			
d.	PHC/CHC/Rural Hospital ☐	e. District Hospital ☐	f. Medical college ☐			
g.	Private Hospital ☐	h. Other, Specify ………….. ☐	i. DNK ☐			

Section B: Neonatal Death

13A	Did the child with an accident					
a.	Yes ☐	b.	No ☐ (if No, go to Q 14A)			
13B	If yes, what kind of injury or accident?					
a.	Road traffic injury ☐	b.	Falls ☐	c.	Fall of objects ☐	
d.	Burns ☐	e.	Drowning ☐	f.	Poisoning ☐	

1

g.	Bite/sting	h.	Natural disaster	i.	Homicide/ assault
x.	Other, Specify …………………………………………………………..				
13C	Do you think the child died from an injury or accident				
a.	Yes (if Yes, go to SectionC)	b.	No	c.	DNK
Details of pregnancy and delivery					
14A	How many months long was the pregnancy?		(in completed months)		
14B	Mother's age:				
15	Did the mother receive 2 doses of tetanus toxoid during pregnancy?				
a.	Yes	b	No	c.	DNK
16A	Were there any complications during the pregnancy, or during **labour**?				
a.	Yes	b.	No (go to **Q** 17)	c.	DNK (go to Q 17)
16B	If yes, what complications occurred? (Check all that apply)				
	a. Mother had fits				
	b. Excessive (more than normal) bleeding before/ during delivery				
	c. Water broke one or more days before contractions started				
	d. Prolonged/ difficult labour (12 hours or more)				
	e. Operative delivery (C-Section)				
	f. Mother had fever				
	g. Baby had cord around neck				
	h. Instrumental delivery/ Assisted				
	i. DNK				
17.	Was the child a single or multiple birth?				
a.	Single	b.	Multiple	c.	DNK
18.	Where was she/ he born?				
a. Home		b. On way to health facility/ in transit		c. Sub Centre	
d. PHC/CHC/Rural Hospital		e. District Hospital		f. Medical College	
g. Private Hospital		h. Other, Specify……………………..		i. DNK	
19.	Who attended the delivery?				
a.	Untrained traditional birth attendant	b.	Trained traditional birth attendant		
c.	ANM/Nurse	d.	Allopathic Doctor	e.	Other, Specify……..
f.	None	g.	DNK		
20.	Was a disinfected or new knife/ blade used to cut the umbilical cord?				
a.	Yes	b.	No	c.	DNK
21.	Was it a live/ still birth:	a.	Live Birth	b.	Still birth (go to Section C)
Details of baby after birth					
22.	Did the baby ever cry, move or breath?				
a.	Yes	b.	No	c.	DNK
23.	Were there any bruises or signs of injury on child's body after the birth?				
a.	Yes	b.	No	c.	DNK
24A	Did baby had any visible malformation at birth?				
a.	Yes	b.	NO	c.	DNK
24B	Compared to other cildren in your area, what was the child's size at birth?				
a.	Very small	b.	Smaller than average	c.	Average
d.	Larger than average	e.	DNK		
24C	What was the birth weight?				
a.	Kgs.	b	DNK		

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25A	Did baby stop crying after some time? (Denoting any illness)					
a.	Yes ☐	b.	No ☐ (go to Q 26A)	c.	DNK ☐ (go to Q 26A)	
25B	If yes, how many days after birth did baby stop crying?					
a.	≤ 1 day ☐	b.	☐☐ days			
26A	When was baby first breasfed?					
a.	Immediately/ within one hour of birth ☐	b.	Same day child was born ☐			
c.	Second day or later ☐	d.	Never breastfed ☐ (go to Q 27A)			
e.	DNK ☐					
26B	Was baby able to suckle normally during the first day of life?					
a.	Yes ☐	b.	No ☐ (go to Q 27A)	c.	DNK ☐ (go to Q 27A)	
26C	If yes, did baby stop being able to suck in a normal way?					
a.	Yes ☐	b.	No ☐ (go to Q 27A)	c.	DNK ☐ (go to Q 27A)	
26D	If yes, how many days after birth did baby stop sucking?					
a.	≤ 1 day ☐	b.	☐☐ days			
27A	Was the baby ever given anything to drink other than breast milk?					
a.	Yes ☐	b.	No ☐ (go to Q 28A)	c.	DNK ☐ (go to Q 28A)	
27B	If yes, what was given (specify)____________________					
a.	Frequency ☐☐ per day	b.	DNK ☐			
Details of sickness at the time of death						
28A	Did baby have fever?					
a.	Yes ☐	b.	No ☐ (go to Q 29A)	c.	DNK ☐ (go to Q 29A)	
28B	If yes, how many days did the fever last?					
a.	≤ 1 day ☐	b.	☐☐ days			
29A	Did baby have any difficulty in breathing?					
a.	Yes ☐	b.	No ☐ (go to Q 30A)	c.	DNK ☐ (go to Q 30A)	
29B	If yes, for how many days did the difficulty with breathing last?					
a.	≤ 1 day ☐	b.	☐☐ days			
30A	Did baby have fast breathing?					
a.	Yes ☐	b.	No ☐ (go to Q 31A)	c.	DNK ☐ (go to Q 31A)	
30B	If yes, for how many days did the fast breathing last?					
a.	≤ 1 day ☐	b.	☐☐ days			
31	Did baby have in-drawing of the chest?					
a.	Yes ☐	b.	No ☐	c.	DNK ☐	
32A	Did baby have a cough?					
a.	Yes ☐	b.	No ☐	c.	DNK ☐	
32B	Did baby have grunting (demonstrate?)					
a.	Yes ☐	b.	No ☐	c.	DNK ☐	
32C	Did baby's nostrils flare with breathing?					
a.	Yes ☐	b.	No ☐	c.	DNK ☐	
33A	Did baby have diarrhoea (frequent liquid stools)?					
a.	Yes ☐	b.	No ☐ (go to Q 34A)	c.	DNK ☐ (go to Q 34A)	
33B	If yes, for how many days?					
a.	≤ 1 day ☐	b.	☐☐ days			
34A	Did baby vomit?					
a.	Yes ☐	b.	No ☐ (go to Q 35A)	c.	DNK ☐ (go to Q 35A)	
34B	If yes, for how many days did baby vomit?					
a.	≤ 1 day ☐	b.	☐☐ days			

35A	Did baby have redness around, or discharge from, the umbilical cord stump?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
36	Did baby have yellow eyes or skin?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
37	Did baby have spams or fits (convulsions)?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
38	Did baby become unresponsive or unconscious?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
39	Did baby have a bulging fontanelle (describe)?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
40	Did the child's body feel cold when touched?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
41	Were the child's hands, legs or lips discoloured (blue, other colour)?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
42.	Did She/hi have yellow Palms/soles?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
43	Was there blood in the stools?						
a.	Yes	☐	b.	No ☐	c.	DNK	☐
Section C: Written narrative in local language							
44	Please describe the symptoms in order of Appearance, Doctor Consulted or hospitalization (history of similar episodes) enter the result from reports of the investigations if available. (use additional sheets if required)						
45.	What did the respondent think the newborn died of? (Allow the respondent to tell th illness in his or her own words)						

Interviewer's Signature: ……………………………………………

Interviewer Name: …………………………………………………

Designation: ………………………………………………………

Date: ……../……./……………………

Signature/ Left thumb Impression of respondent

Assigned cause of death*

*Assigned at district level
DNO will have to communicate the assigned cause of death to respective block

FORM 3b:

VERBAL AUTOPSY FORM: POST-NEONATAL DEATHS

Instructions

1. NOTE: This form must be completed for all Post Neonatal Deaths (29 days - 5 years)
2. Write in capital letters
3. Circle the appropriate response (or) place a (tick) wherever applicable

District: ………………………….. Block: …………………………….. Village: ……………………………

PHC: …………………………….. Sub-Centre: ………………………………………………………………

RCH Number: ………………………………. Date: …../……/……………

Name of Head of the Household:																
Full Name of the deceased:																
Name of mother of deceased:																

Section A: Details for Respondent and Deceased

Details of the Respondent:

1.	Name of the Respondent: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐						
2.	Relationship of the respondent with the deceased:						
a. Brother/ Sister ☐ b. Mother/ Father ☐ c. Neighbor/ No relation ☐ d. Grandfather/Grandmother ☐ e. Other relative ☐							
3.	Did the respondent live with the deceased during the events that led to death?						
a.	Yes ☐	b.	No ☐				
4.	What is the highest standard of education the respondent has completed?						
a.	Literate and literate with no formal education ☐						
b.	Literate, Primary or below ☐	c.	Literate, Middle ☐	d.	Literate, Matric (Class-X) ☐		
e.	Literate, Class XII ☐	f.	Graduate & Above ☐				
5.	Category: a. SC/ST ☐	b.	OBC ☐	c.	General ☐		
6.	Religion of the head of the household						
a. Hindu ☐	b. Muslim ☐	c. Christian ☐	d. Sikh ☐				
e. Buddhist ☐	f. Jain ☐	g. No religion ☐	h. Others, Specify……….. ☐				

Details of deceased

7.	Deceased's Sex : a. Male ☐	b. Female ☐	
8.	Age : a. 29 day-1 year ☐	b. 01-05 years ☐	
9.	Date of birth : ___/___/______		
10.	Date of death : ___/___/______		
11A	House address of the deceased		
11B	PIN : ☐☐☐☐☐☐		
12.	Place of death:		
a.	Home ☐	b. On way to health facility/in transit ☐	c. Sub Center ☐
d.	PHC/CHC/Rural Hospital ☐	e. District Hospital ☐	f. Medical college ☐
g.	Private Hospital ☐	h. Other, Specify ………….. ☐	i. DNK ☐

Section B: Post Neonatal Death

13A	Did the child met with an accident				
a.	Yes ☐	b.	No ☐ (if No, go to Q 14A)		
13B	If yes, what kind of injury or accident?				
a.	Road traffic injury ☐	b.	Falls ☐	c.	Fall of objects ☐
d.	Burns ☐	e.	Drowning ☐	f.	Poisoning ☐
g.	Bite/sting ☐	h.	Natural disaster ☐	i.	Homicide/ assault ☐

x.	Other, Specify …………………………………………………………….. ☐				
13C	Do you think the child died from an injury or accident				
a.	Yes ☐ (if Yes, go to SectionC) ☐	b.	No	c.	DNK ☐
	Details of pregnancy and delivery				
14A	When was child first breastfed?				
a.	Immediately/ within one hour of birth ☐	b.	Same day child was born		
c.	Second day of later ☐	c.	Never breastfed		
e.	DNK ☐				
14B	Did the mother receive any feed other than breast milk during the first 6 months of life?				
a.	Yes ☐	b	No ☐	c.	DNK ☐
14C	During the illness that led to death, was the child breasfteeding (if child less than 18 months)				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
	Details of sickness at time of death				
15A.	Did the child had fever?				
a.	Yes ☐	b.	No ☐ (go to Q 16)	c.	DNK ☐ (go to Q16)
15B	If yes, how many days did the fever last?				
a.	≤ 1 day ☐	b.	☐☐ days		
15C	Was the fever accompaned by chills/rigors?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
16	Did the child have convulsions or fits?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
17.	Was the child unconscious during the illness that led to death?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
18.	Did the child develop stiffness of the whole body?				
a.	Yes ☐	b.	NO ☐	c.	DNK ☐
19.	Did the child have a stiff neck (demonstrate)?				
a.	Yes ☐	b.	NO ☐	c.	DNK ☐
20A	Did the child have diarrhoea (more frequent or more liquid stools)?				
a.	Yes ☐	b.	No ☐ (go to Q 21A)	c.	DNK ☐ (go to Q 21A)
20B	If yes, for how many days?				
a.	≤ 1 day ☐	b.	☐☐ days		
20C	Was there blood in the stools?				
a.	Yes ☐	b.	NO ☐	c.	DNK ☐
21A	Did the child have a cough?				
a.	Yes ☐	b.	No ☐ (go to Q 22A)	c.	DNK ☐
21B	If yes, for how many days?				
a.	≤ 1 day ☐	b.	☐☐ days		
21C	If yes, was there blood?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
22A	Did the child have breathing diffuculties?				
a.	Yes ☐	b.	No ☐ (go to Q 22C)	c.	DNK ☐ (go to Q 22C)
22B	If yes, for how many days?				
a.	≤ 1 day ☐	b.	☐☐ days		
22C	Did the child have fast breathing?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
22D	Did the child have in-drawing of the chest				
a.	Yes ☐	b.	No ☐	c.	DNK ☐

22E	Did the child have wheezing (demonstrate sound)?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
23A	During the ullness, did chil have abdominal pail?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
23B	Did the child have abdominal distention?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
24A	Did the child vomit?				
a.	Yes ☐	b.	No ☐ (go to Q 25)	c.	DNK ☐ (go to Q 25)
24B	If yes, for how many days?				
a.	≤ 1 day ☐	b.	☐☐ days		
25	Did the eye/skin colour change to yellow				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
26A	Was the rash all over the body?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
26B	Did the child have red eyes?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
26C	Was this measles(use local term)?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
27	During the weeks preceding death, did the child become very thin?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
28	During the weeks preceding death, did the child have any swelling of hand,feet or abdomen?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
29	During the weeks preceding death, did the child suffer from lack of blood or appear pale?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
30	Compared to other children of the same age, was child growing normally?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
31A	Did the Child have multiple illness?				
a.	Yes ☐	b.	No ☐ (go to Q32A)	c.	DNK ☐ (go to Q32A)
31B	If yes, what were the symptoms associated with these illnesses? (Check all that apply)				
a.	Cough ☐	b.	Diarrhoea ☐	c.	Ear discharges ☐
d.	Fever ☐	e.	Rashes ☐	f.	Other specify...... ☐
g.	DNK ☐				
32A	Did the child receive BCG injection?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
32B	Number of dozes received of Penta / DPT?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
32C	Did the child received polio drops in the mouth?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
32D	Did the child receive an injection for Measles / Measles Rubella (use local term)?				
a.	Yes-Only one ☐	b.	Yes-more than one ☐		
c.	No- did not receive any ☐	d.	DNK ☐		
33	Did She/he have yellow Palms/soles?				
a.	Yes ☐	b.	No ☐	c.	DNK ☐
Section C: Written narrative in local language					
34	Please describe the symptoms in order of appearance, doctor consulted or hospitalization, history of similar episodes, enter the results from reports of the investigations if available. (use additional sheets if required)				

____
____
____
____
____
____

35.	What did the respondent think the child died of? (Allow the respondent to tell th illness in his or her own words)

Interviewer's Signature: ……………………………………………

Interviewer Name: ……………………………………………….

Designation: …………………………………………………….

Date: ……../……./……………………

Signature/ Left thumb Impression of respondent

Assigned cause of death*

*Assigned at district level
DNO will have to communicate the assigned cause of death to respective block

FORM 3c
SOCIAL AUTOPSY FORM

Instructions

1. *To be filled for all verbal autopsies conducted and attach with the same.*
2. *Write in capital letters*
3. *Circle the appropriate response (or) place a √ (tick) wherever applicable.*
4. *Attach a copy of the case records to this form.*

RCH Number ____

Section A : Background Information		
1	Name of key Informant	
2	Relation of key informant to deceased	
3	Place of death of Child	
4	Telephone / Mobile Number	
5	Total Number of family members of deceased	
6	Number of children <5 years	
7	Caste	
8	Do you have Below Poverty Line (BPL) Card :	Yes / No
9	What are the Key family Assets : **(Multiple answers allowed. Tick all that apply)**	1) Vehicle (motorized) ☐ 2) Television ☐ 3) Own House ☐ 4) Own Land ☐ 5) Cattles ☐ 6) Telephone ☐

Section B : Treatment Seeking History				
10.1	Did ASHA/AWW/VHN/ANM advice on hospital treatment?			
a.	Yes ☐	No ☐ (go to Q 11)	c. DNK ☐	(go to Q 11)
10.2	If Yes, who advised	i. ASHA		
		ii. ANM		
		iii. Link Worker		
		iv. Other specify…….		
11	During the illness that led to the death, did you seek care outside the home for the infant?	1) Yes **(Go to Q 13)**	2) No	3) DNK
12.	If "NO", then ASK "What were the reasons for not seeking care?"			
12.1	Did not think that the illness was serious	1) Yes	2) No	3) DNK
12.2	Money not available for treatment	1) Yes	2) No	3) DNK
12.3	Family members were not able to	1) Yes	2) No	3) DNK

	accompany			
12.4	Bad weather	1) Yes	2) No	3) DNK
12.5	Did not know where to take the infant	1) Yes	2) No	3) DNK
12.6	No hope for survival of the infant	1) Yes	2) No	3) DNK
12.7	Transport not available	1) Yes	2) No	3) DNK
12.8	Others (Specify)	**(go to section C)**		
13.	What was the condition of the infant at the time when it was decided for medical consultation?(Tick if any of the condition mentioned in the options is present)	a. Alert / Active/feeding	☐	
		b. Conscious but Drowsy / Inactive/ Unable to feed	☐	
		c. Unconscious	☐	
14.	From where or from whom did you seek care ?			
14.1	Quack / informal service providers	1) Yes	2) No	3) DNK
14.2	Traditional healer / Religious healer	1) Yes	2) No	3) DNK
14.3	Sub Center	1) Yes	2) No	3) DNK
14.4	PHC	1) Yes	2) No	3) DNK
14.5	CHC	1) Yes	2) No	3) DNK
14.6	Sub-district hospital	1) Yes	2) No	3) DNK
14.7	District (Govt.) Hospital	1) Yes	2) No	3) DNK
14.8	Private allopathic doctor	1) Yes	2) No	3) DNK
14.9	Doctors in alternate system of medicine	1) Yes	2) No	3) DNK
14.10	Reason for seeking care from there : ______________________________ ______________________________			

15 Problems faced by the parents in getting treatment in the health facility : Now I will ask you questions related to problems you might have faced in getting the treatment from various health facilities.

	Details	First Health Facility	Referral Institution I	Referral Institution II	Referral Institution III
15.1	Specify in which hospital you took the baby first and then where was the baby taken thereafter ? Govt. ________1 Private ________2 Note for Profit ________ 3				
15.2	Specify the problem /complication with which				

	Details	First Health Facility	Referral Institution I	Referral Institution II	Referral Institution III
	baby was taken to this facility				
15.3	Total time taken from the onset of the problem to reach this facility (from home to the facility)	……. Hours	……. Hours	……. Hours	……. Hours
15.4	Type of treatment received in the institution / hospital				
	NIL				
	First Aid				
	Others (Specify) ..				
15.5	Specify the reasons for referring to another institution				
	Lack of Specialists				
	Lack of Equipments				
	Others (Specify)				
15.6	Mode of transport from one institution to other				
15.7	Distance from one facility to other (in kms)	……. Kms	……. Kms	……. Kms	……. Kms
15.8	If baby was taken to any institution other than the one referred, state the reasons				
15.9	If baby was taken to any institution other than the one referred, who advised (eg; caregivers, relatives etc.)				
15.10	Was the child attended immediately Yes ____________ 1 No _____________ 2				
15.11	If yes, time taken to initiate treatment in the institution on reaching the hospital	……. Mins.	……. Mins.	……. Mins.	……. Mins.
15.12	Reasons for the delay in initiating treatment (Use your judgment in arriving the reasons)				
a.	Doctor not available				
b.	Paramedical workers not available				
c.	Too much patient rush				
d.	Informal payment				

	Details	First Health Facility	Referral Institution I	Referral Institution II	Referral Institution III
e.	Mobilizing specialists				
f.	Could not afford to pay for the services				
g.	Investigations could not be done				
h.	Other problem (specify)				

16.1 If the baby was shown as having been discharged against medical advice / absconded, record the reasons for the same.

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

16.2 Was the discharge due to the dissatisfaction of the treatment given in the hospital ?

Yes ☐ No ☐ DNK ☐

16.3 What was the state of child at the time of LAMA / Discharge. ………….................

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………..

Section C : Brief Social History of the family							
17.1	Any history of alcoholism in family	Yes	☐	No	☐	DNK	☐
17.2	Any history of smoking in family	Yes	☐	No	☐	DNK	☐
17.3	Any history of domestic violence in family	Yes	☐	No	☐	DNK	☐
18	Awareness of mother & family members about treatment Seeking						
18.1	Do you know the danger signs when a newborn or infant should be taken to health facility ?						
a.	Yes ☐	b.	No ☐ **(go to Q 18.3)**				
18.2	If yes, what will be the conditions **(don't read the options)**						
a.	Pre-term ☐	b.	LBW ☐	c.	No cry at birth ☐		
d.	Fits ☐	e.	Difficult breathing ☐	f.	Drowsiness / inactivity / unconsciousness ☐		
g.	Jaundice ☐	h.	Diarrhoea ☐	i.	Refusal to feed ☐		
j.	Fast Breathing ☐	k.	High grade fever ☐				
18.3	Do you know about any hospital where newborns / infants / children can be admitted and treated ?						

4

a.	Yes ☐	b.	No ☐ **(go to Q 19)**
18.4	If yes, then please name these facilities.		

Section D : Expenditure History

19. Can you tell us regarding the total amount that you had to spend on your child ?

a. Total amount = Rs…………………

b. Treatment (medicines, consultation, home treatment etc.) ………………….

c. Transport ………………………… 3. Others ………………………………

20	How did you (the family) arrange this money ? **Multiple answers allowed. Tick all that apply**	1. Available / Savings	☐
		2. Borrowed	☐
		3. Sold assets	☐
		4. Community fund	☐
		5. Govt. Scheme	☐
		6. Other	☐
		7. Don't know	☐

FORM 4a:

FACILITY BASED NEONATAL DEATH REVIEW FORM

For Office Use Only:

FBCDR NO:	**Year**

Name & Address of the facility where death occurred:…………………………………………………..
(Including State, District, Block):
………………………………………………………………………………………………………..

Instructions

1. *NOTE: This form must be completed for all new born deaths (upto 28 days) occurring in the hospital.*
2. *Complete the form in duplicate within 48 hours of the newborn death. The original remains at the institution where the death occurred and one copy is sent to the DNO within one month.*
3. *Write in capital letters.*
4. *Circle the appropriate response (or) place a √(tick) wherever applicable.*
5. *Attach a copy of the case records to this form.*

Section A: Details of Deceased		
1.	Inpatient Number/ID	
2.	Age	☐☐ Days
3.	Sex	Male ☐ Female ☐
4.	Category SC/ST ☐	OBC ☐ General ☐
5	Name of the newborn	
6.	Name of the Mother	
7.	Address (including Block/Tehsil, District/Taluq/Division, State)	
8.	Date of birth	☐☐ ☐☐ ☐☐☐☐
9	Place of birth	Health facility ☐ Home ☐ Transit ☐
10.	Birth weight (if available on record)	☐☐ . ☐☐ Kgs.
11	Date of admission	☐☐ / ☐☐ / ☐☐☐☐
12	Time of admission	-------:------AM/PM
13.	Date of death	☐☐ / ☐☐ / ☐☐☐☐
14.	Time of death	-------------AM/PM
15.	Death certified by : (Name & designation of the doctor)	

16.	Type of facility where death took place		
a.	RH / UCHC		☐
b.	Sub district hospital		☐
c.	District Hospital / WH / GH / Corporational Hospital		☐
d.	Medical College/tertiary hospital		☐
17.	Main complaints at the time of admission		If Yes, Duration of symptoms
a.	Inability to feed	Y/N	☐☐ days
b.	Fever	Y/N	☐☐ days
c.	Loose Stools	Y/N	☐☐ days
d.	Vomiting	Y/N	☐☐ days
e.	Fast breathing	Y/N	☐☐ days
f.	Convulsions	Y/N	☐☐ days
g.	Appearance of Skin rashes	Y/N	☐☐ days
h.	Injury (like fractures, wounds)	Y/N	☐☐ days
i.	Lethargy	Y/N	☐☐ days
j	Stiffness of neck	Y/N	☐☐ days
k.	Bluish discolouration of lips,nails	Y/N	☐☐ days
l.	Skin pustules of yellowish colour	Y/N	☐☐ days
m.	Any other symptom (if yes specify______________________)	Y/N	☐☐ days
18.	Weight of child on admission: ☐☐ . ☐☐ kgs.		
19.	Immunization history of child : BCG ☐ OPV Birth Dose ☐ Hepatitis B birth dose ☐		
	Section B : Condition on Admission		
20	Breathing status of child at the time of admission		
a.	Normal breathing		☐
b.	Severe chest in drawing		☐
c.	Apnoeic episodes		☐
d.	Central cyanosis		☐
e.	Gasping		☐
f.	Not breathing		☐
21.	Consciousness level of child at the time of admission		
a.	Alert, responds to normal stimuli		☐
b.	Semi-conscious, responds to painful stimuli		☐
c.	High pitched cry or persistent crying		☐
d.	Lethargic		☐

e.	Inability to suck ☐		
f.	Unconscious ☐		
22.	Circulation status of child at the time of admission		
a.	Capillary refill time <3 seconds ☐ >3 seconds ☐		
b.	Extremities : warm to touch and colder than the abdomen ☐		
c.	Pulse : ☐ Not palpable Weak pulse ☐ fast pulse ☐		
23.	Did child have any other symptoms		
a.	Dehydration ☐	b.	Bleeding ☐
c.	Icterus ☐	d.	Petechial rashes or brusing ☐
e.	Trauma/other surgical condition ☐	f.	Congenital malformation ☐
g.	Bulging fontanelle ☐	h.	Hypothermia ☐
i.	Hyperthermia ☐	j.	Sclerema ☐
24.	Duration of stay in the health facility ☐ <48 hours ☐ 48 hours – 7 days ☐ 8-14 days ☐ 14-21 days ☐ More than 21 days		
25.	Investigations done		Note down the results
a.	Blood glucose	Y/N	
b.	CBC	Y/N	
c.	Sepsis screen	Y/N	
d.	CRP	Y/N	
e.	Renal function tests	Y/N	
f.	Liver function tests	Y/N	
g.	CSF	Y/N	
h.	S.Bilirubin	Y/N	
i.	Others (Please specify):_______	Y/N	
	Section C: Referral Details		
26.	Was the child referred from another Centre?		☐ Yes ☐ No ☐ DNK **(if no or DNK, go to Section D)**
27.	If yes (to any of the questions above), type of facility from which last referred?	a.	24 x 7 PHC ☐
		b.	SDH/Rural Hospital/CHC ☐
		c.	District Hospital ☐
		d.	Private Hospital ☐
		e.	Private clinic ☐
		f.	Others (specify…………………..) ☐
28.	Have multiple referrals been made?(include both private and public health facilities)		☐ Yes ☐ No ☐ DNK **(if no or DNK, go to Section D)**
29.	If yes, how many?		☐ One ☐ Two ☐ Three ☐ Four ☐ More Than 4

Section D:Intrapartum and Postpartum Details (Only for inborn babies)		
Instruction : To be filled for inborn babies only otherwise go to Section - E		
30.	Was the onset of labour	☐ Spontaneous ☐ Induced ☐ DNK
31.	What was the Gestational age at the time of admission	☐ Term (>37-<42 weeks) ☐ Preterm(☐ < 28 weeks;☐ 28-<32 weeks;☐ 32-<37 weeks) ☐ Post term (>42weeks)
32.	What was the Mode of Delivery	☐ Spontaneous Vaginal (with/without episiotomy) ☐ Vacuum/forceps ☐ Caesarean section
33.	Were there any complications during labour?	☐ PROM ☐ Sepsis ☐ Eclampsia ☐ Obstructed labour/Rupture Uterus ☐ Others Specify…………….
34.	Was partograph used?	☐ Yes ☐ No ☐ DNK
35.	Birth Weight	☐ ☐ ☐ ☐ kgs
36.	Was the resuscitation at birth done	☐ Yes ☐ No ☐ DNK (if No or DNK, go to Q37)
37.	If Yes, Who gave resuscitation ?	☐ Obstetrician ☐ Paediatrician ☐ MBBS doctor/other specialist ☐ Staff Nurse ☐ Others (specify)
38.	APGAR Score (if recorded at time of birth)	

Section E: Treatment Details			
39.	Details of treatment given in the hospital		
a.	Resuscitation	☐ Yes	☐ No
b.	Temperature Control (in case of newborns only)	☐ Yes	☐ No
c.	Phototherapy	☐ Yes	☐ No
d.	Oxygen use	☐ Yes	☐ No
e.	IV Fluids Provide details:	☐ Yes	☐ No
f.	Antibiotics	☐ Yes	☐ No
g.	anticonvulsants	☐ Yes	☐ No
h.	Bronchodilators	☐ Yes	☐ No
i.	Blood Components Provide details:	☐ Yes	☐ No
j.	Steroids	☐ Yes	☐ No
k.	Antiretroviral drugs	☐ Yes	☐ No
l.	Vasopressors (Dopamine, dobutamine, vasopressors)	☐ Yes	☐ No
m.	Exchange Blood transfusion	☐ Yes	☐ No
n.	Respiratory support (CPAP/Ventilator)	☐ Yes	☐ No

o.	Surgical interventions **Provide details:**	☐ Yes	☐ No
p.	Other interventions **Provide details:**	☐ Yes	☐ No

Section F: Diagnosis		
40.	Please tick against the appropriate option:	
a.	Death was within 24 hours of birth	☐
b.	Death was in first week (day 2-7 days)	☐
c.	Death was in the late neonatal period (8-28 days)	☐
41.	Provisional diagnosis at time of admission	
42.	Provisional diagnosis at time of death **(immediately at the time of death, by the medical officer on duty)**	
43.	Probable direct cause of death	
44.	Indirect cause of death	
45.	Final diagnosis (Within one week) (final Diagnosis by the treating doctor)	

Signature of the certifying doctor

Name: ……………………………………….

Designation: …………………………………

Stamp & Date: ………………………………

Signature of the treating doctor

Name: ....

Designation: …………………..

Stamp & Date: ……………………

Verified by facility nodal officer/administrative in charge of the hospital:

Signature: ……………………………………….

Name: ……………………………………...........

Designation: ....

Stamp and Date: ……………………

FORM 4 b:

FACILITY BASED

POST – NEONATAL DEATH REVIEW FORM

For Office Use Only:

FBCDR NO:	year

Name & Address of the facility where death occurred:……………………………………………………..

(Including State, District, Block):
…………………………………………………………………………………………………

Instructions

1. NOTE: This form must be completed for all post – neonatal deaths (29 days to 5 years) occurring in the hospital.
2. Complete the form in duplicate within 48 hours of the child death. The original remains at the institution where the death occurred and one copy is sent to the DNO within one month.
3. Write in capital letters.
4. Circle the appropriate response (or) place a (tick) wherever applicable.
5. Attach a copy of the case records to this form.

Section A: Details of Deceased		
1.	Inpatient Number/ID	
2.	Age	Years ☐ (in Completed Months) ☐☐
3.	Sex	Male ☐ Female ☐
4.	Category SC/ST ☐	OBC ☐ General ☐
5	Name of the child	
6.	Name of the mother	
7.	Address (including Block/Tehsil, District/Taluq/Division, State)	
8.	Date of birth	☐☐ / ☐☐ / ☐☐☐☐
9	Place of birth	Health facility ☐ Home ☐ Transit ☐
10.	Birth weight (if available on record)	☐☐ . ☐☐ Kgs.
11	Date of admission	☐☐ / ☐☐ / ☐☐☐☐
12	Time of admission	-------------AM/PM
13.	Date of death	☐☐ / ☐☐ / ☐☐☐☐
14.	Time of death	-------------AM/PM
15.	Death certified by : (Name & Designation of the Doctor)	
16.	At any time child was admitted to NRC ☐ Yes ☐ No	

17.	Growth Curve (fill for child less than 3 years; check MCP card):		
a.	Green zone ☐	b. Yellow Zone ☐	c. Orange Zone ☐
18.	Type of facility where death took place		
a.	RH / UCHC		☐
b.	Sub District hospital		☐
c.	District Hospital / WH / GH / Corporational Hospital		☐
d.	Medical college/tertiary hospital		☐

19.	Main complaints at the time of admission		If Yes, Duration of symptoms
a.	Inability to feed	Y/N	☐☐ days
b.	Fever	Y/N	☐☐ days
c.	Loose Stools	Y/N	☐☐ days
d.	Vomiting	Y/N	☐☐ days
e.	Cough or difficult breathing	Y/N	☐☐ days
f.	Convulsions	Y/N	☐☐ days
g.	Lethargic or unconscious	Y/N	☐☐ days
h.	Appearance of Skin rashes	Y/N	☐☐ days
i.	Bleeding	Y/N	☐☐ days
j	Injury (like fractures, wounds)	Y/N	☐☐ days
k.	Corneal ulcer	Y/N	☐☐ days
l.	Stunted growth	Y/N	☐☐ days
m.	Severe muscle wasting	Y/N	☐☐ days
n.	Oedema of both hand & feet	Y/N	☐☐ days
o.	Unknown bites or strings Any other symptom	Y/N	☐☐ days
p.	Any other symptom (if yes specify)	Y/N	☐☐ days
20.	Weight of child on admission: ☐☐ kgs.		
21.	Height at the time of admission : ☐☐☐ Cms		

22. **Immunization history of child : (if yes then √)**

- At Birth: 1) OPV0 ☐ 2) BCG ☐ 3) HEP B ☐
- 6 Weeks: 1) OPV1 ☐ 2) RVV1 ☐ 3) FIPV1 ☐ 4) Pentavalent 1 ☐ 5) PCV1 ☐
- 10 Weeks: 1) OPV2 ☐ 2) RVV2 ☐ 3) Pentavalent 2 ☐
- 14 Weeks: 1) OPV3 ☐ 2) RVV3 ☐ 3) FIPV2 ☐ 4) Pentavalent 3 ☐ 5) PCV2 ☐
- 9 to 12 Months: 1) MR 1 ☐ 2) FIPV3 ☐ 3) PCV Booster ☐ 4) JE 1 ☐
- 16 to 24 Months: 1) OPV Booster ☐ 2) MR ☐ 3) DPT Booster 1 ☐ 4) JE ☐
- 5 to 6 Years: 1) DPT Booster 2 ☐

Section B : Condition on Admission

23.	Breathing status of child at the time of admission			
a.	Normal breathing ☐			
b.	Severe chest in drawing ☐			
c.	Central cyanosis ☐			
d.	Gasping ☐			
e.	Not breathing ☐			
24.	Consciousness level of child at the time of admission			
a.	Stable ☐			
b.	Convulsions ☐			
c.	Semi-conscious, responds to verbal commands ☐			
d.	Semi-conscious, responds to painful stimuli ☐			
e.	Unconscious ☐			
25.	Circulation status of child at the time of admission			
a.	Capillary refill time <3 seconds ☐ >3 seconds ☐			
b.	Extremities : ☐ warm to touch and colder than the abdomen			
c.	Pulse : Not palpable ☐ Weak pulse ☐ fast pulse ☐			
26.	Did child have any other symptoms			
a.	Dehydration ☐	b.	Bleeding ☐	
c.	Icterus ☐	d.	Petechial rashes or bruising ☐	
e.	Trauma/other surgical condition ☐	f.	Burns ☐	
g.	Oedema of both feet ☐	h.	Severe wasting ☐	
i.	Ear discharge ☐	j.	Severe cyanosis ☐	
27.	Duration of stay in the health facility ☐ <48 hours ☐ 48 hours – 7 days ☐ 8-14 days ☐ 14-21 days ☐ More than 21 days			
28.	Investigations done		Note down the results	
a.	Blood glucose	Y/N		
b.	CBC	Y/N		
c.	Urine test	Y/N		
d.	Renal function tests	Y/N		
e.	CSF	Y/N		
f.	Widal test	Y/N		
g.	Serum bilirubin	Y/N		
h.	Blood culture	Y/N		
i.	Liver function Test	Y/N		
j.	Urine culture	Y/N		
k.	Others (specify…………………..)	Y/N		

Section C: Referral Details			
29.	Was the child referred from another Centre?	☐ Yes ☐ No ☐ DNK **(if no or DNK, go to Section D)**	
30.	If yes (to any of the questions above), type of facility from which last referred?	a.	24 x 7 PHC ☐
		b.	SDH/Rural Hospital/CHC ☐
		c.	District Hospital ☐
		d.	Private Hospital ☐
		e.	Private clinic ☐
		f.	Others (specify…………………..) ☐
31.	Have multiple referrals been made? (include both private and public health facilities)	☐ Yes ☐ N☐ DNK **(if no or DNK, go to Section D)**	
32.	If yes, how many?	One ☐ Two ☐ Three ☐ Four ☐ More Than 4 ☐	

Section D : Treatment Details			
33.	Details of treatment given in the hospital		
a.	Resuscitation	☐ Yes	☐ No
b.	Oxygen use	☐ Yes	☐ No
c.	IV Fluids Provide details :	☐ Yes	☐ No
d.	Antibiotics	☐ Yes	☐ No
e.	Anticonvulsants	☐ Yes	☐ No
f.	Bronchodilators	☐ Yes	☐ No
g.	Blood components Provide details:	☐ Yes	☐ No
h.	Steroids	☐ Yes	☐ No
i.	Antituvercular drugs	☐ Yes	☐ No
j.	Antiretroviral drugs	☐ Yes	☐ No
k.	Vasopressors (Dopamine, dobutamine, adrenaline)	☐ Yes	☐ No
l.	Respiratory support (CPAP/Ventilator)	☐ Yes	☐ No
m.	Surgical interventions **Provide details**:	☐ Yes	☐ No
n.	Other interventions **Provide details :**	☐ Yes	☐ No

Section E: Diagnosis	
34.	Provisional diagnosis at time of admission
35.	Provisional diagnosis at time of death **(Immediately at the time of death, by the medical officer on duty)**
36.	Probable direct cause of death
37.	Indirect cause of death
38.	Final diagnosis (within one week) **(Final Diagnosis by the treating doctor)**

Signature of the certifying doctor

Name: ………………………………………………

Designation: ……………………………………..

Stamp & Date: ………………………………………

Signature of the treating doctor

Name: ………………………….

Designation: …………………..

Stamp & Date: …………………

Verified by Facility Nodal Officer/administrative in charge of the Hospital:

Signature: ………………………………………….

Name: ……………………………………………..

Designation: ……………………

Stamp and Date: ……………….

FORM 5a:

BLOCK/UPHC LEVEL LINE LIST

TO be compiled at the block/UPHC level from the deaths reported by ANMs;

Name of District/Corporation: Name of Block/UPHC: Month: Year:

	Indicators		Case1	Case2	Case3	Case4	Case5	Total
1.	RCH ID							
2.	Name							
3.	Mother's name							
4.	sex	Male_______1						
		Female______2						
5.	Category	SC/ST_______1						
		OBC_________2						
		General_______3						
6.	Age	<28 days_______1						
		29 days_______2						
		1-5 years_________3						
7.	village/city							
8.	PHC area/UPHC							
9.	Sub-centre area							
10.	Place of birth	Home___________1						
		Health facility : Public_________2						
		Health facility: Private_________3						
		In transit_________4						
11.	Birth weight (kg)							
12.	Last weight recorded in MCP card (for children < 3 years)							
13.	Immunization status : complete as per age	Yes____________1						
		No____________2						
14.	Date of death	DD/MM/YYYY						
15.	Place of death (Public Health facility/Private Hospital/Home/in transit)	Home___________1						
		Health facility : Private_________2						
		Health facility: Public_________3						
		In transit_________4						
16.	Probable cause of death							
17.	Level of delay (I/II/III/multiple levels/cannot be ascertained)							
18.	Name of the ANM who conducted first brief investigation							
19.	Date on which first brief Investigation carried out DD/MM/YYYY							
20.	Case selected for Verbal Autopsy	Yes____________1						
		No____________2						
21.	Assigned Cause of death/final diagnosis							