Dead Women Talking

A civil society report on maternal deaths in India

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CommonHealth

Jan Swasthya Abhiyan
People's Health Movement - India

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Credits and acknowledgements

This report is an outcome of a larger civil society initiative led by CommonHealth to which several civil society and community based organizations and networks have contributed. Given below is a brief introduction to each of these organizations (in alphabetical order).

1. **Amhi Amchya Aarogyasathi:** 'We for our Health' is an integrated rural development organization working in Gadchiroli District of Maharashtra since 1980. Founder members of the organization were active member in 'Chhatra Yuva Sangharsha Vahini'(CYSV), a youth organization established by Jay Prakash Narayan to struggle for fulfilling the dream of Entirety or Total Revolution. The founder members began by addressing landholding and land encroachment rights issue and implementation of employment guarantee scheme (EGS) in northern Gadchiroli district. Further the group of founder members decided to concentrate in constructive work in the field of their individual interest. They adopted 'registered society' form in 1984. Dr. Gogulwar, one of the founder members, is inspired by Vinoba's perspective on addressing health problems in its 'wholeness of life' and not merely administering medicines. He was interested in constructive work for 'health revolution' by addressing livelihood, water, etc. comprising wholeness of life. Methodology chosen was 'let's find our own way.' Hence the name '*Amhi Amchya Arogya Saathi*.'

2. **ANANDI:** Area Networking and Development Initiatives has been working in four districts of Gujarat with over 7000 poor rural women from low income groups such as the tribals, migrant families, salt pan workers, marginal farmers, farm and construction labour and the fishing community. ANANDI organizes these women in collectives to become active agents of change to improve their living conditions and develop sustainable livelihoods and work towards changing the nature and direction of systemic forces which marginalize women. The impact of the organization's work can be seen in terms of increased participation of women in leadership roles as well as in the overall improvement in the living conditions of their communities. ANANDI has also been working on promoting social accountability for maternal health.

3. **ARTH:** Action Research and Training for Health is a private, non-profit, research and training organization that was established by a group of professionals in 1997 with the intent to contribute to the improvement of the health status of underprivileged communities in India. ARTH focuses on the health needs of marginalized rural and urban slum inhabitants, as well as on those of vulnerable groups like adolescents, women, migrants and unorganized labour. ARTH's mission is to help communities access and manage health care according to their needs and capacity, by using research and training initiatives. The programme areas that ARTH works on are: sexual and reproductive health, neonatal and child health and health systems and policy.

4. **ASHA, West Bengal:** Association for Social and Health Advancement (ASHA) is a non-profit, non-political, non-governmental organization which has been working to improve the socio-economic and health status of disadvantaged rural and urban communities since 1998. ASHA implements development initiatives in socio-economic and health sectors and also acts as a technical support agency for other organizations and institutions and collaborates with both Government and Non Governmental agencies. Support provided includes training, action research and evaluation exercises as well as advocacy and networking. ASHA primarily works with women, adolescents and

children belonging to vulnerable and marginalized populations like minorities, scheduled tribes and scheduled castes and has been implementing development initiatives directly in the underserved and hard-to reach areas of Murshidabad, Bankura, Purulia and Malda districts in West Bengal and urban slums of Kolkata. ASHA recognizes that the empowerment of women is a precondition to social development, and pledges action to achieve equality between men and women. ASHA in principle has adopted the primary health care approach, which puts people at the centre of health care delivery. ASHA works in close co-operation with Central and State government agencies as well as UN agencies, INGOs and national NGOs. ASHA is also a founding member and currently steering committee member of NAMHHR.

5. **CEHAT:** Centre for Enquiry into Health and Allied Themes is the research centre of Anusandhan Trust. The organization is involved in research, training, service and advocacy on health and allied themes. CEHAT's aim is to do socially relevant and rigorous academic health research and health action for the well-being of the disadvantaged masses, for strengthening people's health movements and for realizing right to health and health care. CEHAT acts as an interface between progressive people's movements and academia. The strategies are: to undertake socially relevant research and advocacy projects on various socio-political aspects of health, establish direct services and programmes to demonstrate how health services can be made accessible, equitably and ethically, and disseminate information through databases and relevant publications. CEHAT has been working on a range of maternal health issues, including safe abortion for a number of years.

6. **CHETNA:** Centre for Health Education, Training and Nutrition Awareness, is a non-government support organization based in Ahmedabad, Gujarat. Established in 1980, CHETNA addresses issues of women's health and development in different stages of their lives from a 'rights' perspective. CHETNA supports government and Non-Government Organizations through building the management capacities of educationists/health practitioners/supervisors/ managers enabling them to implement their programmes related to children, young people and women from a holistic and gender perspective and advocate for people centred policies. CHETNA's core activities are capacity building, forging partnership at local, regional and national level. CHETNA also does advocacy, development and dissemination of materials. CHETNA works primarily in Gujarat and Rajasthan states.

7. **CommonHealth:** Coalition for Maternal-Neonatal Health and Safe Abortion is a multi-state coalition of organizations and individuals in India committed to drawing attention to the unacceptably high levels of maternal and neonatal mortality, poor access to safe abortion services and less-than-optimal quality and lack of affordability of maternal-neonatal health and safe abortion services. CommonHealth seeks to bring voices from diverse constituencies to influence discourse at the national level. These constituencies are diverse not only geographically but also in terms of different areas of expertise and focus such as health care providers, public health researchers, non-governmental organizations, research and service delivery organizations, human rights lawyers, grassroots activists, public sector programme managers etc. Formed in 2006, the Coalition is steered by a Steering Committee of individuals with considerable expertise in one or more of the three thematic areas: maternal health, safe abortion and neonatal health.

8. **Gramin Punarniran Sansthan (GPS)** was founded on 10th December 1992 on World Human Rights Day by eleven socially committed youth in Atraulia block of Azamgarh district, Uttar Pradesh. GPS has focused its work on rural women and helped them form Self Help Groups/CBO. The groups have taken up several local issues and the activities have enabled the women to improve their livelihoods. GPS has a strong presence in the community and works on the issue of women's right to food, right to work, right to health and Gram Sabha awareness, and initiative on local issue like dalit rights. GPS has been promoting social accountability for maternal health rights.

9. **Jan Swasthya Sahayog:** Jan Swasthya Sahyog (JSS) is a voluntary, non-profit, registered society of health professionals running a low-cost, effective, health programme providing both preventive and curative services for the past 14 years to people from the tribal and rural areas of Bilaspur, Chhattisgarh through a community health programme and a rural health centre, which includes a hospital. The community health programme has provided extremely low cost care to patients drawn from more than 2500 villages (approximate population 10 lacs)/towns of Chhattisgarh as well as adjoining districts of eastern Madhya Pradesh and has emerged as a centre for low cost, but good quality comprehensive medical, surgical and obstetric care in the region. The inpatient services with 70 beds and an operation theatre complex has provided high-quality surgical services. At the same time, through the village-based programme covering 45000 people in 70 villages, it has been able to implement primary health care in its detail and spirit, and in the process draw lessons for the country's marginalized rural population. JSS also runs an Auxiliary Nurse Midwife and General Nurse Midwife training school and have run training courses for village as well as mid-level health workers. Over the past few years, JSS has been a Technical Resource Group for the Government of Chhattisgarh, the Planning Commission, and several other agencies. JSS has also tried to advocate in select fora for important public health problems like falciparum malaria, hunger and health, price control of essential drugs and under-3 malnutrition.

10. **National Alliance for Maternal Health and Human Rights:** NAMHHR was started in January 2010. Several civil society organizations from seven states of India got together and agreed on the need to strengthen maternal health as an issue of women's human rights given the sheer scale of the problem of preventable maternal deaths in India. The group recognizes that there is an urgent need for women's organizations, health organizations, groups working on law and human rights, and mass-based organizations to use rights-based strategies to build greater accountability for these thousands of preventable deaths among women in India.

11. **Oxfam India:** Oxfam India is a rights-based organization that fights poverty and injustice by linking grassroots programming (through partner NGOs) to local, national and global advocacy and policy-making. Oxfam India's vision is to create a more equal, just, and sustainable world. The overarching vision of Oxfam India is 'right to life with dignity for all.' Oxfam India fulfils its vision by empowering the poor and marginalized to demand their rights, engaging the non poor to become active and supportive citizens, advocating for an effective and accountable state and making markets work for poor and marginalized people. Oxfam India works in partnership with over 130 grassroots NGOs in seven states: Assam, Bihar, Chattisgarh, Jharkhand, Orissa, Uttar Pradesh and Uttarakhand and four social groups: dalits, tribals, Muslims, and women. Since 2012 Oxfam India has been working with local partners in six states on improving maternal health care through community monitoring.

12. **SAHAJ:** Society for Health Alternatives based in Vadodara, Gujarat was founded in 1984 with an idea of providing a supportive and facilitative atmosphere to persons interested in doing original work in the area of health and development. The common strand of all work of SAHAJ has been a conscious focus on marginalized and deprived communities, with an attempt to make a practical difference in people's lives and social processes. SAHAJ has been working with the urban poor on issues related to Child Rights, Right to Shelter, Sexual and Reproductive Health and Rights, Women's Health and Adolescents' Rights. With partners in five districts SAHAJ has been promoting social accountability for Maternal Health and Adolescents' Rights.

13. **SAHAYOG :** is a non-profit voluntary organisation working to promote gender equality and women's health from a human rights framework since 1992. Its key activities include advocacy and strengthening partnerships. SAHAYOG works closely with a select group of district partner organisations within UP to provide technical support and build capacities on gender, women's health, work with men, women's rights and violence against women and youth sexual reproductive health issues.

14. **SAMA:** resource group for women's health: was registered in 1999. It's engagement with issues of women and health evolved in the context of the autonomous women's movement and seeks to locate the concerns of women's health and well being in the larger context of socio-historical, economic and political realities. Sama considers health a fundamental human right and believes that the provision of quality and affordable health care to every citizen is the responsibility of the state. Sama engages with community-based organizations, non governmental organizations, women's groups and collectives, health networks and coalitions, autonomous bodies like the National Human Rights Commission (NHRC) and National Commission for Women (NCW), youth, traditional healers and birth attendants, health care providers, medical professionals and the media.

15. **SEWA Rural** is a voluntary development organization involved in health and development activities in rural tribal area of South Gujarat at Jhagadia since 1980. The activities were initiated by a group of young professionals having education and experience in India and abroad and based upon the ideals and ideas of Swami Vivekananda and Gandhiji. The focus of all programmes has been vulnerable women, youth, children, the elderly, and the poor. In all activities, an attempt is made to incorporate as well as balance the following three basic principles: social service, scientific approach, and spiritual outlook. The activities include running the 100 bedded Kasturba Hospital recognized as First Referral Unit by Government of Gujarat and UNICEF providing services to people from more than 1500 surrounding villages, community health project aiming to reduce maternal and new born mortality in Jhagadia block with 1,71,000 population, using mobile technology to empower ASHA**,** training in primary health care for the workers of voluntary and government sectors from Gujarat and beyond. Women's empowerment activities like making papad, snacks, and garments and, awareness and self-defence for adolescents are run under sister organization Sharda Mahila Vikas Society.

16. **Shikhar Prashikshan Sansthan** was founded in 1997 by a group of people highly motivated by Gram Swarajya philosophy of social development. Its vision is to create a casteless, exploitation free and self dependent society in which everyone enjoys their rights and mission is to empower weakest section of the society especially SC, ST, deprived, poorest of the poor. Through capacity building,

raising awareness, so that they become mainstream in society and participate in national development. The organization works with the weakest sections of the society especially women, children, SC, ST, and the poorest. It has also been an active member of the Mahila Swasthya Adhikar Manch (MSAM), which organizes grassroots women around the issue of maternal health rights.

17. **SOCHARA: Society for Community Health Awareness Research and Action** is an interdisciplinary resource group of community health professionals utilizing multiple pathways to facilitate and promote the goal of Health for All. It works through community action and partnerships, teaching and training initiatives, research, knowledge dissemination, policy advocacy and engagement with the public health system. It focuses on public health system development, action on the social determinants of health and community action for health with a social justice perspective. SOCHARA is today a catalyst, creating networks and linkages, working with campaigns and movements that bring the 'public' back into public health and the voice of the community into the public health discourse. The members of the society and the SOCHARA team are involved in community health action, policy advocacy, dialogue and documentation on Community Health in India, action research, learning facilitation and documentation at local, national, regional and global levels.

18. **Society for Developmental Action (SODA)** is a non-governmental, non-political, non-religious, non-partisan, secular and non-profit making voluntary organization engaged in developmental work in Orissa since 1984. It is an association of young professionals, lawyers, doctors, social workers, researchers, communicators and faculty members from university and reputed institutions who strongly believe in democracy, collective decision making and non-bureaucratic, non-hierarchical working systems. The principal objectives are **t**o integrate the indigenous health knowledge and workers in to the formal system, to improve design of health systems like linking nutrition, water, housing, agriculture, environment, population education and sanitation, to spread knowledge among the people on all subjects related to their all round welfare and development in a popular and attractive manner. The k**ey** beneficiaries of the organization are the common masses, specially the tribals, dalits and downtrodden population in the rural and inaccessible areas. SODA's mission is to empower people about their rights, available resources and how to get maximum benefit out of them for better life and livelihoods.

19. **Soumik Banerjee along with his team** has been working for several years in Godda district of Jharkhand with local communities on livelihoods, sustainable agriculture, health and nutrition. On the project of documenting maternal deaths, the team worked for a year to collect data on maternal deaths in two blocks of the district. This was an entirely independent project with no external funding support.

20. **Tarun Vikas Sansthan** has been working in Banda district of Uttar Pradesh since 1990 with a vision of promoting human rights by creating awareness and strengthening voices in the community in order to create an equitable society. Its mission is to engage in rights-based advocacy on gender issues and to create social accountability for the health of women, youth and children. The organization has been working on maternal health accountability by organizing grassroots women in the community it works in.

21. **the ant:** based in Rowmari in Lower Assam, started in October 2000. It works directly in 150 villages across 5 work clusters, for furthering the pace of development in the areas mainly falling under Chirang District of Bodoland in Lower Assam (around 170 km from Guwahati, the capital of Assam). At another level, it works to build up the voluntary sector in the northeast region. the ant works directly in around Chirang District bordering Bhutan - of Bodoland Territorial Area Districts in Assam, mainly with the poorest and marginalized in villages, irrespective of community, class or religious affiliations. Its activities can be divided into 6 thematic areas: empowerment of women and girls, community health, child and youth development, remote areas development programme to promote rights of the forest dwellers and internally displaced persons in conflict induced relief camps and forest areas, peace and justice promotion promoting pluralism, diversity and peace through creating spaces for interaction and dialogues between communities in conflict; youth peace programme; promoting NGO forum for peace & non-violence, sustainable livelihoods small farmers support; micro-credit for micro-businesses.

22. **Tribhuvandas Foundation (TF):** is a public charitable trust working with the AMUL milk cooperatives in and around Kheda district of Gujarat. It started its activities in 1980 and is now a community health organization, working mainly on reproductive and child health. It covers around 682 villages, working through the village milk cooperatives of AMUL, in 18 talukas in the districts of Anand and Kheda. It has also provided training to members of Village Health and Sanitation Committees of Village Gram Panchayats of all the villages of Umreth, Anklav and Anand talukas of Anand District and Balasinor and Virpur talukas of Kheda District during 2008-09. Apart from community health, TF also has programmes for children, (balwadi programme) and for livelihood enhancement of women (handicrafts). TF also has organized anti-tobacco campaigns in its programme villages.

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Chapter 1

Introduction

The context

India has been reporting a steady decline in the country's maternal mortality ratio (MMR) over the last few years. According to the latest reports, the MMR has fallen from 254 per 1,00,000 live births in 2004-06 to 212 in 2007-09, to the latest figures of 178 per 1,00,000 live births in 2010 -12.(1-4) This is, however, far behind the fifth Millennium Development Goal (MDG) target of 109 per 1,00,000 live births by 2015. It is now fairly certain that India will fail to meet MDG 5.(5) This is in contrast to several other smaller countries in South Asia like Nepal, Bangladesh and Bhutan that have already achieved or are well on track to achieve MDG 5.(6-8)

Since the last decade, and especially since the launch of the National Rural Health Mission (NRHM) in 2005, the Government of India has put in significant efforts to improve the maternal health situation in the country. The primary focus of these initiatives has been to promote institutional deliveries. The Janani Suraksha Yojana (JSY) that provides conditional cash incentives to women to deliver in health facilities,(9) and the more recent Janani Sishu Suraksha Karyakram (JSSK), (10) are programmes to this end. In addition, the NRHM has also put in significant efforts to strengthen health systems, including designating specific facilities to provide different levels of Emergency Obstetric Care. Another significant intervention has been provision of emergency transport in the form of ambulances and hiring in of private vehicles under specific schemes for this purpose. Under the Community Health Worker programme of NRHM, one of the key responsibilities of the ASHA is to ensure provision of antenatal care and motivate the woman to have an institutional delivery. There have also been state government sponsored schemes like the Chiranjeevi Yojana of Gujarat and the Muthulakshmi Reddy Scheme of Tamil Nadu - these have also predominantly focused on institutionalizing deliveries.

Civil society networks like CommonHealth and Jan Swasthya Abhiyan, however, have been expressing concern over this exclusive push for institutional births and have suggested that the maternal health policy should move away from the paradigm of institutional deliveries to that of safe deliveries (11) - our position has been that institutional deliveries in poorly equipped and overcrowded health facilities with poor adherence to asepsis can hardly be assumed to be synonymous with "safe" deliveries, as is often assumed. It is important that the focus be on ensuring that women have safe deliveries, meaning not only the absence of mortality and morbidity in the mother and newborn, but respectful and caring services that are of technically high quality.

While maternal health is much more than maternal deaths, maternal mortality ratio (MMR) is well accepted as an indicator of a country's maternal health status. However, aggregate MMR figures do not tell us who the women dying are. Small studies from various parts of the country show a disproportionate representation of women from marginalized groups such as scheduled castes and scheduled tribes in maternal death statistics. (12-14)

In addition to calculating MMR figures for India and the major states, several efforts have been made in the last few years to analyse causes and contributors to individual maternal deaths and use learnings from this exercise to improve health systems. The World Health Organization has published guidelines for verbal autopsy of maternal deaths and this has been used in several countries across the globe. (15,16) Closer to home, the southern state of Tamil Nadu has been conducting verbal autopsies of maternal deaths followed by a district level Maternal Death Review since the late 1990's. (17) Up-scaling this successful initiative, the Government of India (GOI), in 2010, mandated Maternal Death Reviews at the district-level across the country and published guidelines for the same. (18)

The GOI efforts on institutionalizing Maternal Death Reviews (MDR) have faced significant challenges. By the government's own admission, as of March 2012, only 18% of all expected maternal deaths were being reported under the maternal death review process, and of these, only two-thirds were being reviewed by the district level committee for MDR. Also, this exercise was largely restricted to finding a medical cause for death rather than identifying gaps in the health system and instituting corrective action, the original objective of the whole process. (19)

In addition to the above, one of the major shortcomings of the GOI instituted MDR process is the lack of the information from this process in the public domain. In several other countries where confidential enquiries into maternal deaths are conducted, the identifying information regarding individuals and institutions connected to the death are kept confidential to maintain ethical standards, but the causes, contributors and learnings from the enquiries are made public. This is not so in the review process so far in India where no information at all on the process or its findings is made public. This precludes any engagement from other stakeholders like civil society, academics, professional associations in the process and signals a major lack of accountability.

Another initiative of documenting maternal deaths to inform policy and intervention is the Maternal and Perinatal Death Enquiry and Response (MAPEDIR) led by UNICEF to identify the household, community and environmental factors underlying a maternal death. (20) Using a specially developed MAPEDIR verbal autopsy tool, trained front-line health workers collect information on maternal deaths from households. The information thus collected is meant to be used for raising awareness and getting people concerned and involved in preventing maternal deaths. Between 2005 and 2009 the MAPEDIR initiative was implemented in 18 districts across eight Indian states with high maternal mortality. The initiative yielded many insights into the non-medical determinants of maternal deaths and demonstrates the potential of meticulously collected information to catalyse change within households and communities and within the health sector.

The Dead Women Talking Initiative

It is in the context of persistently high maternal mortality, governmental focus on institutional delivery rather than safe delivery, ignored social disparities in mortality, and lack of transparency in the documentation of maternal deaths that several civil society organizations in the country came together in 2012 under an initiative led by CommonHealth called Dead Women Talking[1] . It was understood that those affected by maternal deaths were disproportionately the poorest and most vulnerable groups, and that

1 The Dead Women Talking process is a civil society initiative led by CommonHealth that aims to look at maternal mortality in India from a social determinants and human rights perspective. This process has led to the development of a social autopsy tool and a collaborative civil society effort across several states to document maternal deaths.

questions of accountability arose consistently when looking at maternal deaths across the country. Also, existing verbal autopsy tools focused largely on technical issues while systemic and social causes behind maternal deaths went largely unaddressed. This initiative was thus begun to enable the centre staging of the lived experiences of communities and families of women who die unnecessarily and bring to the fore the voices of those women who have died. The initiative aimed to examine maternal mortality in India from a social determinants and human rights perspective. It is as part of this initiative that this process of systematically documenting maternal deaths in different parts of the country by community based and civil society organizations has been undertaken.

This report describes maternal deaths across diverse settings in India over two years that were documented in the Dead Women Talking (DWT) initiative. It is an effort to bring attention to the circumstances in which women die during pregnancy, delivery and post-partum, and focus attention on health systems factors and social determinants. We hope that this report will result in bringing the issue of maternal deaths to public consciousness and demanding increased accountability, both from the state and the community, and initiating corrective action to prevent avoidable maternal deaths in future.

Structure of the report

After this introductory chapter that lays down the context and objectives of this report, the remainder of the report is structured as follows: the next chapter describes the methodology used to document these maternal deaths. This chapter also describes the challenges faced and how they were addressed and lists the limitations of this process.

Subsequently, the next few chapters report findings from the Dead Women Talking initiative and describe specific health system issues that were seen to be contributory to the deaths of these women. Two categories of issues are discussed. The first category includes issues that have been targeted through specific programmes but are seen to have several gaps in implementation on the ground; these include emergency obstetric care, referrals, emergency transport. The second category comprises issues that have been completely neglected by national programmes, such as anaemia. Both these categories form specific chapters.

Following this, the chapter on conclusions and recommendations draws together the various health system issues while focusing on how these add to the specific vulnerabilities of these women and recommendations then suggest remedial measures to address the various gaps that have been pointed out.

Chapter 2

Methodology

This report draws from an analysis of 124 maternal deaths identified and documented over a period of two years (between January 2012 and December 2013). The deaths constitute a purposive sample from 31 districts across ten states of the country. This section details the methodology of identifying and documenting these maternal deaths.

Overall process and tool development

As part of the Dead Women Talking process (see introduction), a social autopsy tool (see Box 1) was developed by a group of maternal health activists and academicians following a workshop in June 2012 where a framework was developed to look at maternal mortality in the Indian context[2]. This tool was designed to capture health system gaps and social determinants that contributed to the maternal death, in addition to identifying a probable medical cause of death. The tool development process was iterative and the tool was repeatedly modified over a period of nearly two years based on feedback from civil society groups' experience of documenting maternal deaths and use of the tool on the ground. The maternal deaths in Jharkhand and Rajasthan were documented using tools developed by organizations working in these states - these captured similar information to the DWT's social autopsy tool.

Box1

Social Autopsy

Social autopsy is defined as "an interview process aimed at identifying social, behavioural, and health systems contributors to maternal and child deaths." (21) Social autopsies are meant to complement verbal autopsies for maternal/child deaths which, through interviews with the members of the dead woman/child's household, draw conclusions about clinical cause of death. Social autopsy has been recognized as a tool with potential to provide information to policy makers and programme managers to develop better strategies and interventions that would prevent avoidable deaths; and also as a tool that would provide communities with the information to make changes in behaviours within households and communities on the one hand, and demand greater accountability of health programmes on the other.

A comprehensive literature review of social autopsy studies (21) used the following set of criteria to assess whether or not a tool or methodology was indeed one that allowed for "social" autopsy. These are:

i) *Essential elements of the care-seeking process were examined.* The following eight elements were scanned for: recognition of illness, whether adequate home-care was provided, whether and what-type of outside home care was sought; delays to formal health care seeking and related barriers; and the respondent's perspective on quality of care.

ii) *Household, community and health system factors contributing to the death were documented.*

iii) *Large scale data were made available either to support health programme or policy development or for community empowerment.*

Training of investigators

Following the development of the tool, staff of different organizations working on maternal health in the ten states[3] were trained to conduct social autopsies. The training sessions were conducted by medical doctors (obstetricians), reproductive rights activists and public health researchers, and included sessions on

2 For a more detailed report on this, the Dead Women Talking workshop, refer to http://www.commonhealth.in/workshop-eports-pdf/6a%20report%20dead%20women%20talking%20june%202012.pdf

3 For a list of states and districts in the sample, please see chapter 3 on overall findings.

epidemiology of maternal deaths, technical inputs on common obstetric complications and their management, rights based perspectives on looking at maternal deaths and skill based training on actual use of the tool[4].

Identifying and documenting maternal deaths

The maternal deaths documented in this report were initially identified and reported by community members belonging to several community-based organizations. Once report of a death was received, the death was then verified as maternal death by trained staff of these community-based and civil society organizations by making a house visit. Following this, the families of the deceased women were contacted by members of these organizations to do a social autopsy.

The interviews with the family were done by a team of 2-5 trained investigators, usually after the period of initial mourning was over so as not to traumatize the bereaved family further. During the interviews with the family, following a verbal, informed consent process that detailed the objectives of the process and assured confidentiality, details of the death were collected using the pre- developed social autopsy tool. Where necessary, interviews were conducted with both the marital and natal families of the deceased women. Where relevant, efforts were also made to contact other community members to understand issues regarding health services and other public services and social issues in the community. Where possible, interviews were also conducted with front line health providers like ASHA, ANM and medical officer of the concerned Primary Health Centre. This almost always necessitated multiple visits by the investigating team to the family and the community in order to document one maternal death.

During the whole process, senior members from both CommonHealth and individual civil society organizations engaged in the process periodically met with those actually collecting data to ensure that technical and ethical standards were maintained. All those engaged in the process participated in two workshops during active data collection to examine the data and fill in gaps. These workshops also served to understand and address challenges in the field during data collection[5].

Box 2

SSSR framework for analysis

The SSSR framework to analyse maternal deaths was developed by CommonHealth after discussions based on a presentation by Dr Prakasamma at Gujarat Institute of Development Research in July 2012. This was based on our experience of documenting maternal deaths earlier where the factors contributing to maternal deaths could be categorized across four domains.

1. Technical Factors (Otherwise, **S**cience related factors)
2. Health **S**ystem Factors
3. **S**ocial Factors
4. Human **R**ights

Thus, explained by the acronym SSSR Framework.

In the Dead Women Talking initiative, participants were trained in using this framework of analysis and analysed each death across these four domains. In addition to this, a probable medical cause of death was assigned to each death, wherever possible.

For each domain, gaps that were found that caused or contributed to the deaths were identified and listed. Actions that would then address these gaps were then listed as recommendations for each of the gaps identified.

A compilation of these recommendations across all deaths in a particular geographical area was then done periodically to come up with actionable recommendations both for the health system and the community in that area.

Compilation and analysis

The details of the maternal deaths were then compiled both state-wise and together and analysed based on a pre-developed framework to identify

4 For more details on the training, refer to specific training workshop reports on www.commonhealth.in
5 Detailed reports of these workshops are available on www.commonhealth.in

health system gaps, social determinants and rights violations leading to the death. A 'missed opportunities' analysis that looked at possible actions that would have saved the woman's life was also done for each death. During analysis, validation checks were carried out to confirm for internal consistency. Wherever possible, a medical cause of death was assigned based on the narratives, initially by one obstetrician and subsequently cross checked and validated by two senior obstetricians who have been heads of departments of obstetrics and gynaecology in premier medical institutions in the country.

Ethical considerations

The Dead Women Talking project is an initiative by health activists who have longstanding commitment to improving health and close relationships with the communities in which deaths were investigated; this work was thus an extension of service and advocacy activities undertaken by partner organizations. This process has not been designed as a research study to exclusively advance generalizable knowledge, but rather as a tool for advocacy. Thus, no formal ethical clearance was sought from an external body. Others using similar processes have also argued that this is not necessary. (21)

In spite of this, we have made all efforts in the data collection and analysis process to maintain rigour and ethical standards. A verbal informed consent was taken from all those interviewed. Confidentiality has been ensured by suitably anonymizing the deceased women and informants. Ethical issues that were likely to come up during data collection and how to address them were part of the initial training and subsequent workshops. Finally, the results of this work are being shared with communities and policy makers alike and are designed to directly benefit the communities in which the information was collected.

Limitations

The documentation of maternal deaths was a qualitative exercise focusing on causes and contributors to these deaths. This was not designed to capture all maternal deaths in a given area and thus does not represent the incidence of maternal deaths.

We did not have access to the medical records of the women except where the family could provide copies of some of these records - thus the analysis draws largely from the narrative of events provided by the family and others. However, we believe this provides sufficient material to draw conclusions regarding contributors to these women's deaths.

Challenges

1. Challenges in the field

    a. It was found that a one-time training on conducting social autopsies was insufficient to train staff of civil society organizations. Further, the tool evolved as it was used in the field, requiring repeated orientation to the additions/modifications. It was also found that community-based members from these organizations needed to be trained to recognize maternal deaths according to the standard definition as well as record information about the deaths.

    b. It was found that families often provided incomplete information for a social autopsy. For example, many times the family would not share details about issues like abortions due to son

preference, violence, and about nutrition and domestic workload. Family members also were often not allowed inside the labour room or not told sufficiently about the final events surrounding the death, and hence were not able to give sufficient information when the death was in a health facility. Thus, it was found that information needed to be triangulated to arrive as close to the reality as possible: front line health workers like ASHAs and ANMs needed to be interviewed, every facility the woman had been to or was referred to needed to be visited, and the natal family needed to be interviewed. Each social autopsy thus took a minimum of three visits to the field and each interview with the family took at least an hour. It is thus an intensive process requiring investment in both transportation costs as well as personnel time.

c. Deaths due to unsafe abortions, deaths due to home deliveries and late maternal deaths were likely to have been missed despite our efforts in obtaining complete information. Special efforts needed to be made to recognize these including training of community-based organizations.

2. Challenges in working with the health system

a. It has been difficult to get the health system perspective on maternal deaths.

i. In almost all districts where these documentations were done, our attempts to establish linkages with the government for conducting verbal autopsies did not succeed.

ii. There has been a general resistance from the health system to cooperate in civil society-led social autopsies. Often, when we attempted to share details of these social autopsies with the health authorities, they questioned the credentials, expertise and qualifications of the social autopsy teams rather than engage with the findings.

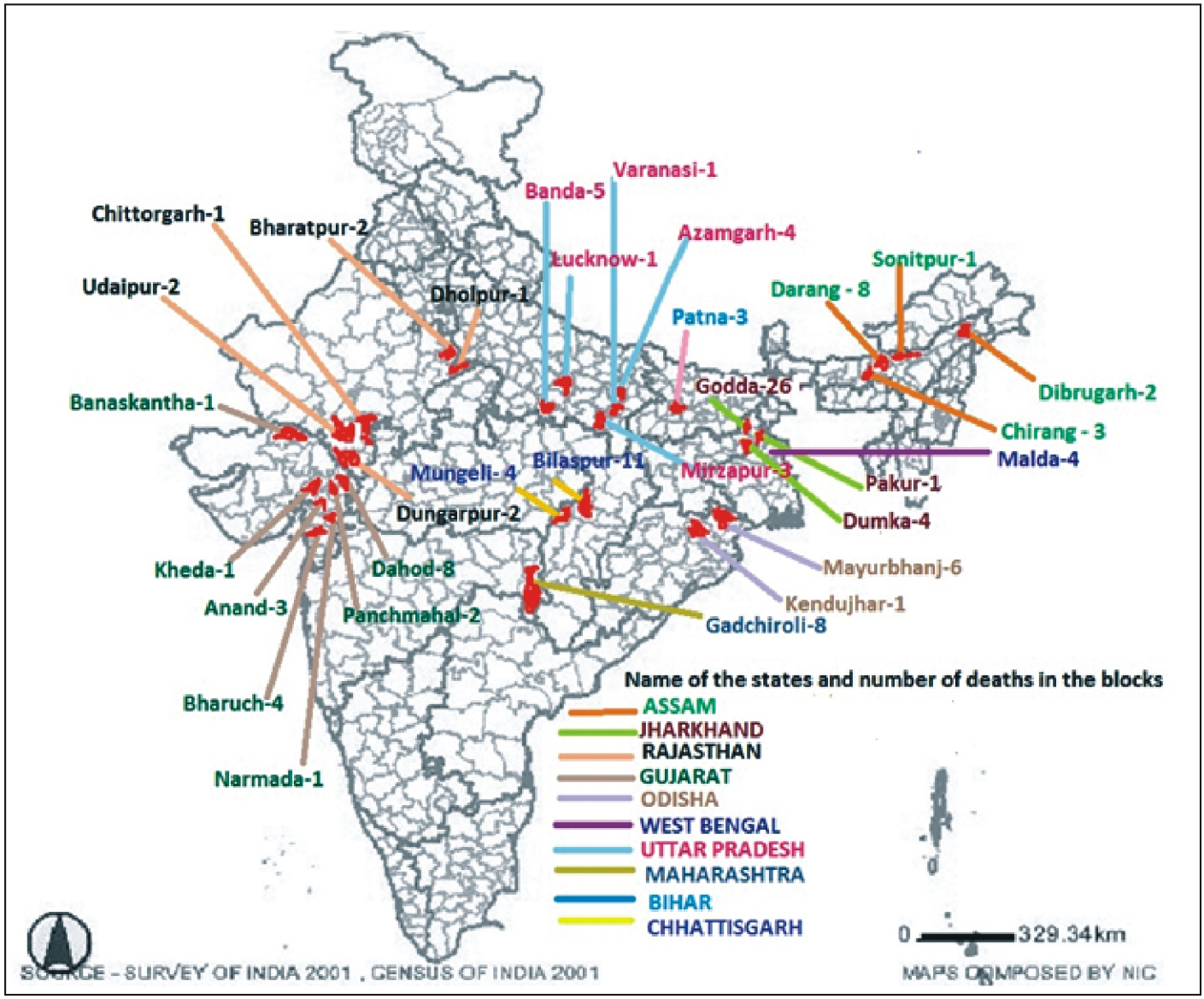
b. There seemed to be a culture of apportioning blame to the lowest possible in the hierarchy - very often, the family was blamed, as were peripheral health workers like the ASHA, ANM and ICDS staff. This resulted in these health workers being reluctant to speak about the deaths when contacted. This has implications for maternal death reporting by these health workers.

Chapter 3

Overall findings

Over a period of two years (January 2012 to December 2013), a total of 124 maternal deaths were documented in ten states viz. Maharashtra, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Chhattisgarh, Odisha and Assam. The state and district distribution of these deaths is depicted in Table 1 and Figure 1. Of these, 92 deaths were from seven high focus Empowered Action Group (EAG) states and 32 from three non-high focus states.

Figure 1 - Map showing states and districts where the maternal deaths were documented



6 The National Rural Health Mission has classified states with poor health indicators as Empowered Action Group (EAG) states and these are provided with intensive inputs including higher budgetary allocations under the programme.

Table 1 State and district wise distribution of deaths	
STATE	**Number of deaths**
EAG states	
Assam	**14**
Chirang	*3*
Darang	*8*
Dibrugarh	*2*
Sonitpur	*1*
Bihar	**3**
Patna	*3*
Chhattisgarh	**15**
Bilaspur	*11*
Mungeli	*4*
Jharkhand	**31**
Dumka	*4*
Godda	*26*
Pakur	*1*
Odisha	**7**
Kendujhar	*1*
Mayurbhanj	*6*
Rajasthan	**8**
Bharatpur	*2*
Chiitorgarh	*1*
Dungarpur	*2*
Thoulpur	*1*
Udaipur	*2*
Uttar Pradesh	**14**
Azamgarh	*4*
Banda	*5*
Lucknow	*1*
Mirzapur	*3*
Varanasi	*1*
Sub total	**92**
Non EAG states	
West Bengal	**4**
Malda	*4*
Gujarat	**20**
Anand	*3*
Banaskantha	*1*
Bharuch	*4*
Dahod	*8*
Kheda	*1*
Narmada	*1*
Panchmahal	*2*
Maharashtra	**8**
Gadchiroli	*8*
Sub total	**32**
Total	**124**

Who are the women who died?

This section gives some background details about the women whose deaths form the basis of this report.

The age distribution of the women who died is given in Table 2 and figure 2. The majority of the women (43.5%) were in the 21-25 years age group. The last column of the table shows the corresponding figures from Sample Registration System (SRS) Special Bulletin 2010-12. (4)

Table 2 Age distribution of the women

Age (years)	Number of women	Percentage	SRS 2010-12 % (Confidence intervals)
15-19	11	8.9	7 (5-8)
20-24	54	43.5	39 (35-42)
25-29	36	29.1	28 (25-32)
30-34	15	12.1	17 (14-19)
35-39	4	3.2	7 (5-9)
40-44	1	0.8	2 (1-3)
No data	3	2.4	Not applicable
Total	**124**	**100.0**	

Figure 2

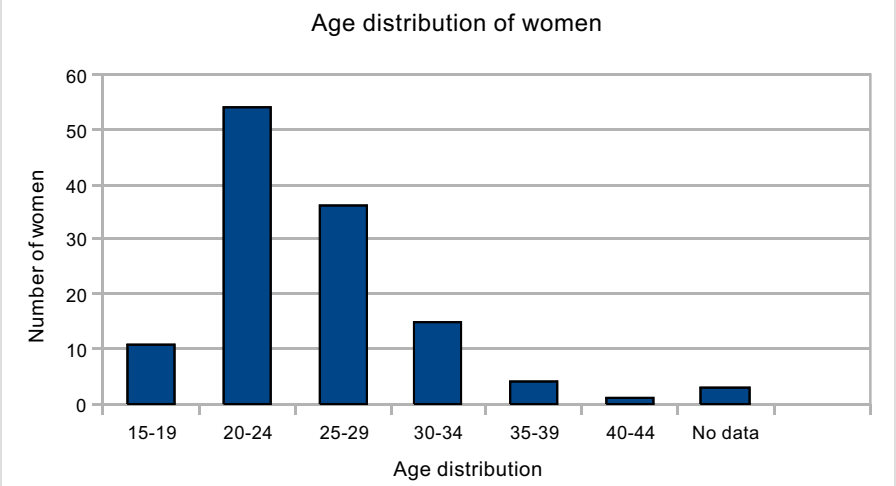


Table 3 and figure 3 show the caste distribution of the women who died. Almost 45 percent of the women who died are from scheduled tribes and a further 17% are from scheduled castes[7] . However since many of the districts where the documentation was done are districts with a large proportion of adivasi[8] population, not much can be concluded from this.

7 Scheduled castes and scheduled tribes are historically disadvantaged groups in India that are recognized and given a special status under the Indian constitution for affirmative action.

8 Adivasi is the term used to describe persons from indigenous tribes in India. They are classified as scheduled tribes under the Indian constituion.

Table 3 Caste distribution of the women

Caste	Number of women	Percentage
Scheduled caste	21	16.9
Scheduled tribe	55	44.4
Backward caste	2	1.6
Other backward castes	19	15.3
General	10	8.1
No data	17	13.7
Total	**124**	**100.0**

Figure 3 Caste distribution of women

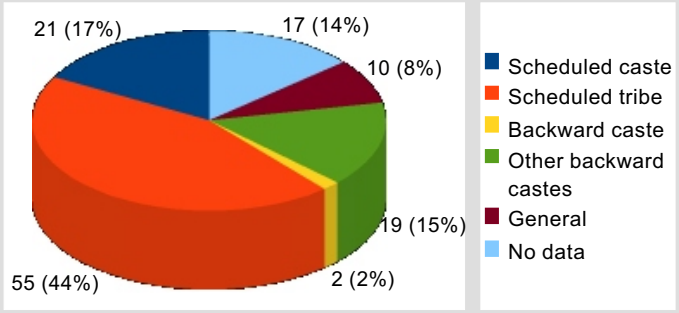


Table 4 shows the number of pregnancies the women who died had had including the current one. It is seen that almost 40 percent of the women died during their first pregnancy and another 38 percent during their second or third pregnancy. Only 28 out of the 124 (22.5%) women had four or more pregnancies.

Table 4 Number of pregnancies

Number of pregnancies	Number of women	Percentage
1	49	39.5
2	24	19.5
3	22	17.7
4 - 5	21	16.9
6 - 8	6	4.8
11	1	0.8
No data	1	0.8
Total	**124**	**100.0**

Table 5 Occupation of the women

Occupation	Number of women	Percentage
Agricultural worker	8	6.5
Wage labourer	25	20.2
Migrant labourer	6	4.8
ASHA	2	1.6
Anganwadi Sahayika	1	0.8
Mid day meal in-charge	1	0.8
Homemaker	34	27.4
Home-based beedi workers	4	3.2
LIC agent	1	0.8
No data	42	33.9
Total	**124**	**100.0**

As seen in Table 5, most of the deceased women were wage labourers or agriculture workers, in addition to being responsible for their daily household chores. Six women were migrant labourers and four home based beedi (indian cigarette) workers.

It is noteworthy here that two of the women were ASHAs[9] themselves, one was a Sahayika in an Anganwadi[10] and one a midday meal in charge of a school [11]- it is also noteworthy that while these women were workers in public institutions, they were also the lowest and most peripheral workers in the hierarchy of these institutions.

When and where did these deaths occur?

Of the 124 deaths, the majority (82 women, 66%) took place in the post-partum period. Of these, 52 women died within 24 hours of delivery. This is not surprising as most maternal deaths are known to occur in the immediate post-partum period. (22)

9 ASHA or Accredited Social Health Activist is the name given to the Community Health Worker under the National Rural Health Mission. ASHAs are selected by the community and trained under the NRHM.

10 An *Anganwadi* is a village facility under the Integrated Child Development Scheme (ICDS) that addresses early childhood nutrition and education. Each *Anganwadi* is staffed by an *Anganwadi* worker and an assistant (Sahayika).

11 The mid day meal programme addresses nutritional needs of school going children by providing one fresh cooked meal in public schools at lunch.

28 deaths took place in the antenatal period and 9 in the intra-natal period. Five women died during or after an abortion.

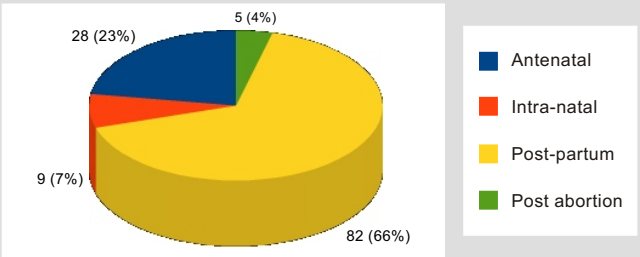
The large number of deaths in the antenatal period has implications for policy and programme as interventions to address them would be different from those in the intra-natal and post-partum period. In subsequent chapters, we show how care in the antenatal period is found severely wanting and how this contributes to these deaths. Similar is the case of deaths in the post-abortion period and its implications for comprehensive safe abortion care.

Table 6 Time period of death

Time Period of death	Number of women	Percentage
Antenatal	28	22.6
Intra-natal	9	7.3
Post-partum	82	66.1
Post abortion	5	4.0
Total	**124**	**100.0**

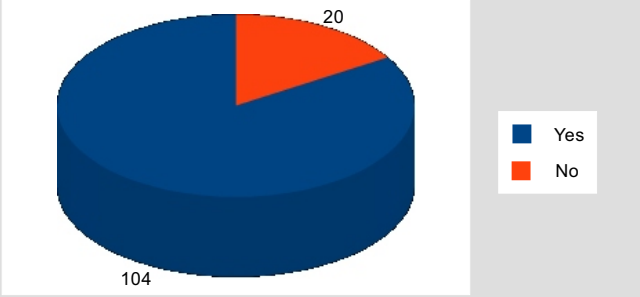
Two deaths were late maternal deaths (beyond the period of 42 days). While standard measurement procedures for maternal mortality in standard databases like the Sample Registration System or even the Maternal Death Review process of the GOI measure deaths only upto 42 days, recent literature is showing that deaths beyond this period can be intimately related to the pregnancy (22) - our documentation of the two deaths that took place beyond 42 days substantiate this and highlight a need to start documenting such deaths.

Figure 4 Time of death



As shown in Table 7, 32 of the 124 women died at home - it is noteworthy that even of these, 12 women had sought care in one or more facilities, public or private, for the final event before reaching home and dying (Figure 5). This shows that nearly 60 per cent of the women managed to reach a facility when faced with a complication.

Figure 5 Women seeking care in the event of a complication



Sixty of the 124 women died in health facilities. Of these, 42 women died in public facilities and 18 in private facilities.

31 women died on the road - 7 of these deaths took place before reaching the first facility, 22 women died while travelling from one facility to another, again highlighting that they had sought care at a health facility before dying, and two women died while being brought home after the families decided not to seek any further treatment.

One woman died of an abortion complication in the home of an ANM who was an unqualified and unlicensed provider of abortion services[12].

12 The Medical Termination of Pregnancy Act passed in 1972 lays down conditions under which abortions can be performed - it stipulates that legally, abortions can be performed upto 20 weeks for specifically defined causes by qualified gynaecologists or specially trained allopathic doctors in specific licensed facilities.

Cause of death

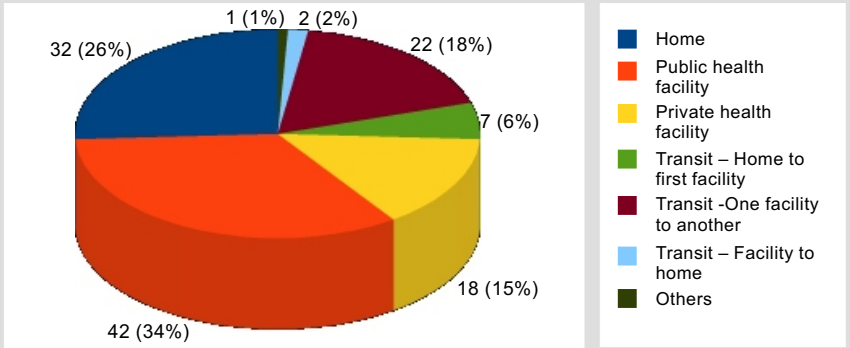
Efforts were made to assign a probable medical cause of death wherever possible from the family's narrative - this was initially done by one obstetrician and subsequently finalized in consultation with two senior obstetricians. Where relevant, more than one cause of death was assigned. This is presented in Table 8.

The most common cause of death was post-partum haemorrhage (29 women, 23.4%), followed by anaemia (22 women, 17.7%). Haemorrhage in the form of ante-partum haemorrhage caused 6 deaths.

Table 7 Place of death

Place of death	Number of women	Percentage
Home	32	25.8
Health Facility	60	48.4
Public	*42*	*33.9*
Private	*18*	*14.5*
On the road	31	25.0
Home to first facility	*7*	*5.6*
One facility to another	*22*	*17.8*
Facility to home	*2*	*1.6*
Others	1	0.8
Total	**124**	**100.0**

Figure 6 Place of death



Fourteen women (11.3%) died because of severe pre-eclampsia / eclampsia. Notably, infectious diseases contributed to 4 deaths - two because of malaria and two due to tuberculosis. Iatrogenic causes were responsible in 5 cases - 3 due to complications of caesarean section, and 2 where a reaction following blood transfusion occurred. A cause could not be ascertained based on the families' narratives in nineteen deaths.

Table 8 Probable medical cause of death

Probable medical cause of death	Number of women	Percentage
Post-partum haemorrhage	29	23.5
Anaemia	22	17.8
Eclampsia / Severe pre-eclampsia	14	11.3
Ante-partum haemorrhage	6	4.8
Sepsis	3	2.4
Obstructed labour	9	7.3
Complications of abortion	5	4.0
Malaria	2	1.6
Tuberculosis	2	1.6
Caesarean complication	3	2.4
Blood transfusion reaction	2	1.6
Heart disease	2	1.6
Others (includes sickle cell anaemia)	6	4.8
Could not be ascertained	19	15.3
Total	**124**	**100.0**

In 35 of the 124 women, more than one cause of death was identified. These include in addition to the causes presented in Table 8, anaemia (4), post-partum haemorrhage (6), eclampsia (4), sepsis (4), sickle cell anaemia (2) and tuberculosis (1).

Table 9 analyses the probable medical cause of death by time of death. It can be seen here that of the 28 deaths that took place in the antenatal period, 9 were due to eclampsia / severe pre-eclampsia and 4 due to anaemia - all of which could have been prevented by good quality antenatal care. Of the post-partum deaths, 18 were due to anaemia - again these could have been prevented by picking up the anaemia early and also by managing anaemia adequately in the intra-natal and immediate post-partum period.

Figure 7 Probable medical cause of death

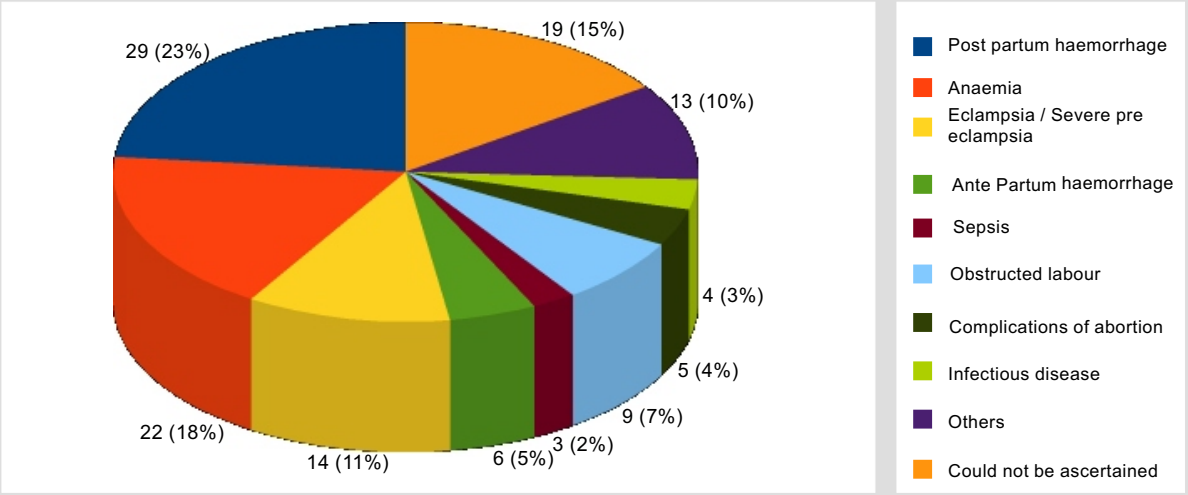


Table 9 Probable medical cause of death by time of death

Probable medical cause of death	Time of death				
	Post-abortal	**Antenatal**	**Intra-natal**	**Post-partum**	**Total**
Haemorrhage (Post-partum and ante-partum)	0	3	0	32	35
Anaemia	0	4	0	18	22
Eclampsia / Severe pre-eclampsia	0	9	0	5	14
Sepsis	0	0	0	3	3
Obstructed labour	0	0	5	4	9
Complications of Abortion	5	0	0	0	5
Malaria	0	1	0	1	2
Tuberculosis	0	0	0	2	2
Others	0	4	1	8	13
Could not be ascertained	0	7	3	9	19
TOTAL	**5**	**28**	**9**	**82**	**124**

Table 10 shows the probable medical cause of death by place of death. This shows that 8 women with PPH died while going from facility to facility often without care as we will show in subsequent chapters.

While this chapter has highlighted the background of the women, the time, place and probable medical causes of maternal death, in the subsequent chapters, we highlight specific issues that come up significantly in the narratives of these deaths. Annexure 1 presents specific details of each of these deaths in a tabular format - the S No. of individual cases has been mentioned in the text for ease in cross referring to this table.

Table 10 Probable medical cause of death by place of death

Probable medical cause of death	Place of death							
	Health facility		Home	Transit			Others	Total
	Public	Private		One facility to another	Home to first facility	Facility to home		
Post-partum haemorrhage	10	1	7	8	3	0	0	29
Anaemia	7	4	7	2	0	2	0	22
Eclampsia / Severe pre- eclampsia	6	1	3	2	2	0	0	14
Ante-partum haemorrhage	3	1	1	1	0	0	0	6
Sepsis	2	0	1	0	0	0	0	3
Obstructed labour	3	3	0	3	0	0	0	9
Complications of abortion	2	1	1	0	0	0	1	5
Malaria	0	0	2	0	0	0	0	2
Tuberculosis	0	1	1	0	0	0	0	2
Others	1	4	3	4	1	0	0	13
Could not be ascertained	8	2	6	2	1	0	0	19
TOTAL	**42**	**18**	**32**	**22**	**7**	**2**	**1**	**124**

Chapter 4

Vulnerabilities and maternal deaths

From the previous section on who were the women who died, it is seen that these were highly vulnerable women on several counts. In this chapter, we try to highlight some of these vulnerabilities to detail the life circumstances of these women.

Socio demographic vulnerabilities

Age

As shown in the earlier chapter, majority (78 out of 124) of the women who died were very young, less than 25 years old. While it could be argued that most pregnancies occur in this age group, this is indeed a tragic loss of young women's lives when performing a social role of reproduction.

Early marriage has been seen as a major problem affecting the health of women. NFHS 3 showed that 47% of young women in the country were married by the age of 18 years. (23) 26 of the 124 women who died in this sample were between 16 and 20 years of age and all except one of them were married. It is also known that women who have a pregnancy at a very young age face a high risk of morbidity and mortality. In spite of this, the narratives revealed that several young women in the sample had not received any antenatal care at all during their pregnancy. (All names have been changed to protect identity).

- For example, Rita was a 16 year old adivasi woman from Jharkhand in her first pregnancy. She had multiple problems during the pregnancy - malaria, jaundice, swelling of feet and face, night blindness - but her antenatal care was restricted to receiving one dose of tetanus toxoid. She died of eclampsia*, (a condition for which younger women are at much higher risk and which could have been prevented had the risk factor been identified and acted on during the antenatal period)*(S No. 18).

At the other end of the spectrum were older women with a history of several pregnancies. It is well known again that they are a high risk group for complications both because of their age and multi-parity. This group too seemed to be getting left out of care.

- The story of Urmila is one such - a 32 year old migrant worker in cotton mills, she had a past history of tuberculosis that had been treated. Of her three previous deliveries, one was at a construction site where she worked and the next two at home. In her fourth pregnancy, she had had only one antenatal care visit at a PHC where only a tetanus toxoid injection was given and she was handed ten tablets of iron folate. No haemoglobin or BP check had been done. Urmila subsequently developed severe breathlessness and after desperately seeking care at seven different facilities over 5 days, her family gave up and took her back home where she died (S No. 4).

- Similarly, a 28 year old ASHA from Jharkhand died during her fifth pregnancy. Two of her previous children having died in infancy. She did not receive any antenatal care at all (S No. 36).

- The stories of women in S No. 40 and 42 also highlight such lack of antenatal care for older, multi-parous women.

This leaving out of both young and older multi-parous women may not be entirely coincidental considering that until recently, both these groups were excluded from the Janani Suraksha Yojana. (9,11) Their exclusion from the scheme makes front-line health care providers ineligible for incentives when caring for them, and it has been anecdotally reported by several grass-roots activists that thus many of these women do not get the required care[13].

Caste and religion

Majority of the women whose experiences we documented belonged to scheduled tribes, scheduled or other backward castes, social groups that have been historically deprived of fruits of modern development. Previous studies have also shown that these groups have a disproportionately higher maternal mortality. (12-14)

In Assam, it is noteworthy that all eight women whose deaths were documented from Darang district were Bengali Muslims. It is well known that this group has been traditionally marginalized with their citizenship being questioned, thus denying them several privileges and rights.

Double burden of responsibilities

In addition to their domestic responsibilities, more than 52 % of the women for whom data on occupation was available, worked as daily wagers and labourers. The fact that the narratives reveal that some of them worked in the last month of their pregnancy indicates that these women were extremely poor.

Geographical location

Another group of women who were especially vulnerable and were excluded from care were those in remote hamlets. Families revealed that these hamlets did not receive any services at all.

- Kamla lived in Jharkhand in an adivasi hamlet where the nearest road is 10 km away. The ANM and the Mamta vahan[14] only travelled up to the point with road access; to receive care, Kamla would have to walk to this point 10 km away from her village. Thus, it is not surprising that Kamla did not receive any antenatal care during her pregnancy. When she started having labour pains, there was no way she could reach the Mamta vahan pick up point as her husband was unwell and there was no one to carry her on the 10 km journey, so she delivered at home and died a few hours later (S No. 24).

- Similar is the story of Rupa, a 17 year old adivasi woman in Chhattisgarh. Her family had been resettled because her village was in an area declared a tiger reserve. The resettlement village was 10 km away from the road and was inaccessible during the rains. There was no ICDS centre in the village, the ANM did not visit there and no immunization took place. Rupa, pregnant with her first

13 Please refer to the reports of Dead Women Talking 2 and 3 workshops on www.commonhealth.in

14 A state specific scheme that contracts in private vehicles to provide transport to pregnant women for seeking delivery care. Several states have similar schemes going by different names - Mamta Vahan, Mamta Express, Janani Express etc.

child, did not therefore have any antenatal care. She delivered at home, developed post-partum haemorrhage and died before the family could get a vehicle to transport her to a facility (S No. 99).

Migrants

Yet another group of vulnerable women that were not covered by the health system were migrant workers. At least six out of the 124 women who died in this sample were migrants. Portability of services was an issue for these women. Migrant women were not covered by antenatal services or ICDS services and when they died, their deaths were not officially recorded because they did not belong to anyone's 'area.' The story of Urmila narrated previously in the section on age in this chapter highlights the issues that migrants face.

A special group of migrants is those in tea estates in Assam. Two women in our sample from Dibrugarh district of Assam were tribals living and working in tea estates. Civil society organizations working in these estates have observed that health facilities for these tribals are almost non-existent. Bengali Muslims in Assam are also treated as outsiders and therefore migrants.

Similarly, the cultural practice of women moving between their marital and parental homes was not adequately addressed in the programmes, and these women were perhaps made ineligible for certain services and entitlements that were considered to be only for "daughters-in-law" and not "daughters".

Gender as a cross-cutting issue

Gender issues were seen to be cross-cutting across other social vulnerabilities. Women's lack of decision making, a lesser value placed on their lives, and the health system's neglect of issues affecting women all came up from the narratives and will be discussed in subsequent chapters.

That son preference can be such an overarching determinant of maternal death is aptly described by the story of Baria from Banaskantha district in Gujarat. She was diagnosed with a heart ailment in her earlier pregnancy. Baria had three children including one son earlier but had a desire to have two sons, and so she went ahead with a fourth pregnancy despite her family being aware of the risk (S No. 123).

Social stigma and total lack of care attached to a pregnancy out of wedlock can also subject women to high vulnerability. The story of Neeru from Poreyahat in Jharkhand who died of an unsafe abortion after getting pregnant before marriage is a case in point (S No. 20). Even though young people's right to seek reproductive health care including abortion services is recognized in international human rights law and in India under the MTP Act and various programmes, such cases show how these are not translated into reality on the ground.

System-induced vulnerabilities

The impact of the family planning programme and the two child norm on front-line workers and how it affects maternal health is amply highlighted by the case of Shanta, an adivasi woman in Gadchiroli district of Maharashtra.

- In her third pregnancy with two previous girl children, Shanta was under tremendous pressure to produce a son. The ANM however insisted that her husband should undergo sterilization as they already had two children. In this scenario, no antenatal care was provided to Shanta this time, nor did she seek care. She later delivered a boy who however died of prematurity. Shanta went into

depression and died four months later of a worsening infected ulcer on her leg (S No. 50).

How the Janani Suraksha Yojana failed to addressthe vulnerabilities of women has been described above. Until recently, the programme excluded women at extremes of age and in many states still requires documentary proof of poverty that many poor women may not possess to be eligible for cash incentives. Thus the most vulnerable women do not receive benefits. The whole premise of the programme that assumes that bringing women to institutions will automatically translate into safe deliveries has been questioned. (11) We will show in subsequent chapters how women sought care in institutions and were faced with extremely poor quality care.

Socio economic vulnerabilities of women - what should be the role of the health system?

As described above, many of the women who died were socially, economically vulnerable. In several of their lives, these multiple vulnerabilities coalesced to produce cumulative effects. These women, because of these vulnerabilities, faced severe challenges in accessing health care. The aim of public health services - both community based and facility based - is to ensure maximum access to services, including antenatal care, emergency obstetric care and post-partum care. A rights-based approach to providing universal access would focus on equity and social justice and make special provisions for women with vulnerabilities to ensure they definitely have access to care. However, based on the narratives of the deaths, it seems that women with vulnerabilities are actually getting left out of services like antenatal and post-partum care because of the way health services are structured and delivered presently. We highlight below some instances where multiple vulnerabilities coalesce in women's lives and how the health system fared in addressing their problems.

Box 3

The death of Dhani (S No. 84)

Dhani was a 26 year old tribal woman living in Sonitpur district of Assam. She had two sons, 4 and 3 years old. Both Dhani and her husband were daily wage labourers. Their house was made of just three small mud huts with thatched roof. They did not have any agricultural land, the only piece of land they owned is where these huts stood.

According to her mother-in-law, Dhani was normal during her third pregnancy and working as usual. She started having pain a week before the birth of the baby, and she was facing difficulty passing urine. After two days, she was unable to pass urine at all and was in severe pain.

The family decided to take her to a doctor so they sold their only cow - but they did not take her to a properly qualified doctor, instead they hired a car to take her to a nearby pharmacy where someone somehow managed to extract urine from her bladder. The pharmacist advised them to take her to the city for better treatment, but they took her back home. When asked why they did not take her to a government hospital, her mother-in-law said the local ASHA had come to their house once and given some tablets and asked Dhani to go to the sub health centre for check up, but Dhani did not go. When Dhani developed problems, they were worried to take her to the government hospital because they felt if they took her to the government hospital after she had problems, the staff would mistreat them and ignore Dhani - they avoid the government hospital staff as much as possible because they often mistreat them.

When labour pains started in the evening a few days later, they called the traditional *dai*; she helped Dhani to deliver a girl child. Dhani was bleeding continuously, though not very much. Her abdomen was swollen up. Almost 6 hours later, Dhani died.

When asked why they did not call an ambulance to take her to a hospital, Dhani's mother-in-law explained how difficult it is for them to organize money, vehicle, ambulance, other resources or any kind of help during the night. Rivers surrounding the village do not easily allow the villagers to communicate with rest of the world. It is almost impossible for people like them to organize help from the other side of the river especially during the night when a broken wooden bridge is the only access to the outside world.

Dhani's husband could not be interviewed as he was away at work - he couldn't stop working even though his wife had died just a few days back, he had to support his 6 member family.

Box 4

The death of Heena (S No. 58)

Heena was a 22 year old tribal woman who lived in Kendujhar district of Odisha. Both she and her husband were illiterate. They did not own any land, were certified to be below the poverty line, and according to her husband, often did not have enough to eat. They lived in a remote hamlet where the nearest motorable road was10 km away, and the nearest ambulance pick up point was 40 km away.

This was Heena's second pregnancy. Her first child had died at the age of 6 months due to an infected abscess. The nearest sub-centre was 6 km away and though the ANM did visit once a month, the hamlet could not be reached in inclement weather. Heena did not seek or receive any care during this pregnancy.

When Heena's labour pains started, her husband tried to arrange for some form of transport to take her to a health facility. It took him about 8 hours to do so - they did not have the number of the Janani Express, nor did they receive any help from the ASHA or ANM. They set out to the nearest CHC that was 50 km away, but Heena delivered on the way and died soon after, probably due to excessive bleeding.

Box 5

The death of Nayana (S No. 66)

Nayana lived in Azamgarh district of Uttar Pradesh and belonged to a scheduled caste community. She had been married at the age of 14 and was 25 years old at the time of her fifth pregnancy. Of her previous pregnancies, three children survived.

Nayana and her husband had migrated to Delhi in search of a job. While there, Nayana was diagnosed to have tuberculosis and received treatment. Once better, Nayana returned home. She did not realize she was pregnant till 6 months later. By then, her husband had lost his job and this made food availability for the family a problem. The lack of nutrition made her weak and tired. As Nayana's condition worsened, her family took her for a check up she was diagnosed to have tuberculosis again, for which treatment was begun in the nearest CHC.

In the meantime, Nayana went into labour - she was taken to the CHC by the 108 ambulance and had a normal delivery. The baby's birth weight was found to be low and after a day's treatment with oxygen, both Nayana and her baby were discharged the next day.

Once home, Nayana developed fever - she was taken to the PHC on the second day where she was given some medicines by the doctor and sent home. However, her condition kept worsening. About a week later, she was admitted in a private hospital in the nearby town. Although treatment was initiated, Nayana died a few hours later.

These stories of the deaths of these women show how multiple social determinants interacted to produce adverse health outcomes - the relationship between rural residence, migration, food security, tuberculosis, pregnancy outcome, neonatal outcome, are all starkly visible in these narratives. The health system could have responded in multiple ways in mitigating some of the problems these women were facing. Instead, we find that it miserably failed in doing so. For example, Nayana was registered for tuberculosis treatment with a public health facility. Even though she delivered in the same facility, no particular care was given in the post-partum period and in fact she was discharged before the mandatory 48 hours. Even when she sought care in a public health facility for post-partum fever, the relationship between this and her tuberculosis was not picked up, with grave consequences for her. While there were factors like migration, loss of livelihood and absence of food security that greatly contributed to her death, the health system could have definitely saved her life, given that she specifically sought care from it not less than at three different times, if it had at the least coordinated between her tuberculosis treatment and her pregnancy care, and ensured quality in both. Similarly in Heena or Dhani's cases, systemic neglect of their hamlets over several decades is obvious from the lack of roads and connectivity - these definitely do need to be corrected - however, in the short term, the health system could have made special arrangements, for example boat ambulances in Dhani's case, that would have ensured that they received timely emergency care.

The Government of India is a signatory to various international declarations and covenants of human rights. It has a constitutional obligation to respect, protect and fulfil the rights of all of its citizens. However, here we find that women from the most marginalized sections of society - scheduled castes, *adivasis*, migrants, poor women - have all been either denied life-saving health care or received it after inordinate delays. By allowing this to happen, the state has failed in its duty to protect their human rights.

HEALTH SYSTEM ISSUES

Chapter 5

Emergency Obstetric Care: Unavailable, delayed, inappropriate

It is now well accepted that access to emergency obstetric care (EmOC) for all pregnant women is a key intervention to reduce maternal mortality. (24) The Government of India has also invested in strengthening EmOC, both Basic EmOC (BEmOC) and Comprehensive EmOC (CEmOC) (see Box 3) through designating specific facilities[15] for strengthening and capacity building of medical and paramedical personnel. However, the picture that comes out of the narratives of the 124 women who died is very different: there were many cases where women with an emergency condition died in spite of her reaching a health facility. In this chapter, we describe this lack of availability and poor quality of care and how this resulted in lost opportunities in saving women's lives.

Box 6

Signal functions used to identify Basic and Comprehensive Emergency Obstetric Care

Basic EmOC services	Comprehensive EmOC Services
1. Antibiotics (Injection)	(1-6) All of those included in Basic EmOC
2. Oxytocics (Injectables)	7. Perform C-sections
3. Anticonvulsants (Injectables)	8. Perform blood transfusion
4. Manual removal of placenta	
5. Removal of retained products	
6. Assisted vaginal delivery	

Emergency Obstetric Care was found to be lacking in many different ways from the stories of these women. These included delays, lack of treatment, inappropriate treatment and absence of accountability. When we analysed the narratives by the classical three delays framework[16], (25) we found in at least 38 of the 124 maternal deaths a clear case of 3rd phase delay. We describe later how we found the three delays framework unable to capture the nuances of the delays and poor quality of care that these women faced.

Providers' failure to recognize complications

Families often narrated stories of reaching medical facilities in a state of emergency and finding that either no care was available or whatever was available was inadequate.

Providers often failed to recognize complications or wasted too much time before doing so. This was

15 Public health facilities in India are planned in a tiered fashion - a health sub-centre staffed by an auxiliary nurse midwife is provided for every 5000 population, a Primary Health Centre staffed by a medical officer is for a 30,000 population, a Community Health Centre with few specialists is designated for every 1,00,000 population and a district hospital is located at every district headquarters and is expected to provide tertiary level care. Of these, the NRHM has planned that every PHC will provide BEmOC level care and every CHC CEmOC level care.

16 The three delays framework proposed in 1994 categorizes the delays faced by women seeking care for obstetric complications into three phases: First, delay in deciding to seek care, second, delay in reaching a health facility, and third, delay in receiving adequate and appropriate care.

sometimes because they lacked the skills to diagnose such complications - this included failure to diagnose obstructed labour, missing malpresentations, not recognizing signs of post-partum haemorrhage.

- For example, Sunita delivered her third child in a government hospital in Dahod district of Gujarat, started bleeding after delivery but had to wait 3 hours before post-partum haemorrhage was identified. She died on the way to the higher referral centre. *(It is well known that post-partum haemorrhage or excessive bleeding after delivery can kill within 2 hours and any delay in recognizing and initiating treatment for it would mean loss of a large quantity of blood and can endanger the life of the woman)* (S No. 9).

- Anita, a 22-year-old woman with sickle cell anaemia was admitted in full dilatation in a PHC in Gadchiroli district of Maharashtra for her first delivery. *As a primi, or woman delivering her first baby, she would be expected to deliver her baby within 2 hours of reaching full dilatation; a delay beyond this would be considered a need for intervention by either instrumental delivery or caesarean section.* Yet, Anita was referred after waiting for 5 hours, after she had been given an episiotomy (which was bleeding and which had to be re-sutured before referral) and still had not delivered. Anita died before she could be admitted in the District Hospital. *It is to be noted that the fact that her sickle cell anaemia placed her at high risk for complications during labour and she would have needed special care - the fact that she was not even provided standard care is telling and this is dealt with in more detail in a separate chapter* (S No. 45).

- Seema, a 20-year-old primi in Chhattisgarh, went to a CHC thrice on consecutive days, but the doctor who saw her did not diagnose eclampsia and in fact sent her back home, even when her family reported that she had had convulsions. It is not clear whether her blood pressure was measured at the CHC. The family finally decided after the third visit to take her to the medical college hospital, but she died on the way there (S No. 75).

Very often, the actual providers providing immediate care were nurses, who seemed not to be able to recognize complications, and doctors were either not available, not called, or were called too late.

- When Garli, an adivasi woman in Rajasthan delivered her fifth baby in a CHC, the placenta was retained. *Normally, the placenta is expelled within a few minutes of the delivery of the baby; if it is not delivered even after 30 minutes, the service provider is expected to intervene as this may result in post-partum haemorrhage*. The nurse gave some injections and waited for one hour before calling the doctor. The doctor waited another 1 ½ hours before referring her further. Since the family was not given an ambulance and was instead asked to arrange a private vehicle, more precious time was lost and Garli died en route to a higher facility[17]. *Given the seriousness of Garli's condition, an ambulance should have been provided under the JSSK programme of GOI* (S No. 115).

Providers sometimes seemed too over-pressured and understaffed to pay enough attention to a woman with an emergency.

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17 One of the key interventions of NRHM has been to address issues of emergency transport both from home to facility and facility to facility. However, there are several gaps in this and this is addressed in Chapter 7.

- Radha, a woman with sickle cell anaemia in Bilaspur district of Chhattisgarh, delivered her third child in a medical college and had profuse bleeding after that - the nurse could not see her as she was conducting another delivery - by the time treatment was begun, it was too late, and Radha died soon after (S No. 97).

Delay in initiating appropriate treatment

While the above cases describe complications being missed, even when complications were recognized, there was often a delay in initiating appropriate treatment for it (the third phase delay in the 3 delays framework).

- Geeta, a woman who had had two caesarean sections previously was admitted in labour in a district hospital in Odisha. *This would have warranted immediate surgery as her two previous caesareans put her at risk for rupture of the uterus*. However, she was not operated on for 8 hours as she could not buy the essential supplies for a caesarean and died in the district hospital. *It is noteworthy that this was a large district hospital with facilities to perform an emergency caesarean section* (S No. 70).

- In another instance, Savita was admitted in a medical college in Chhattisgarh with antepartum haemorrhage, which would again have warranted immediate intervention, but was operated on only after 8 hours - she developed PPH after the surgery and died 12 hours later (S No. 76).

- Archana of Chhattisgarh, who had a home delivery and developed seizures five days later, was taken to a CHC. The nursing staff was unable to locate appropriate medication for the woman, and she was referred to the medical college. Archana had to wait for the rooms to be cleaned early in the morning before she was seen, by which time she had died (S No. 98).

Lack of emergency preparedness in facilities

One of the reasons for the lack of emergency obstetric care was that health facilities at various levels seemed poorly prepared institutionally to manage emergencies. There seemed to be no protocols for triaging and prioritizing women seeking care in an emergency. Women often had to wait to be seen in spite of arriving in facilities in an emergency situation with complications.

- Raziya delivered her second child in a PHC in West Bengal and was referred to the medical college hospital with post-partum haemorrhage. She had to wait 20 minutes before being seen by the doctor *(it is common knowledge that a woman can lose upto 500 ml of blood per minute during PPH and that PPH can kill in 2 hours)* - she died soon after (S No. 60).

Delays in initiating treatment often served to worsen an already bad situation.

- Geeta (see first paragraph of this section), who had to wait 8 hours for a caesarean, probably ruptured her uterus while being admitted and waiting in the district hospital for a caesarean section.

- In Savita's case (see first paragraph of this section), failure to treat the ante-partum haemorrhage

promptly could have contributed to the post-partum haemorrhage.

In addition, facilities often did not seem prepared to even do what was possible at their level in the event of an emergency. Women often went from facility to facility without being given any treatment including first aid, contributing to further delay. Even where initial stabilization could have been done in lower level facilities, this was not done. Women with bleeding were sent off without standard treatment such as starting fluid replacement, a loading dose of magnesium sulphate was not given to women with eclampsia. There were many problems common across states and across all levels of health facilities: for example, failure to initiate primary care to stabilize the woman, absence of emergency transportation vehicles which led to further delays while families hunted for private vehicles in emergency situations, and failure to accompany women in their journey to higher centres to ensure continuing care. This is discussed in more detail in chapter 7.

Failure to treat maternal complications promptly also meant poor outcomes for the baby. Out of the 124 women, 82 died after delivery of the baby. Of the babies born to mothers who died, 22 were stillborn and 12 died within the first week of life.

Inadequate and inappropriate treatment during emergency

After many delays as narrated above, in cases where finally treatment was initiated, it often seemed to be inadequate. Many narratives suggested that standard protocols were not followed and the treatment was often inappropriate or inadequate.

Standard management of severe pre-eclampsia and eclampsia requires that the woman be delivered as soon as possible. There was however several hours, even days, of delay in delivery in these cases, probably significantly contributing to these women's deaths.

- The case of Mina in Jharkhand is one such case. She was admitted with eclampsia in a district hospital in Jharkhand and later referred to a medical college in neighbouring Bihar after 4 hours after being given some injections (probably magnesium sulphate). Mina delivered at the medical college after two days and died soon after - her life may have been saved if the delivery had been hastened through a caesarean section (S No. 28).

Similarly, treatment seemed inadequate in cases of excessive bleeding, whether ante-partum or post-partum haemorrhage. Adequate treatment of shock did not seem to have been done and blood transfusion was often inadequate.

- Rani, who delivered her first baby in a CHC in Jharkhand, was referred with PPH to the district hospital where she was given some injections and IV fluids. She was then referred further to a medical college in Bihar 70 km away, by which time she was unconscious. What treatment, if any, was given on the way is unclear. Though she remained admitted in the medical college hospital for 3 days, she was given only two units of blood. Clearly both fluids and blood were very delayed and inadequate for the estimated magnitude of loss which necessitated further referral even from a district hospital (S No. 11).

- Rekha and Uma both delivered in sub-divisional hospitals in Odisha, developed post- partum

haemorrhage and died within two hours in the same facility, suggesting that the haemorrhage was not managed adequately. It is noteworthy that a sub-divisional hospital is designated to provide at least BEmOC level care, which would include at least initial management of haemorrhage and referral if necessary (S Nos. 54 & 57).

Poor standards of care in facilities

In addition to the poor quality of care that women were faced with during an emergency, some of the narratives seemed to bring up poor adherence to standards of care in general in all levels of facilities across states.

All seven of the women who died of sepsis had institutional deliveries. This points to either poor adherence to sterile precautions during labour and delivery, or failure to identify and treat appropriately women who were at high risk for sepsis, for example those with prolonged rupture of membranes.

Irrational practices like augmentation of labour with intramuscular oxytocin also seemed prevalent. It is well known that this practice can have severely negative consequences for both the mother and the baby.

- Ranjana was admitted in a CHC in Rajasthan in labour, given 8 to 10 injections to augment the pains and finally was taken to a private hospital where she had a caesarean section and delivered a stillborn baby. *It is well known that unmonitored augmentation of labour can cause excessively forceful uterine contractions that can result in birth asphyxia and stillbirth*. She died subsequently of sepsis, probably related to the prolonged duration of labour (S No. 118).

- Similarly, Savitri was given 4 injections in a CHC in Chhattisgarh by a nurse to augment labour. When her pains stopped *(this could be a sign that her uterus had ruptured)*, her family took her to a private hospital, where her condition worsened and she died undelivered (S No. 96).

Systemic neglect

Many of the narratives revealed stories that do not fit with responsible behaviour of a health care professional. These could be seen as wilful neglect of women in a situation of medical emergency indicating pervasive callousness within the health system.

For example, two of the 124 women seemed to have died without even being attended to in spite of reaching a facility.

- Lakshmi went to a CHC in Odisha after being in labour for over eight hours in her third pregnancy. She was not seen for over an hour because the doctor was resting, and she died before he arrived (S No. 55).

- Sudha was carried in a bed sheet while in labour and then transported by the '108' ambulance facility to a taluk hospital in Gujarat. No doctor was present; she was given an injection by a nurse and left unattended, and was found dead sometime later (S No. 8).

Some other women were attended to too late even when they reached institutions in critical emergencies, because of reasons well within the control of the individual health care provider.

- Amita who developed PPH after delivering in a District Hospital in Uttar Pradesh was not attended to by nurses or doctors as it was the time to change duty shifts and died soon after delivery (S No. 67).

- Sumitra delivered in a PHC in Rajasthan. Both the ANM and nurse who attended to her left for home within ½ hour after her delivery and before the nurse on the next shift had arrived. When Sumitra started bleeding soon after, there was no one to attend to her. The family phoned the doctor repeatedly in desperation; the doctor did not stay on the PHC premises and arrived one hour later and referred Sumitra to the medical college 40 km away. Since the PHC did not have a vehicle, the family was forced to spend time arranging a private vehicle for the journey. Sumitra died en route (S No. 120).

In the above instances, one needs to acknowledge that it is possible that there were genuine reasons for the health care provider to act as he/she did - for example, the doctor in Lakshmi's case may have needed the rest after long hours of work - but the fact remains that the system needs to be managed better and protocols need to be in place to make sure that patients get attended to. The system has an obligation to prioritize saving women's lives above everything else.

Blood a critical gap

Blood transfusion can be a lifesaving medical procedure in certain medical emergencies like haemorrhage and shock. Also, women with severe anaemia in late pregnancy may need blood transfusion. Blood seemed to be unavailable in emergencies. In the narratives, it was seen that in situations of emergency, blood transfusion was either delayed or inadequate this was because the responsibility of arranging for blood was seen to be that of the family's, rather than the responsibility of the facility to maintain a critical emergency supply that the facility had to ensure was available and could be provided without delay. Families of the deceased women often had to pay large sums of money in addition to actually locating donors at short notice to arrange for the blood.

- Baisi of Jharkhand was referred to a medical college in Bihar with a malpresentation; the baby's hand had come out. She had a caesarean there, but Baisi died soon after one unit was transfused and before the second could be arranged. Baisi's husband reports having donated his blood both times (S No. 27).

- Chandra who had PPH after a twin delivery in a medical college in Chhattisgarh was transfused with only two units after delivery and died 12 hours later (S No. 73).

- Salma was admitted in a civil hospital in Assam in the fifth month of her second pregnancy with bleeding. Her family was told she needed a D&C and was asked to arrange blood. By the time they managed to do so, the doctor had left, so Salma could not receive the transfusion and she died soon after (S No. 89).

We see that Emergency Obstetric Care, a critical intervention into the provision of which much investment has gone in, was extremely inadequate - thus, women who bore great hardship to reach facilities in the event of a dire emergency, were left completely to fend for themselves in life threatening situations, often paying with their lives for this lack of care.

Chapter 6

Antenatal and post-partum care: absent or inadequate

While women and their families faced poor quality of care when they went to facilities, the quality of community-based services did not seem any better. Here, we highlight some of the gaps in community-based services like antenatal and post-partum care.

Absent or inadequate antenatal care

The World Health Organization recommends a minimum of four antenatal care visits for women with low risk pregnancies. (26) While antenatal care by itself cannot prevent maternal deaths, it can help in very specific ways. In settings where anaemia continues to be highly prevalent in pregnancy and contributes to a significant proportion of maternal deaths, antenatal care can help in diagnosing and treating anaemia before childbirth. In addition, antenatal care can help screen women who have certain risk factors and need closer monitoring and care like those with sickle cell anaemia, malpresentations, previous caesarean section or previous obstructed labour. The antenatal care session can also serve as a space where the woman and her family are provided information and counselling regarding birth preparedness and emergency readiness. It can also serve to foster the trust of the woman and her family in the public health system.

Under the National Rural Health Mission, a community-based fixed day antenatal care model has been implemented in the form of 'Village Health and Nutrition Days'. However, narratives from the families showed that many women either did not receive antenatal care, or received care that was of very poor quality.

- At least 12 of the 124 women who died had not received any form of antenatal care at all. This included an ASHA herself in Jharkhand who subsequently had a home delivery and died of PPH (S No. 36).

- In many others, antenatal care was restricted to receiving tetanus toxoid injections or iron folic acid tablets. Even here, the full count of 100 tablets was not given and several families reported that the women were given 10-50 tablets only.

Anaemia has been recognized as a major problem and a significant contributor to maternal mortality. The gaps in dealing with anaemia are detailed separately in Chapter 9.

Absence of post-partum care

As regards antenatal care, there seemed at least some notional effort at providing it. But post-partum care seemed completely absent both in the facility and in the community. It is well known that most maternal deaths occur in the first week of the post-partum period. (22) Of our sample of 124 deaths, 82 deaths took place in the post-partum period, with 52 of the post-partum deaths happening in the first 24 hours after

delivery. However, post-partum care was found to be highly inadequate.

Post-partum care in facilities

Post-partum care largely seemed to be absent in facilities and women were discharged soon after delivery and families left to fend for them in the case of any complication. It seemed as though health care providers abdicated their responsibility once the woman had delivered.

- Sayeeda delivered her fifth child in a Block PHC in West Bengal and was discharged and sent home in less than 24 hours after delivery. When she developed fever on the third day, her family took her to an informal practitioner for treatment. *Puerperal sepsis, or infection of the pelvic organs, is usually caused due to lack of proper asepsis during delivery and symptoms occur 24 hours after delivery as in this case.* She was finally taken to the medical college when her condition worsened on the eighth day, and died soon after (S No. 59).

- Sharifa delivered her third child in a civil hospital in Assam. Her family was asked to arrange for blood. It is not clear whether the facility made any efforts to arrange for blood, but, since the family could not arrange for blood, she was taken home on the fifth day. She died that evening, indicating that she was sent home in spite of being in a serious condition (S No. 91).

- The case of Sarita from Chhattisgarh amply highlights how post-partum care is highly neglected even when the woman continues to be in the facility. Sarita delivered normally in the medical college, but her baby needed to be admitted in the NICU. Sarita herself was discharged on the second day after delivery and stayed outside NICU in order to look after her baby. When Sarita developed fever on the third day, she was readmitted in the postnatal ward, but no treatment was initiated. Her family got her medicines from the medical store. She was attended to only after she fainted on the seventh day, but by that time it was too late and she died soon after (S No. 95).

Post-partum care in the community

While post-partum care seemed inadequate in facilities, the situation in the community was worse. Once the woman was discharged home from a facility, there seemed to be no system of following her up and providing any care to her.

- Shanti went to a private practitioner in Panchmahals district of Gujarat with breathlessness and loss of foetal movements. She was diagnosed to have an intrauterine foetal death and referred to the civil hospital. Since there was no doctor there, her family took her to two different private hospitals before she was admitted in one and delivered a stillborn baby. After she was discharged and sent home, no care was provided. She developed bleeding on the fifth day. *Delayed or secondary PPH that occurs after 24 hours is usually caused by uterine infection, often because of retained placental fragments; post-partum care is important to identify early signs of infection like fever, foul smelling discharge, large size of uterus, thus indicating treatment before catastrophic bleeding sets in*. The next morning, an ambulance (108) was called to her home, and she was carried three-quarters of kilometre to reach the ambulance on a bed sheet when she died (S No. 7).

- Tina, a 22-year-old woman delivered her first baby at home in Godda district of Jharkhand. Eight hours later, she had what seemed to be convulsions, and the family called the ASHA to see her. The ASHA however did not take the problem seriously. *The ASHA's attitude towards the convulsions reveals her ignorance of post-partum complications and raises questions about ASHA training*. The family then pawned some jewellery to hire a private vehicle and took her to two different hospitals without receiving any treatment before reaching the district hospital, where she was declared dead (S No. 22).

Both these cases highlight the lack of any form of care in the community after childbirth and the inadequate training of front line workers in recognizing post-partum complications.

Thus, services like antenatal care that screen and prepare for complications during pregnancy and post-partum care that could help identify life threatening problems early were found to be grossly inadequate and of poor quality. That much investment has gone into both these components under maternal health programmes of the NRHM is noteworthy.

Chapter 7

Referrals and emergency transport: women's harrowing journeys in search of care

Of the124 maternal deaths documented in this report, only 20 women did not seek any form of care when they experienced an obstetric emergency. The rest attempted to seek care in a health facility and died either in a facility or on way to it, or in the case of 12 women, at home after returning from a facilitywhen deciding not to seek any further care. However, these stories of women's efforts to seek care reveal that they were shunted from facility to facility receiving little care during the process.

Of the 124 women whose deaths form part of this report, 36 women visited three or more facilities seeking care when they were faced with an obstetric emergency, with one woman visiting as many as 7 facilities in search of care. In addition, 36 more of the 124 women visited two facilities before they could get care.

Facility to facility in search of care

Women were referred from one facility to another, often several times, and sometimes even when the facility should have been able to manage that condition.

- Rani, a 23-year-old woman from Godda district in Jharkhand delivered her first child in a CHC. She had PPH after that. It is not clear what initial management was done in the CHC, but she was referred to the district hospital. She reached there three hours later and was given some injections and IV fluids, however the bleeding persisted, and she was therefore referred to a medical college in a neighbouring state 70 km away. *We note that a district hospital is designated as a CEmOC centre, capable of managing PPH, the commonest obstetric complication. The inability of this district hospital to fulfill requirements for a CEmOC centre means there is no facility providing CEmOC in the whole district.* By the time Rani reached the medical college, she was already unconscious and died three days later despite treatment (S No. 11).

Often, as they were asked to go to a higher facility a considerable distance away, families chose to seek care at a private facility nearby. These private facilities either refused to admit them or at other times, began treatment, but referred the woman to a public facility when her condition worsened further. This has been described in more detail in Chapter 8.

No obstetric first aid in lower facilities

It is well known that in most obstetric emergencies, even if a health facility does not have the necessary facilities to manage the condition, initial care can be provided that would stabilize the woman before definitive treatment can begin. For example, the simple act of starting an IV line and giving IV fluids in a case of haemorrhage, or giving a loading dose of Magnesium Sulphate in a case of eclampsia can be life saving even when a woman presents in a lower level facility, and these are part of standard clinical protocols

including those from Government of India. (27,28) In spite of this, what seemed remarkable from the families' narratives was that when women presented with an obstetric emergency at a health facility, there was almost always no initial care given before they were referred further. In some cases, women were not even seen by the health provider, but sent away before they could get out of the vehicle.

- Baniya, a 26 - year-old adivasi woman from Godda district in Jharkhand was pregnant with her fifth child when she started bleeding heavily in late pregnancy. Her family carried her on a cot to a mission dispensary about 1 km away, however no doctor was there. Her family then arranged a private vehicle - this took three hours - and then took her to a mission hospital 20 km away. From here, she was referred to another mission hospital in the district headquarters, from where she was again sent to another mission hospital in the neighbouring state 70 km away - by the time treatment could begin here, it was too late and Baniya died. No care was provided in any of the four facilities in which she attempted to seek care. In fact, Baniya did not even get out of the vehicle at these facilities. *Baniya's life may have been saved even after she started bleeding if she had been given IV fluids on her way to the final hospital* (S No. 14).

- Simli, an adivasi woman from Jharkhand developed eclampsia in her first pregnancy. When she started having seizures, her family first called a traditional healer and then a local practitioner who gave some injections. Since her condition showed no improvement, the Mamta Vahan was finally called six hours after the onset of the seizures. The vehicle came two hours later. She was taken to a CHC 35 kms away, but was further referred without any treatment to the district hospital 40 kms away. By the time she reached there, it was already ten hours since the seizures began. At the district hospital, Simli was further referred to a medical college 70 km away, but since the family expressed inability to take her that far, she was admitted and given some injections, but died soon after. *Again in this case, MgSO4 could have been started at the CHC thus avoiding a further delay of 3-4 more hours before Simli reached the district hospital* (S No. 17).

- Very similar to the above story is that of Bhagmati from Dumka district of Jharkhand. She started having seizures eight months into her first pregnancy. She was taken to a sub-centre close by in a tempo, but referred further from there to a CHC 14 km away and then to a medical college 81 km away. Her family however took her then to a private hospital 29 km away and then to another 52 km away, in both of which she was refused care - none of these facilities she visited initiated any treatment. She was finally taken to the medical college where she died before delivery (S No. 29).

- There are similar stories in S Nos. 37, 98, 101, 105.

Lack of accountability during referrals - the woman reduced to a football

Another theme throughout the narratives was the lack of accountability to the woman when referring her. The public health system did not seem to be functioning as one unit where, if a woman entered the system at any point, the system assumed responsibility for her care. In an ideal scenario, such a system would be responsible for ensuring initial management of the woman, providing transport for her to reach a higher facility quickly, ensuring continuing care during the transit and handing her over to a responsible provider at

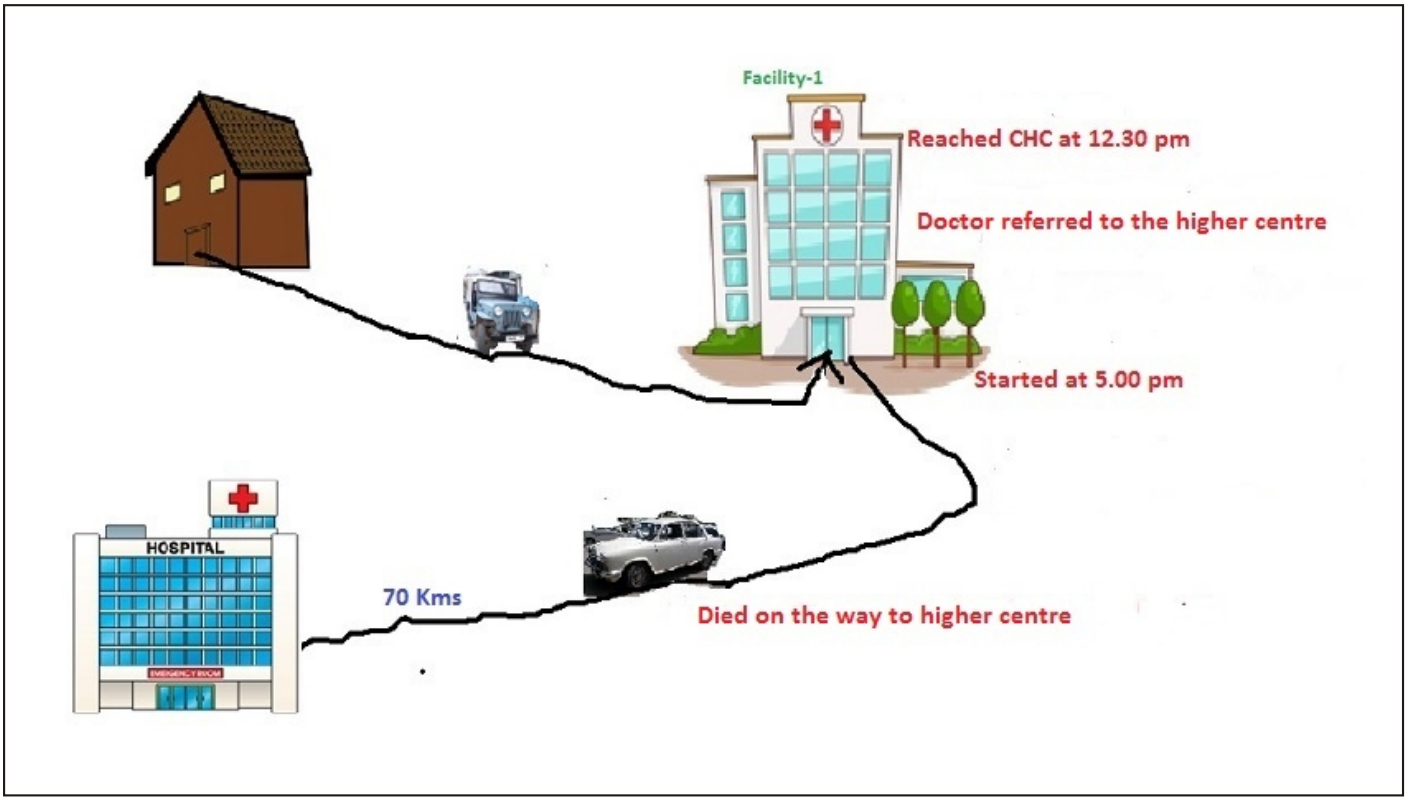
the higher facility. In fact, the way in which many of these referrals happened, it seems that health providers were actually ensuring the woman left their facility quickly lest she die there and her death was added to their records.

There have been certain good practices that have been tried as part of referral protocols - the accompanied transfer protocol of Tamil Nadu, where a woman who is referred is accompanied by a health care worker, is one such (29). This ensures that the woman receives continuing care even during transit and throughout the transfer to a higher facility. The stories above show however that this was not practised in any of the areas where these deaths were documented. In fact, from the stories it would seem that what was happening was not referrals at all, but a kicking of the woman like a football from facility to facility.

Some of the stories that highlighted this lack of accountability are recounted below.

- Garli delivered in a CHC in Rajasthan and had a retained placenta. When she was referred to a higher facility after a delay of 2½ hours, she was not provided a vehicle though she was bleeding, nor did any health care provider take responsibility to accompany her. By the time her husband arranged money and got a vehicle to transport her, another 1½ hours had elapsed. Garli died on the way to the higher centre (S No. 115).

Figure 8 Garli's journey



- In the case of Sumitra who developed PPH in a PHC in Rajasthan, the medical officer referred her to a higher centre without providing a vehicle; neither was any attempt at initiating and continuing care made. The delay proved costly and Sumitra died en route (S No. 120).

- Kanta of Godda district in Jharkhand delivered her first child in a sub-centre. She started having

severe abdominal pain ½ hour after delivery. She was sent in a Mamta Vahan to the CHC 18 kms away. Several ANMs also got into the vehicle but all of them got off on the way at their homes, so nobody was with her when she finally reached the CHC. No referral note had been given to her, so the CHC refused to treat her and referred her further to the district hospital 20 km away. At the district hospital where she reached 3 hours after delivery, the family did not know where to take her, and while they desperately tried to enquire where to go, Kanta died in the vehicle. Kanta's family did not want a post-mortem, so they brought her body back home hastily (S No. 26).

- Anita's story has been narrated earlier - when Anita, known to be suffering from sickle cell anaemia, went to a PHC in labour for her first delivery, her cervix was already fully dilated. However, she did not deliver in the next five hours though an episiotomy was given. When she was finally referred to the district hospital, she was already unconscious. However, no health provider accompanied her and she was declared dead on arrival at the district hospital, probably due to complications of obstructed labour (S No. 45).

- Ratna was admitted for her fifth delivery in a CHC in Lucknow district of Uttar Pradesh. While initially her family was told she would deliver in a couple of hours, she had not delivered even 32 hours later. The doctor then examined her and said the baby was in breech position; because initially the doctor refused to deliver the baby because it was complicated, the family paid the doctor Rs. 5000 to conduct the delivery. After a difficult breech delivery, Ratna started bleeding heavily. The doctor then arranged for a private vehicle so that the family could take her to the medical college, though no health provider accompanied Ratna and no details are available on what treatment was provided before referral. Ratna was found to be dead when she arrived at the medical college (S No. 63).

- Roshni of Banda district in Uttar Pradesh was pregnant with her third child. In a previous pregnancy, she had had a stillborn baby and also a retained placenta. In this pregnancy, she had had only one antenatal check-up at a private nursing home, where though an ultrasound was done, no measurement of blood pressure was done. When Roshni went into labour, she was taken to the local sub-centre twice, but since it was found to be locked, she finally delivered at home with the help of a *dai*[18]. This time too, the placenta did not come out. Five hours later, Roshni was taken by a tempo to the CHC 11 km away. There, according to the family, the nurse removed her placenta piecemeal and then when she started bleeding heavily, referred her to the district hospital 30 km away. In spite of Roshni's condition, no vehicle was provided and no one offered to accompany her to the higher centre. In fact, Roshni was sent out of the CHC while her family tried to arrange a vehicle to take her to the district hospital. She died outside the CHC while waiting for the vehicle (S No. 69).

Many families' narratives highlighted that the responsibility of seeking care and arranging for treatment was transferred to the families in these emergency situations.

- In Garli's case highlighted earlier, her husband was forced to go back to his village to arrange money for a private vehicle when she was bleeding with a retained placenta (S No. 115).

18 Traditional Birth Attendant

- Prema of Dahod district in Gujarat was admitted in a Civil Hospital with anaemia but referred to the District Hospital when she started bleeding. The family finally took her in a private vehicle - no vehicle was provided by the hospital - to a private hospital, where she underwent a caesarean, but died soon after (S No. 2).

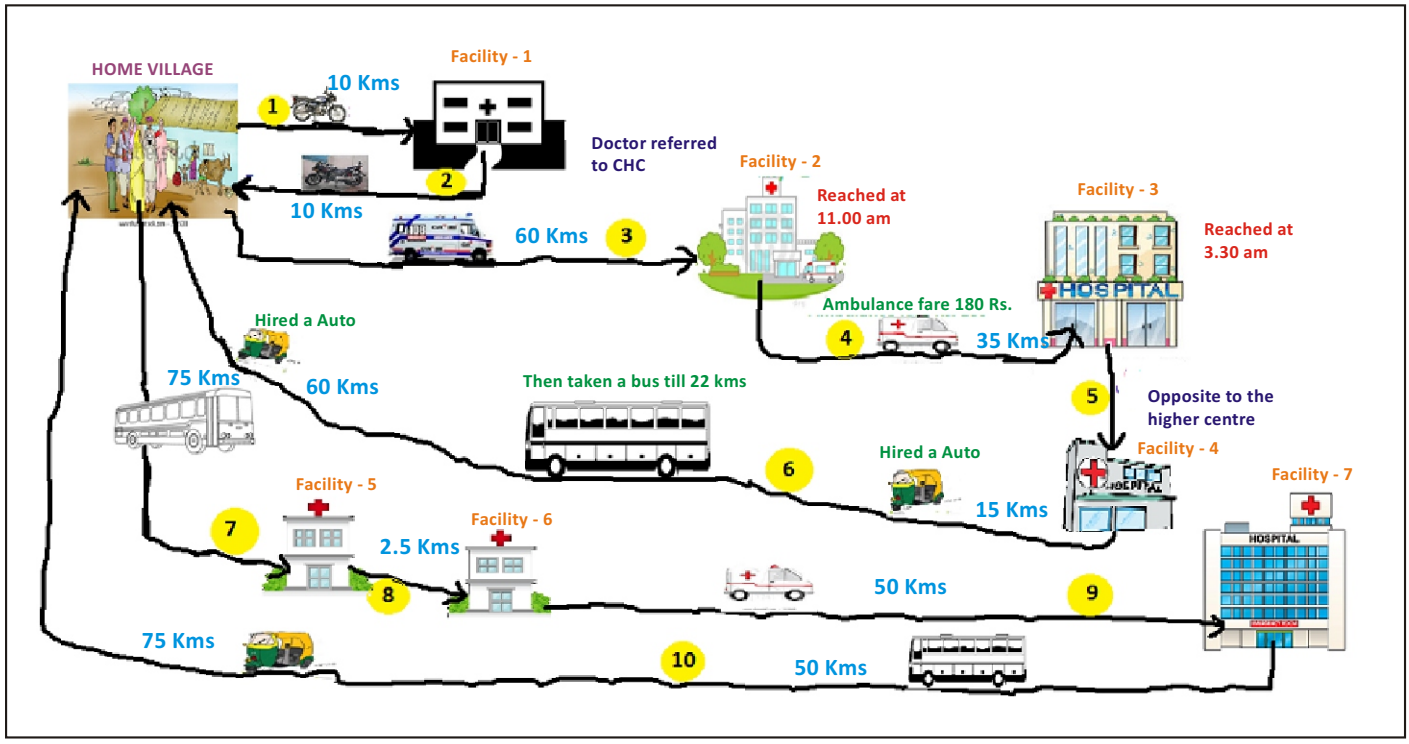
Families' desperation: women going home to die

Experiences like those narrated above left families desperately hunting for care often moving from facility to facility, sometimes public, at other times private. It needs to be understood here that as stated earlier, several of the women who died came from marginalized communities that face resource limitations and are not used to encountering the health system. In such circumstances, some families took the woman home in between to arrange for money to go to another facility, thus contributing to further delay in care. In a few cases, families narrated how this whole process disheartened them and they finally took the woman back home as their hunt for care proved futile.

- Urmila was a 32 year old adivasi woman from Panchmahals in Gujarat. She was a migrant worker in cotton mills and had a past history of tuberculosis. This was her fourth pregnancy in which the only antenatal services she received were tetanus toxoid and ten iron folic acid tablets. When she developed breathlessness in the eighth month, her family first took her to the local PHC on a motor bike. From there, she was referred to the taluk hospital. Although the 108 service was arranged to transport her, she had to be taken 3 km across a river on a bike to reach the 108 pick-up point. From the taluk hospital, she was referred further to the district hospital. Here, the doctor told them he would not be available at night, so the family took Urmila to a nearby private hospital. However, she was refused care here and told to go to a higher facility, so the family took Urmila back home to arrange for more money. The journey home was by a *chakda*[19], a bus and finally a rickshaw. It took 3 days for the family to arrange the money by which time Urmila's condition had worsened. This time, the family decided to take her to a private hospital in another town - she was refused care there and in another private hospital where she was taken next. So the family arranged for a private ambulance and took her to the medical college hospital. She was admitted there and investigations were done, but the next morning, the doctor told them that treatment at the medical college would not be possible and that she should be taken to a private hospital. At this point, Urmila's family gave up and decided they could not afford any more care and decided to bring her back home, where she died that night. She had been to seven different facilities over five days with no definitive care given, even in tertiary level public institutions (S No. 4).

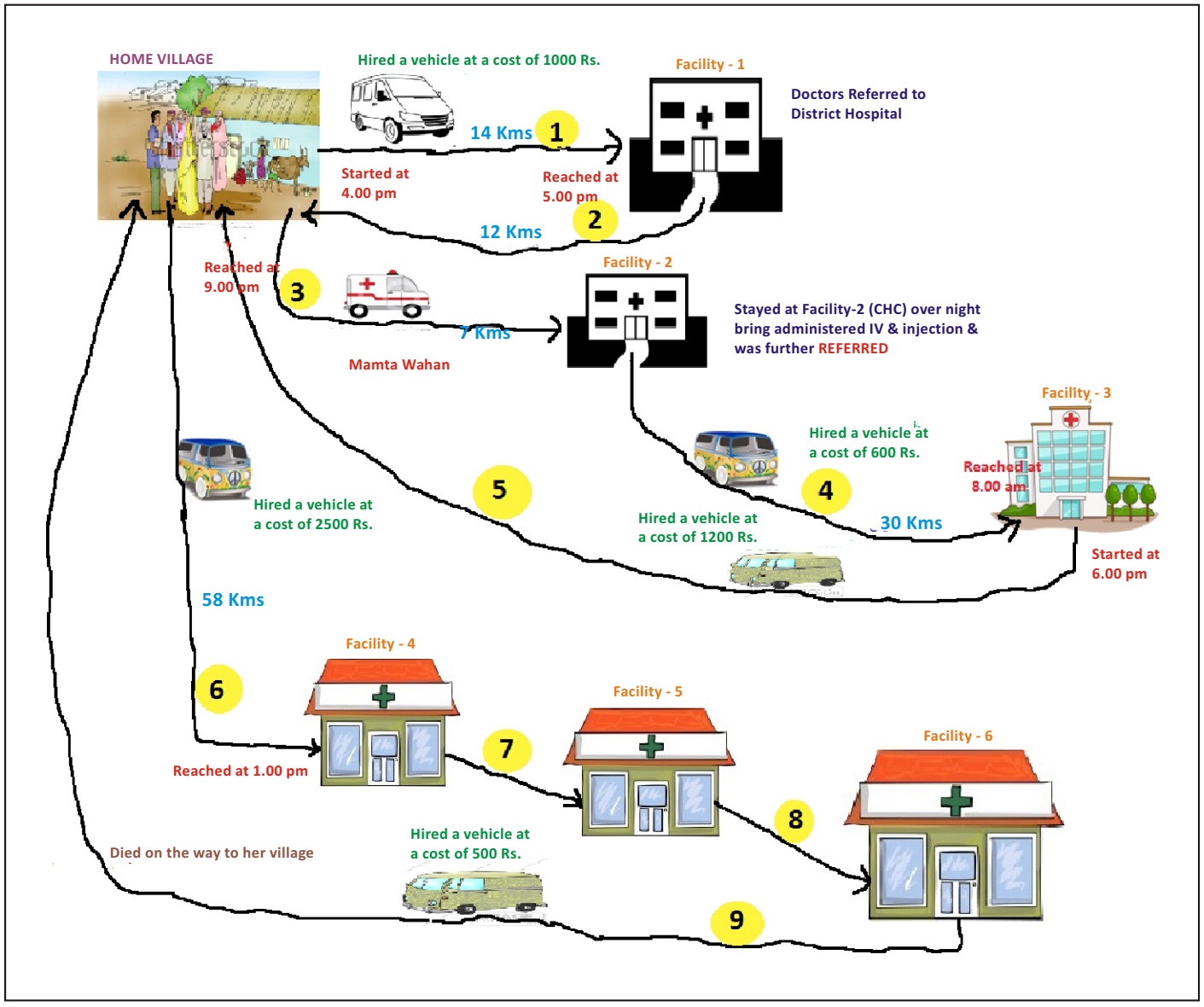
19 An adaptation of a motorbike with a passenger compartment attached and used for transporting people in parts of rural India

Figure 9 Urmila's journey



- Soni of Dumka district in Jharkhand was taken to a CHC while in labour, but was referred from there to the district hospital because she was found to be anaemic. No vehicle was provided though she was given Rs. 500 as travel support. Her family however took her back home to arrange more money. She started having seizures that night at home, so her family called a Mamta Vahan which took her to another CHC. She was given some injections and IV fluids there but was referred to the district hospital the next morning. Her family hired a private vehicle for Rs. 600 to take her to the district hospital. At the district hospital, she was admitted and given some more injections, but that evening, her family was told to take her to a higher centre. The family again took her home to arrange more money, spending Rs. 1200 for the vehicle. They then took her to a town 58 km away in another direction as they felt the public system was not treating her adequately. They approached 2-3 private clinics there which refused to take her in before getting her admitted in a private hospital. This journey, by a private vehicle cost, them Rs. 2500. Soni underwent a caesarean operation at the private hospital, but became unconscious the next day. When the hospital referred her further on the third day, the family, which by now had spent Rs. 25000 and mortgaged land, decided to take her back home. Soni died on the way home (S No. 30).

Figure 10 Soni's journey



Examples of good practice

While most families' narratives reflected failures in our maternal health care system as described above, we would also like to highlight two cases of good practice during referrals that we documented.

- Shyamala, a mid-day meal in charge in Panchmahals of Gujarat, had had a caesarean section during her first delivery and was pregnant with her second child. She went into pre-term labour in her seventh month and was diagnosed to have an intrauterine foetal death at a private hospital and taken for a caesarean section. The surgery lasted six hours and because of excessive intra-operative bleeding, a hysterectomy needed to be performed. She was given two units blood, and referred to another private hospital in the district headquarters in an ambulance. A nurse accompanied her and an additional two units of blood and two units of plasma were given in the ambulance. Shyamala, however, died in transit (S No. 5).

- The narrative in S No. 111 from Gujarat also highlights how a doctor and nurse accompanied a woman in the ambulance to a higher centre.

Emergency transport - delays and refusals

It is well known that delay in arranging for transport is crucial in the pathway to maternal death, and this is the major contributor to the second phase delay of the 3 delays framework.(25) One of the key interventions of the National Rural Health Mission's focus on maternal health has been the effort to provide emergency transport to pregnant women to reach facilities without such delay. The public private partnership model of Emergency Management and Research Institute (EMRI) that runs the 108 ambulance services in several states has been one such effort. (30,31) In addition to this, several states also have state sponsored schemes like the Mamta Express or Mamta Vahan, that contracts in private vehicle owners to provide transport services for pregnant women. (32) In addition, the Janani Sishu Suraksha Karyakram has now made transport both to the facility and back home free at the point of service for the pregnant woman and her infant. (10)

In spite of all these efforts, we found that there was significant 2nd phase delay in at least 40 of the cases in this sample. Narratives of the families' of the women who died brought up issues with transport repeatedly. While there was difficulty in getting vehicles to transport women from one facility to another as described in the previous section, families often also narrated that they faced difficulties in getting designated ambulances or vehicles to come to their homes to pick up women during an emergency. Often, the vehicle did not arrive within the promised 30 minutes, but came much later, leading to delay in transporting the woman to hospital.

- For example, Simli's family in Poreyahat in Godda, Jharkhand, was told by a local practitioner to take her to the hospital after she did not respond to treatment of convulsions in late pregnancy. However, the Mamta Vahan arrived only two hours after it was called. This compounded multiple other delays and she died later in the District Hospital (S No. 17).

- When Kanti in Gadchiroli district of Maharshtra went into labour, the ambulance did not arrive for three hours. As a result, her mother had to conduct the delivery at home. She developed PPH for which she was then taken to hospital. She subsequently died on the 39th day after delivery (S No. 46).

- Similarly, Roma in Chirang district of Assam delivered at home because the ambulance did not arrive on time. She finally died of severe anaemia 7 days later (S No. 81).

- Sudha from Dahod district in Gujarat had to wait two hours for the 108 to arrive after she started having labour pains. Even then, she had to be carried ¾ km in a bed sheet to reach the ambulance (S No. 8).

These delays could also mean there were not enough vehicles to cater to the demand in a particular geographic area. There were also issues in the maintenance of these emergency vehicles.

- For example, Krishna in Bharuch district of Gujarat delivered at home and started bleeding

profusely. When the 108 was called, the family learned that it was away on another case. Therefore, another 108 was sent from 70 km away and this arrived 1½ hours later. By this time, Krishna was unconscious. Since there was no doctor in the CHC, the 108 took her to a private hospital where she was admitted and transfused blood. When her condition worsened the next day, she was referred to another private hospital and next to the medical college. However, the 108 transporting her to the medical college broke down on the way. Though a doctor and nurse had accompanied her, they had to wait for another 108 to come - by the time they finally reached the medical college, Krishna was already dead (S No. 111).

Families also narrated instances of ambulances refusing to come, especially at night.

- Anjum in Darang district in Assam developed a severe headache one night in late pregnancy. However, the 108 refused to come as it was night time. She was thus forced to deliver at home. Anjum developed seizures and bleeding soon after the delivery and died at home before the family could arrange another vehicle (S No. 86).

- The family of Sharifa, also from Darang district in Assam, reported that the ambulance had refused to come when they called for it when she started labour pains (S No. 91).

- Similarly, when Beni's family called for the Mamta Vahan in Jharkhand because she started having seizures, it refused to come as it was in the night (S No. 12).

Some families also mentioned that the Mamta Vahan only came when called to transport women for deliveries and refused if it was called for an obstetric complication.

- When Sikha in Godda district of Jharkhand started having seizures during late pregnancy, the ASHA called the Mamta Vahan, but it refused to come citing that it was to be called for only deliveries. Sikha died before a private vehicle could be arranged (S No. 15).

Out-of-pocket expenditure

Maternal health care services in public health facilities are supposed to be free, and with the launch of the Janani Sishu Suraksha Karyakram on 1st June, 2011, free at the point-of-delivery services are guaranteed during pregnancy, delivery and post-partum period. (10) Our documentations did not specifically collect data on out of pocket expenditure. However, several families reported spending money on transport, health care, medicines and informal payments. In some cases, this amount was large - from tens of thousands to 1.5 lakhs in one case. Some families also reported selling assets like cattle and mortgaging land to raise money to seek care.

While it may be argued that some of this expenditure was incurred in seeking care from private facilities, as pointed out in the earlier section, lack of care in public facilities was a significant reason that pushed families to seek care in private facilities.

Thus, we see that in most cases, women and their families made efforts, sometimes desperately, to seek care when faced with an emergency. However, the lack of accountable referral systems and protocols and unavailability and delays in emergency transport resulted in situations where in spite of seeking care, women died either in facilities or during transit. Thus these deaths could have been completely avoided.

Chapter 8

Services in the private sector: fulfilling a need, but poor quality

The narratives of the women's deaths suggested that in their desperation to get some form of care in the face of an unresponsive public health system, families often went to private providers. These could be formal providers or informal practitioners. This use of private providers varied across states. In Gujarat, women seemed to be taken to private hospitals and nursing homes more often than in other states, probably because of the Chiranjeevi Yojana. In Rajasthan too, the use of the private sector seemed high. In states like Odisha and Chhattisgarh, the use of formal private providers seemed less frequent. The private providers in these states were largely informal practitioners who made home visits, and gave injections, IV fluids or in one case, even blood. In Jharkhand, it was mainly mission hospitals that seemed to constitute the private sector in the narratives. There also seemed to be a very high reliance on traditional healers in these states as also in Uttar Pradesh and Bihar. In Dibrugarh district of Assam, tea estate hospitals constituted the private sector.

Families reported taking women to private providers, formal or informal, for different reasons. In some cases, there had been no staff in public hospitals forcing them to seek care elsewhere; in some others, they were referred from public facilities to higher centres at considerable distance, prompting them to seek care instead in the private sector closer home. In other situations, families felt that the quality of care in the public hospitals was poor and that they would get better care in the private sector.

Poor quality of care in the private sector

There were however several issues with the quality of care being provided by these private sector providers. Many families reported being turned away or refused by private providers when they went with women in a critical condition. They often had to visit several private providers before anyone would agree, if at all, to admit the woman and treat her.

- Asha delivered her first baby in a PHC in Uttar Pradesh and started bleeding. The nurse picked this up only after one hour and referred her to the district hospital 10 km away. Her family decided to take her to a private clinic close by, but the clinic refused to see her. She died on the way to seek care at another private facility (S No. 64).

- Reshma in Jharkhand developed swelling in the face, hands and feet in late pregnancy. The ASHA took her to the CHC, but since no lab facilities were available at the CHC, she went to a private clinic. When Reshma later became severely breathless, her family sought care in several private facilities in the district headquarters, only to be turned away - by the time they finally admitted her in the district hospital, there had been much delay and Reshma died soon after reaching the hospital (S No. 38).

Private providers also referred women when their condition worsened after some initial treatment to public sector hospitals.

- For example, when Malati in Uttar Pradesh developed seizures in late pregnancy, her family took her to a private practitioner in the neighbouring town, from where she was referred to another private provider in a town 8 km away. She was admitted here for 2 hours, given two injections and oxygen and then referred further to the district hospital. When she was admitted there, the family was told the baby had died inside and a caesarean needed to be performed, but Malati died before the surgery could be done (S No. 101).

The rationality of care in private hospitals was also questionable. The two women who died of blood transfusion reaction both delivered in the private sector and were transfused blood for probably unnecessary indications in the post-partum period (S Nos. 65 & 119).

The general quality of care in the private sector also seemed poor. This combined with the lack of even any notional accountability of the private sector as compared to the public sector compounded problems - women were referred without initiating any form of primary care; providers refused that they had even cared for a particular woman. Five women out of the 124 developed complications after caesarean section -- four of these had caesareans performed in the private sector.

- The case of Kavita from Rajasthan is a case in point - a migrant labourer in a neighbouring city of Uttar Pradesh, she was taken to a private hospital in the city in labour when she was diagnosed to have twins with one in a breech presentation and advised caesarean. About 1½ hours after the surgery, she developed complications that necessitated repeat surgery. When there were problems during this surgery, the doctors referred her to the medical college in the same city. Kavita died soon after being admitted in the medical college (S No.116).

Informal practitioners

In addition to facility-based private providers, informal private practitioners were another group that offered care. They seemed more accessible than public facilities for remote adivasi districts - in states like Jharkhand they were often called home during prolonged labour to give injections (S No. 22, 72), called in the post-partum period if there was bleeding or the placenta had been retained (S No. 36), and in the case of antepartum complications like eclampsia or swelling (S Nos. 12, 15, 17, 37, 38).

- A noteworthy case is that of Manju, who was an ASHA herself in Jharkhand, who delivered at home, and had a retained placenta. The family called a local practitioner home, but she died soon after (S No. 36).

The quality of care provided by informal practitioners, however, was highly questionable and they did not seem to recognize danger signs.

- When Nirmala of Chhattisgarh was taken to a PHC with a diagnosis of anaemia in the antenatal period and headache and chest pain, the nurse saw her and advised the family to take her to the medical college. The compounder in the PHC however assured the family he could treat her at home and for a fee. He reportedly arranged blood and transfused it at home. When she however developed seizures six hours later, he advised that she be taken to the city, and Nirmala did not survive the journey (S No. 79).

Abortion services was another area where women seemed forced to seek care with the private sector. Of the five deaths due to unsafe abortion, three were induced abortions. All three women who lost their lives in the process of terminating an unwanted pregnancy went to unqualified providers - two to traditional practitioners and one to an ANM who provided abortion services in her home. Three of these five women sought care in public facilities when they developed a complication, but no definitive treatment was given to any of them, contributing to their deaths (S Nos. 68, 71, 89).

Chapter 9

Tackling anaemia

Anaemia was the cause of 22 deaths out of the 124 in this sample and a contributing cause in at least 4 more deaths. The National Family Health Survey also shows a high prevalence of anaemia in pregnancy (58%) across the country. (23) Even so, detection and treatment of anaemia did not seem a priority during antenatal care nor was intra-partum management of anaemia adequate.

Anaemia not addressed in antenatal care

Estimation of haemoglobin and treatment for anaemia before delivery is one of the crucial components of antenatal care. Under the NRHM, a haemoglobin assessment is supposed to be done for all pregnant women in the community as part of the Village Health and Nutrition Day. (28) Many families in our interviews reported that blood tests were not done during antenatal care. Where families were able to show investigators antenatal cards, this was corroborated from these records. Even if blood tests (presumably haemoglobin estimation) had been done, the families were not informed about whether the results were normal. In some instances, families reported that they had been informed that the woman was anaemic, but apart from handing out a few iron folic acid tablets, nothing more was done to treat the anaemia.

- Prema of Dahod district in Gujarat was diagnosed to be severely anaemic during her pregnancy with a haemoglobin of 2 g/dL. However, she was sent away from a private nursing home with just iron folic acid tablets. She subsequently developed antepartum haemorrhage and died (S No. 2).

- Uma of Mayurbhanj in Odisha had been anaemic in a previous pregnancy and received blood transfusion. Even so, her haemoglobin had not been tested in this pregnancy. She eventually delivered in a sub divisional hospital and died within two hours of post partum haemorrhage (S No. 57).

- Nirmala of Chhattisgarh was diagnosed as severely anaemic in the VHND during her third pregnancy. However, no treatment was given. She subsequently died of eclampsia and severe anaemia (S No. 79).

Even where some diagnosis was made of anaemia and treatment was begun, there did not seem to be any follow up mechanism to ensure adherence or monitor whether women were adequately treated. The need to educate women about the importance of anaemia and its treatment is borne out by the following narratives. However, as we will describe in the next chapter, there was no mechanism in place for this.

- For example, Surekha, a 20-year-old adivasi woman in Godda district of Jharkhand was admitted in the eighth month with anaemia in the district hospital. When her family chose to go back home without the treatment, there was no follow up of her condition in the community. When she went into labour at term, she went to a CHC and had a normal delivery, but became unconscious after that. Surekha died while being taken to a higher centre (S No. 19).

- Maina, an adivasi woman from Dahod district was found to be anaemic (haemoglobin of 8 g/dL) during her first pregnancy. However, she was not given any iron tablets. After her delivery in a private hospital, she was referred to the district hospital for blood transfusion, but her family decided to take her back home. There was no follow up from either the private hospital or the public health system to ensure she indeed went to the higher centre for treatment. She died on the way home. (S No. 6).

Anaemia complicating labour and poor quality of care

Given that there is high prevalence of anaemia during pregnancy and that there was inadequate diagnosis and treatment of the condition in the antenatal period, many women entered labour with already low haemoglobin that made any blood loss dangerous. It is also well known that women with moderate to severe anaemia need special care during labour and delivery so that they do not bleed excessively and that these women are at risk of cardiac failure in the hours immediately after delivery. However, the poor quality of care in health facilities seemed to mean that women did not in fact receive such care.

In at least 11 of the 22 women documented in this report who died of anaemia, cardiac failure seemed to be the immediate cause of death. These women could have been saved even at this stage if adequate medical management of the cardiac failure was available. In addition, anaemia compounded at least eight of the deaths that occurred due to haemorrhage and was a likely contributing factor.

- Bhula, aged 20 years, from Dahod district of Gujarat was found to be anaemic when she went to a private hospital with breathlessness during her pregnancy - she was however treated only with IV fluids. She subsequently delivered a stillborn baby at the medical college hospital, developed severe breathlessness after delivery and died a few hours later (S No. 1).

- Hema of Chhattisgarh was found to have very low weight (35 kg) and low haemoglobin during her pregnancy. It is not clear if she received any treatment for this. After her delivery in a private hospital, she developed swelling and breathlessness and also became very irritable. She was transfused one unit blood, but died within 12 hours (S No. 80).

- The story of Uma from Mayurbhanj in Odisha narrated in the first paragraph of this chapter also portrays how anaemia untreated in the antenatal period could contribute to death from PPH (S No. 57).

Anaemia untreated in the post-partum period

It was also seen from the narratives that the lack of post-partum care generally also resulted in anaemia being left untreated in the post-partum period. While untreated anaemia could itself cause maternal deaths later on, a persistent, untreated haemoglobin deficit may also affect future pregnancies, thus initiating a downward spiral.

- The story of Uma highlighted earlier in the first paragraph of this chapter is an example of such a vicious cycle. She had had anaemia in her previous pregnancy severe enough to warrant blood transfusion. In this pregnancy, however, no haemoglobin testing was done to identify anaemia.

She subsequently died within two hours of delivery in a sub-divisional hospital of PPH (S No. 57).

Anaemia as part of multiple vulnerabilities

Anaemia also coexisted with multiple vulnerabilities. Women with anaemia also were often malnourished in multiple ways, were migrants, had other comorbidities like tuberculosis or lived in remote hamlets with little access to services. These multiple vulnerabilities then reinforced each other cyclically to push the woman to death.

- Prema was an adivasi woman from Dahod, Gujarat who was pregnant with her third child. Both her previous children had died in their infancy. She migrated seasonally as a manual labourer and suffered from night blindness and anaemia. During the current pregnancy, she was found to be severely anaemic in a private hospital with a dangerously low haemoglobin level of 2 g/dL. She was however treated only with iron tablets. She later developed antepartum haemorrhage and went to five different facilities before she was admitted and operated on in a private hospital. Though she was given four units blood after the surgery, it was too late and she died a few hours later (S No. 2).

- Similarly, Urmila, an adivasi woman from Panchmahals in Gujarat, worked as a migrant labourer in cotton mills. This was her fourth pregnancy. She had delivered her first child at a construction site where she had been working and her next two children at home. She previously contracted tuberculosis but had completed treatment. Urmila had only one ANC visit at a PHC, but her haemoglobin was not checked and she was given only ten iron folic acid tablets. She finally developed breathlessness and sought care at multiple places before being taken back home and dying, probably of anaemia and congestive heart failure (S No. 4)

- Rupa lived in a resettlement village in Chhattisgarh as her village had been declared a tiger reserve. She was only 17 years old and pregnant with her first child. Since she lived in a rehabilitation village that was situated 10 km away from any road, she did not receive any services - no ANM ever visited the village nor was there an ICDS centre there. She was told she was anaemic during an antenatal check up with a local practitioner, but did not receive any treatment for it. She started bleeding after a home delivery by a dai and died before any vehicle could be arranged to take her to a health facility (S No. 99).

Sickle cell anaemia and malaria: contextual issues that were not addressed

It has been well documented that certain areas in the country are endemic for malaria. Similarly, certain areas have been seen to have a high prevalence of sickle cell anaemia. Both of these conditions can cause or aggravate anaemia. This was also seen in some of the narratives. However, no special efforts seemed to be made in these high prevalence areas to address these issues.

- Anita, a 22-year-old woman from Gadchiroli in Maharashtra, was diagnosed to have sickle cell anaemia during routine screening during her first pregnancy. However, no management plan was made for this. She subsequently died of obstructed labour, which was not diagnosed and

managed appropriately (S No. 45).

- Veena, a 23-year-old diploma holder from the same district, was known to have sickle cell anaemia, but she never informed her husband or marital family because of the stigma associated with it. Under pressure to reproduce soon after her marriage, Veena suffered from multiple problems during her pregnancy, including recurrent urinary infections and dengue. Her condition worsened after a normal delivery in the district hospital - she was found to have very low haemoglobin and low platelets - and died three days after childbirth in spite of receiving intensive care in a private hospital (S No. 49).

- Rita, a 16-year-old adivasi woman from Godda in Jharkhand was pregnant with her first child. She had malaria during pregnancy and also suffered from night blindness and swelling of her feet. She however received no antenatal care except one dose of tetanus toxoid. She developed eclampsia in the ninth month of pregnancy and was referred to a medical college in the neighbouring state of Bihar where she was delivered by a caesarean. She was weak and breathless after delivery and though she received 2 units of blood, her condition worsened on the tenth day and she died (S No. 18).

The stories in this chapter thus highlight how an important issue like anaemia that requires interventions at multiple levels, including sensitizing communities to the complex needs of women during reproduction, remained totally unaddressed.

Chapter 10

Women's unfulfilled need for information

No information on birth preparedness or emergency readiness

It has been pointed out in earlier chapters that antenatal care that is supposed to be provided in the community was found grossly lacking. In addition to the fact that this resulted in women not receiving adequate antenatal care, it also meant that there was no provision of information related to best practices for women and their families during pregnancy. It has been well established that birth preparedness and emergency readiness are ways to ensure a safe pregnancy and delivery. The stories of women who died however indicated that such preparation was lacking in many cases.

- For example, Sudha, an adivasi woman from Dahod in Gujarat, was in her fifth pregnancy and had had one previous stillbirth. Her multiparity and previous poor obstetric outcome would automatically make her at high risk for complications this time. However, she did not receive any antenatal check-ups at all in this pregnancy. No information was provided to her on the need for antenatal care, nor was any plan made for her delivery. In fact, the local ASHA did not visit her at all during her pregnancy. When she went into labour, her family called the 108 ambulance service. She had to wait for two hours for the ambulance to arrive and be carried in a bed sheet ¾ km to the ambulance pick up point. She later died in the taluk hospital without being seen by the doctor (S No. 8).

- The story of the ASHA herself from Jharkhand reveals such lack of planning and preparing for birth. Though this was her fifth pregnancy and two of her children had died in their infancy, she did not receive any antenatal care at all and had a home delivery. She died of bleeding from a retained placenta (S No. 36).

Women and their families also seemed to lack knowledge of danger signs in pregnancy or what to do in the event of an emergency. This resulted in many families seeking the help of traditional healers or local informal practitioners when faced with life threatening complications, wasting precious time. The fact that, as narrated earlier, emergency transport vehicles refused to come at night or to transport women with emergencies and that private vehicles were difficult and expensive to arrange, compounded the delays further.

- Beni in Sunderpahari in Godda district of Jharkhand did not receive any antenatal care during her pregnancy. When she had fits during her eighth month, her family could not recognize the ominous significance of this. They spent time consulting a local practitioner and then carrying her to a neighbouring village to see a traditional healer. When there was no improvement in her condition after a few hours, the family finally decided to call for the Mamta Vahan, but it refused to come as it was night. Beni died without going to any hospital (S No. 12).

- The story of Sikha, also from Godda in Jharkhand, was similar to this. She too did not receive any

antenatal care and was unaware of danger signs. She did not seek care in spite of having swelling of her feet from the fifth month onwards. When she developed headache and fits, the severity of this was not understood by her family. The family consulted a local practitioner who initiated treatment for malaria. When finally the Mamta Vahan was called by the ASHA, it refused to come and Sikha died before another vehicle could be arranged (S No. 15).

- Simli from Poreyahat in Godda, Jharkhand also received no antenatal care beyond a single injection of tetanus toxoid. Her family had not been given any information on any danger signs of pregnancy. After she developed convulsions, her family spent three days seeking care from traditional healers before taking her to hospital (S No. 17).

- Lekha in Mayurbhanj district of Odisha had antenatal check-ups in the VHND. However, when the placenta did not come out after she delivered at home, she nor her family sought any care for over 16 hours, choosing instead to consult a traditional healer. She died at home (S No. 53).

The limited emergency care in many of these places where these women lived also seemed to play a part in families seeking to choose care from traditional healers and local practitioners, rather than go to formal health facilities. The lack of accountability in referral and the fact that families were often not given enough information to understand the seriousness of the problem and need for immediate treatment also contributed to families going back and forth between formal facilities and traditional healers.

- The case of Janaka from Banda in Uttar Pradesh is a case in point. She initially went to the sub centre with abdominal pain, was told she was in labour, kept for a few hours, but then sent home by evening. When she went to the district hospital next morning with continuing abdominal pain, she was told she was anaemic and told to go to the medical college. At this point, the family decided to take her to see a traditional healer. Over the next two days, they took her to seven different traditional healers in various places while her condition worsened. When finally on the third day they took her back to the CHC, she was further referred onward. She died on the way to the medical college (S No. 103).

Often, this seeking of care from traditional healers resulted in delays in initiating appropriate treatment for complications, but in some cases, local informal practitioners seemed to recognize the severity of the woman's condition and advised that she be taken to a higher health facility. This underscores the need to work with these practitioners, at least in resource-poor areas where they still remain first points of care, and build their capacities to recognize obstetric complications, so that delays in life threatening emergencies can be avoided.

Lack of information in facilities

While the lack of adequate information in the antenatal period limited women's seeking appropriate health care, in a few instances, when women and their families did seek health care in public health facilities, they did not receive adequate information to facilitate their care but instead families were left running from pillar to post in desperation.

- Reema of Mayurbhanj in Odisha was a 19-year-old adivasi woman in her first pregnancy. She

lived in a remote area inside a forest with her aunt in law. Since this was not her marital village, she did not receive any entitled services - neither antenatal care nor ICDS services. When she started bleeding in the seventh month, the local ASHA advised her to go to the hospital, but did not accompany her as she did not belong to the ASHA's designated area. Reema's husband went back to his own village to arrange for money and they went to the CHC two days later. After reaching the CHC with such difficulty, they were not attended to for over two hours and did not know where to go. Finally, they returned home to the forest village, where Reema continued to bleed and died the next day (S No. 56).

- The story of Kanta from Godda district in Jharkhand (S No. 26) narrated in the section on referrals is similar. When Kanta developed severe abdominal pain after delivery in the sub centre, her family managed to reach the district hospital with great difficulty. However, once they reached there, there was no information available on where to go and how, and while the family desperately tried to find this out, Kanta died in the vehicle. Even then, the family did not receive appropriate information - fearing that they would be blamed and a post mortem would be done, the family hurriedly took Kanta's body back home.

Chapter 11

Conclusions and recommendations

In the preceding chapters, we have attempted to detail various factors that contributed to these 124 maternal deaths. While the sampling for this initiative was purposive, there is nothing in the findings to suggest that the cases selected were unusual. What emerges starkly from these stories is that almost every one of these deaths was preventable. We list the missed opportunities that could have prevented each of these deaths in the last column in the table in Annexure 1 - this reveals a huge failure of the health system to address maternal health care including emergency care. Although our findings were focused on maternal health, our preliminary data indicated that the health system failures affect newborn health too tremendously - this needs to be studied further.

Maternal health has emerged as an important aspect of development globally over the last 15 - 20 years. The inclusion of reduction of maternal mortality as one of the Millennium Development Goals gave this a further push internationally. This ensured greater focus on maternal mortality with governments having to report periodically on their progress in achieving the maternal mortality reduction goal.

However, the Millennium Development Goals also reduced maternal health to just maternal mortality and the target of skilled birth attendance, having the unfortunate effect of leaving out the broader determinants affecting maternal health. This historically resulted in a situation where the gains of the 1994 ICPD PoA that defined reproductive health and rights broadly were lost to a large extent. (33) This has also resulted in global donors focusing on skilled birth attendance to the exclusion of other programmes and putting in money for strategies that used institutional births as a proxy for skilled birth attendance, for example, the Janani Suraksha Yojana. (9)

Over the last eight years, the Government of India has invested several thousands of crores of rupees in the National Rural Health Mission, aiming to strengthen health systems, and keeping with the global focus on maternal mortality, a large portion of this has been focused on maternal health care. However, we found that these 124 women were repeatedly failed by the health system at several points.

- Antenatal care in the community was largely unavailable and whatever women received was inadequate. High risk factors were not identified or addressed.
- Anaemia, though a huge problem, was left undetected and untreated whether in the antenatal, intra-natal or post-partum period.
- Though several programmes are in place for emergency transport, this was unavailable or delayed, contributing to significant 2nd phase delay.
- There were several instances of 3rd phase delay and emergency obstetric care was unavailable, delayed and inappropriate.
- Referral systems were not in place leading to women being shunted from facility to facility

without any appropriate treatment even though they had life threatening complications.

- Post-partum care was unavailable, even though this is the most crucial period where mortality occurs.

Many of these issues are supposed to have been addressed by already existing maternal health programmes under NRHM. However, programmes like the Janani Suraksha Yojana seem to have skewed the focus towards demand creation for institutional deliveries, while health system strengthening has taken a back seat. This is amply highlighted by the following examples.

- Lack of availability of blood continues to be a critical gap in spite of plans to establish blood banks in every district and blood storage units in every FRU. Some of the districts in our sample did not have a single blood bank.

- Detailed plans were made to create tiered EmOC facilities within existing public sector facilities. Again, these have not been implemented. We see from the narratives that district hospitals are unable to perform CEmOC functions, and PHCs and CHCs are unable to provide BEmOC level care, leading to significant delays in care. This is also substantiated by whatever data is available from recent large databases.

In addition, we also see that broader infrastructure like roads was lacking too in many of the areas in which these women died.

In fact, while analysing this sample of deaths, the failures of the health system were so pervasive that we found the classical three delays framework for analysis of maternal deaths inadequate. The delays in many cases were repetitive and cyclical:

- women going to multiple facilities in search of care, being refused, and re-entering the cycle of three delays each such time was a common occurrence;

- so also was the phenomenon of facilities refusing any kind of care when they were actually designated to be EmOC centres, thus adding a new facet to the third delay;

- as was poor antenatal care with women having problems like severe anaemia that was untreated in the antenatal period leading to death later on during labour, not fitting in within the three delays framework that pre-supposes a sudden catastrophic emergency;

- as again the absence of post-partum care that saw women being sent home in precarious health, only to have their condition worsen during the post-partum period and re-enter the three delays cycle.

Given the context of a health system that provides such poor quality care, and the presence of multiple private providers in an unregulated environment, the three delays framework may have to be modified accordingly if we are to learn from these deaths.

We would also like to state here that when we started the Dead Women Talking initiative two years ago, we

planned to focus largely on the social determinants that were behind maternal deaths. We had assumed that gender, poverty, powerlessness would play a major role in these deaths. However, our documentation revealed such huge failures of the health system that we have found the dysfunctional health system overarching over everything else that caused these deaths. The fact that these poor health systems are found mostly in places where marginalized communities, with their consequent powerlessness live, may not be entirely coincidental. Also, we had initially envisaged that this initiative would complement the health system's own maternal death review process. The fact that this was not so and that we could not get access to medical records were limitations in the extent of our analysis. This only underscores the fact that if the health system and civil society work complementary to each other in this process by each capturing different facets of the problem, the learning from these unfortunate deaths could be better strengthened and corrective action instituted.

We also see that heath policies and programmes have neglected several issues that are of great public health significance, especially for women from marginalized communities. For example, both macro data and small studies have shown the high prevalence of anaemia and the devastating consequences it can have in pregnancy. (13,3) Even so, we find that no concerted efforts have been made to address anaemia. Even basic screening for anaemia in the antenatal period seems non-existent in the places where these deaths are occurring. Similarly, issues like sickle cell anaemia and malaria, which are important in certain geographical areas, were not adequately addressed during pregnancy in a programmatic way. This brings us to question whether data and evidence inform health policy and programme making - a one size fits all policy cannot work in a country as diverse as India.

One other issue that has been completely left out from programmatic attention is that of safe abortion - while it figures in most states' Programme Implementation Plans, adequate budgetary allocation is not made, revealing the lack of interest in addressing the issue of unsafe abortions. (34)

The GOI has mandated that all maternal deaths be reported and a verbal autopsy conducted; these deaths are to be reviewed by a district level team headed by the Chief Medical Officer of the district. (18) Both by government reports and anecdotally, there are several gaps in this review process. (19) In this sample of deaths, we had data on whether an enquiry had been conducted by a health system team only for 53 of the 124 deaths. Of these, an enquiry had been done only in 21 deaths (40%); the rest of the families (32) reported that no health system team had visited them to enquire into the details of these deaths. Thus, it seems that at the least, more than half of maternal deaths remain unreported, losing a valuable opportunity to learn from them and institute corrective action.

We would like to note here with sadness and concern that we had raised similar issues of health system failures in our fact finding of the Barwani maternal deaths in early 2011, almost 3 years ago, (13) and do not see any significant improvement in the situation since then. What is even more worrying is that while Barwani could have been seen as representing the situation in a resource poor, systemically neglected tribal district, similar findings seem to come from this wider documentation across diverse situations in ten states.

Several macro issues have contributed to the present state and need to be addressed. We list some of them here.

- Public investment in health continues to be woefully low. Even though successive governments

have promised to increase the budgetary allocation for the health sector, in fact this has not happened, as shown in Table 11. India continues to have one of the lowest public spending on health in the world.

Table 11 Trends of health expenditure
(Source: World Health Organization National Health Accounts Statistics)

Year	1998	2000	2002	2009	2010	2011	2012
Total health expenditure as % GDP	5.2	6.3	6.1	3.9	3.7	3.9	4.0
Public expenditure on health as % GDP	1.4	1.3	1.3	1.07	1.04	1.19	1.32
Private expenditure on health as % GDP	3.8	4.9	4.8	2.83	2.66	2.71	2.6

- While on the one hand NRHM has talked about strengthening public health systems, privatization has been encouraged by numerous initiatives including government sponsored insurance schemes and state specific schemes like the Chiranjeevi Yojana. (35,36)

- There is not enough public investment in medical and paramedical education leading to these areas being largely taken over by private players. (37 - 40)This has contributed significantly to the human resource crisis within the public sector. While the need to invest in building human resources for the public sector has been brought up repeatedly in various evaluations and reports including the government's own Common Review Missions, there is no concerted effort at coming up with a long term human resource policy. (41,42)

- Shortcomings in governance and accountability are major issues. Total lack of attention to community-based services like antenatal and post-partum care, poor quality of care in health facilities, refusal by health care providers and support staff to perform designated duties, institutional apathy to patients in critical conditions, all of these exemplify this. We do not see serious efforts put into improving governance and accountability within public health systems. On the contrary, while GOI has framed communitization of health systems and community-based accountability mechanisms as one of the basic pillars of NRHM, (43)on the ground, most states have withdrawn from any notional community accountability mechanisms that were explored as part of pilot/initial phase programmes. (42)

- The fact that social determinants like poverty, rural residence, caste and gender influenced women's health outcomes in these narratives underscores the strong influence these determinants have on women's health. As pointed out in Chapter 4, the vulnerabilities of these women may be a reflection of multiple social and systemic factors interplaying - however, by not making special provisions to ensure that these women receive care, the health system added to their vulnerability, rather than make efforts to ensure their health.

What these women's stories reveal further is the multiple interplay between maternal health, infectious diseases, nutrition and social determinants. While specific interventions like Emergency Obstetric Care are necessary to address the immediate medical complications, investment in the long term is necessary in

strengthening primary health care - this will help address the basic determinants that influence health.

Even beyond this, efforts need to be put into addressing social and cultural axes of discrimination including caste and gender. Our constitution has given the state a mandate to initiate affirmative action to ensure equity and social justice. However, the fact that poor, marginalized women continue to die of preventable causes signals that programmes towards these are not being implemented in the spirit of this constitutional mandate. Economic growth by increasing GDP alone does not make for development. India's Human Development Indices have continuously remained well below some of our smaller neighbours. (44) What is needed is a concerted attempt towards improving our human development parameters in a manner that is respectful of the rights of the most marginalized.

However, what is tragic in the stories of the 124 women whose deaths form the basis of this report is the state's active collusion in violating their human rights - by making policies that actively exclude vulnerable women, by not building in mechanisms to make sure programmes are implemented, by allowing providers in the public sector to refuse care, by allowing them to violate all ethical norms of care, by allowing referral systems to treat women like footballs, by not demonstrating enough will to save these women's lives. The state has to be held accountable for the deaths of these women - more so because they were all preventable with well established simple interventions.

Recommendations

The recommendations listed in this section are not new. They are a reiteration of what the Government of India and the state health departments state in all their policy and programme documents repeatedly. However, what is important is that our study adds to the evidence that many of these programmes are not implemented on the ground. Nevertheless, we have tried to spell them out and also suggest ways to make them work on the ground.

The recommendations are categorized into long term and aspirational as well as short term and specific. While this may seem to be a long list, we would like to reiterate that there can be no magic bullets to reduce maternal mortality. Unless there is long term investment in overall health system strengthening, we cannot expect health systems to function for maternal health alone. Similarly, social determinants and gender issues need to be addressed if root causes of maternal deaths are to be addressed. We have however spelled out some specific actions that can be implemented in the immediate term meanwhile.

Long term and overarching recommendations

1. **Universal Access to Health Care through strengthening primary health care:**

    a) Maternal health services cannot be improved in isolation. 'Silo'ed approaches that narrowly focus on one specific area such as maternal health will result in inefficient investment of resources and weakening of health systems. Maternal health services must be implemented within a broader Universal Access to Health Care intervention.

    b) Maternal health care services have to be contextualized within the broader comprehensive primary health care approach - only then will social determinants of maternal health be addressed. This will also ensure addressing other health issues like anaemia and infectious

diseases convergent with maternal health care.

c) Maternal health services also need to be located within broader reproductive health services offered at primary health care level.

2. Greater public expenditure on health

a) Public expenditure on health must be increased urgently. Reducing the proportion of health expenditure from out-of-pocket payment and increasing the proportion of government spending should be done on a priority basis.

b) Tax-revenue based funding aimed at universal rather than targeted coverage has been shown by international evidence to be the way forward.

3. Health system strengthening: Greater investment in the public health system is an urgent need. Health system strengthening has to be the focus for improving maternal health care instead of only cash transfers through JSY. This has to include both strengthening at the primary level and commensurate strengthening of secondary and tertiary care facilities to provide emergency obstetric care.

4. Investing in health human resource: A health human resource policy needs to be developed and put in place. This must include investing in quality human resources for health both in the short term and in the long term.

5. Convergence across programmes: Convergence of vertical programmes has to be forged at the level of health service delivery - for example, malaria and maternal health programme, TB control and maternal health services have to be brought together, both by the TB Control Programme and Malaria Prevention and Control Programme, and the maternal health programme.

6. Inter-sectoral convergence: Similarly, inter-sectoral convergence is required in a major way to address maternal health problems. To tackle the rampant malnutrition among pregnant women, the ICDS, Health Department, Public Distribution System and also Education Department have to act in harmony to address malnutrition and anaemia through the life cycle of girls and women. Geographical accessibility issues have to be addressed by the Roads and Transport department.

7. National priority setting rather than global agendas, with contextual planning:

a) Health goals must be set according to national priority and programmes made according to local context. Programmes like conditional cash incentives that are implemented due to global donor pressure should not be allowed to dictate our policy and programme priorities.

b) A single one-size-fits-all policy will not address diverse problems in different areas. Area specific contextual planning must be provisioned for within programme designing.

8. **Monitoring and evaluation:** The fact that all of the above recommendations are oft repeated does not take away from the need for the state to address them with serious attention. In order to ensure that these are indeed taken up with due attention, we recommend that:

   a) Detailed plans with specific timelines need to be made for addressing each of the above.

   b) Monitoring indicators for each of these need to be developed and periodically monitored by multi-stakeholder groups including civil society. These should be regularly shared in the public domain to ensure accountability and transparency.

Recommendations for immediate action

1. **Improve Emergency Obstetric Care:** This would require interventions at multiple levels.

   a) Adequate numbers of staff across cadres need to be ensured in FRUs and CEmOCs. This would require planning in two phases - in the immediate term and in the long term.

      i. In the short term, available human resource must be deployed rationally ensuring that select facilities that are equitably distributed geographically and those specially in remote areas are fully functional. Creative solutions for managing human resource shortage without compromising on quality need to be implemented based on best practices from both within and outside the country.

      ii. In the long term, the state must invest in medical and paramedical education within the public sector to meet the projected requirement of health human resource. This should also include reform of health human resource including developing a midwifery cadre and posting of dedicated staff without rotation off labour room areas.

   b) All staff need to be sensitized to be responsive and responsible health care providers. This should be part of both induction and continuing trainings.

   c) Health care providers should be trained to recognize complications and develop life saving skills in situations of obstetric emergencies. Simulation trainings for labour room staff as a team need to be introduced across all states and districts and gaps in knowledge and skills found should be addressed within a fixed time period. Implications of the failure to provide immediate treatment need to be demonstrated through case studies. Supportive supervision should be provided post training by establishing suitable monitoring mechanisms.

   d) Emergency preparedness has to be ensured in facilities, staff have to initiate primary care to stabilize women, drug availability should be ensured, emergency transport has to be available to transfer women to appropriate referral facilities.

   e) Surprise mock drills should be conducted in all BEmOC and CEmOC centres to understand what is functional and what is not and corrective action instituted immediately.

2. Adherence to standards of care

a) Standard protocols need to be disseminated widely and staff trained on this.

b) There has to be strict adherence to these protocols and serious monitoring of this. Sterile procedures to prevent sepsis, rational procedures like appropriate use of oxytocin have to be ensured through monitoring.

c) Regular clinical audits that look at process and outcome indicators need to be instituted.

3. Assured blood supply: Blood has to be considered as a critical emergency supply and not the responsibility of the family.

a) Urgent steps need to be taken to make blood storage units functional.

b) Campaigns must be undertaken by the state to encourage voluntary blood donation and adequate stock of blood in blood banks.

c) Alternatives strategies to address the shortage of blood need to be considered - use of blood components, blood substitutes, volume expanders need to be evaluated.

d) The present policy that prohibits Unbanked Direct Blood Transfusion needs to be critically evaluated and reframed according to context for life threatening situations like PPH.

4. Improvement of antenatal care

a) There seems to be a general misconception about high risk approach in health care providers. That the high risk approach is no longer followed only means that no woman can be ignored as being low risk; it does not mean women with specific risk factors should not be given special care. Antenatal care urgently needs to ensure monitoring of anaemia, and other risk factors like sickle cell anaemia, previous caesarean sections and obstructed labour.

b) A regular schedule for community-based antenatal care needs to be planned, publicly disseminated and implemented. Adequate travel support needs to be provided to health care staff for this. Delivery of a select package of services, including appropriate antenatal care, nutritional interventions and immunization needs to be ensured and monitored.

c) Birth preparedness and emergency readiness of the family and immediate community members needs to enhanced and made an integral part of antenatal care. Birth preparedness has to include the following issues:

i. that referral may be required and a capable person who can make decisions should be present in the event of an emergency;

ii. blood transfusion may be required - family and community members should be prepared to donate blood or arrange for it at short notice;

iii. phone numbers of emergency transport and referral services should be available with the family;

iv. the individual vulnerability factors should be discussed and birth preparedness should be done to minimize impact of her vulnerability on her health and pregnancy outcome.

5. Improvement of post-partum care

a) Post-partum care has to be strengthened, both facility based and in the community. Front line health care providers should be trained on the need for post-partum care and in skills to pick up and act in the event of post-partum complications.

b) Continuum of care has to be ensured both ways - community to facility as well as from the facility to the community - through establishment of linkages between facility based and community based staff.

6. Streamlined referral systems

a) Referral systems need to be made accountable.

b) Referral protocols must be developed and health staff at all levels be trained in them These must include

i. stabilizing the woman with first aid before referring her,

ii. referral to the most appropriate facility that can manage that particular complication (and not the nearest understaffed/under resourced facility),

iii. written referral slip with all relevant clinical details,

iv. phone calls to facilities where the woman is being referred to give advance notice of her impending arrival,

v. accompanied transfers where an appropriate health care provider accompanies the woman during referral and ensures continuing care en route.

c) Referral audits should be done regularly with a view to decrease unnecessary referrals and to improve the quality of referrals.

7. Emergency transport systems

a) Free of cost emergency transport systems for obstetric complications must be ensured.

b) These must be in adequate numbers and distributed equitably such that they are able to arrive within the stipulated period of 30 minutes on receiving a call.

c) Staff of these emergency transport systems must be trained to recognize and transport women with complications to an appropriate facility that can manage them adequately.

d) Creative solutions must be evolved for transport in remote areas and contextually appropriate modes of transport - for example, boat ambulances in Assam must be put in place.

8. Provision of safe abortion services in the public sector

a) Safe abortion services must be provided within the public sector at primary care level. Adequate planning for this must include creative use of human resources, for example, weekly redeployment of specialists from a higher facility.

b) Use of modern methods like Manual Vacuum Aspiration and medical abortion must be encouraged through appropriate training and supervision.

9. Addressing anaemia

a) Concerted efforts need to be made to address anaemia. While it is not enough to address anaemia in pregnancy alone, systems need to be put in to diagnose and treat anaemia during antenatal care. Front line health providers need to be trained and provided with field level equipment to diagnose anaemia. Treatment of women found to be anaemic must be ensured with adequate follow up and cross referrals between facilities and the community.

b) The life cycle approach to addressing anaemia needs to be strengthened with identification and treatment of adolescent girls who are anaemic as an important component.

c) Anaemia interventions need to go beyond the health sector to involve addressing nutrition, food security, education and gender issues from a rights perspective.

10. Cashless services have to be provided to pregnant women. This is promised under JSSK and must be ensured at the ground level.

11. Grievance redress

a) Grievance redress mechanisms should be established. These need to be clearly communicated to families so that they have a forum to complain and get their complaints satisfactorily addressed.

b) The grievance redress should be at two levels - an immediate response system and a systemic response and correction system.

c) The grievance redress mechanism must be headed by an independent authority.

12. Accountability and governance of the public and private health institutions is of utmost importance.

a) Medical records have to be maintained by all health institutions. The quality of the recording on the case sheets has to be standardized and monitored.

b) Supportive supervision from within the system is required for problem solving to ensure functioning and responsive BEmOC services at each PHC, and CEmOC services at the CHCs, Taluka Hospitals, District Hospitals.

c) Community monitoring of health services should also be made mandatory. The role of the Rogi Kalyan Samitis for monitoring of maternal health services should be strengthened.

d) Private sector hospitals and maternity homes also need to be monitored for quality of care and costs to the patients.

Other Recommendations for outreach services

1. **Ensuring a sensitivity to social determinants and an understanding of high risk as going beyond the bio-medical factors**

   a) Evaluation of women for risk during the antenatal period needs to include the various social determinants like young age, literacy status, caste and ethnicity, migration, nutritional and gender issues. It must be ensured that these high risk women are carefully followed up and supported through their pregnancies, childbirth and post-partum period.

   b) The peripheral health workers - ASHAs, ANMs, and ICDS staff - need to be specially trained to do early identification of both bio-medical high risk and social vulnerability factors.

   c) The multiple dimensions of vulnerability, including the social dimensions, need to be systematically included in maternal health care plans and need to be factored into the birth preparedness plan, health care delivery and follow up plans.

   d) Institutional bias against migrants should be looked into and sensitization programmes held for health staff on a regular basis.

   e) Awareness programmes need to be instituted for immigrant populations. Material should be made available in all languages in an area including those of immigrant populations. Signages in facilities should be in multiple local languages.

2. **Educating families for antenatal care**

   a) Families should be educated on the importance of each component of antenatal care as well as the rationale behind it - about high risk symptoms during the ante natal period, at labour and during post-partum period.

   b) In addition, information, access and realization of maternity entitlements in the ICDS, financial support through the JSSK, JSY and free of cost health care services in form of cash, food grain and support and assistance, are also critical.

3. **Creating a positive role for local health providers.** There are many local beliefs and cultural practices that influence care seeking at the community level. Resources like dais and informal

health providers who have a high credibility locally must be harnessed to educate community members for maternal health and safe deliveries.

Recommendations for the Maternal Death Review Process

1. Involvement of multiple stakeholders

a) Civil society organizations and community-based organizations including local *sangathans* and peoples' organizations, local governance structures like *panchayat* and Village Health and Sanitation Committees should be involved in the maternal death reporting process so as to increase maternal death reporting.

b) Civil society organizations should also become part of the MDR teams so that they can complement the maternal death reviews with a social and community perspective.

c) Civil society organizations should also be part of the MDR Committees at the District level so that they can take back the lessons from MDR analysis to the communities - this can increase community consciousness of their responsibility for maternal health. Wider participation in the MDR Committees will also prevent a conflict of interest of the health system dominated committees doing the MDRs.

2. Reports in the public domain

a) Action Taken Reports should be an agenda for the MDR Committee meetings and should be made public. There should be feedback loop to ensure that learnings from preventable maternal deaths are used both by the health system and for community action.

Recommendations for civil society

Discussions on maternal health and maternal deaths should become a public issue - all stakeholders must act to promote maternal health. Community leaders and community-based organizations have an important role to play locally to prevent maternal deaths and promote maternal health. Civil society organizations have a role to facilitate dialogue and coordination between community groups and health system at all levels, as well as to support community action for maternal health.

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Annexure 1

Details and analysis of the 124 maternal deaths

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
1	Gujarat	Dahod	20	Koli	5	Agriculture, wage labour, homemaker	No	Hindu	1	ANC in VHND. Anaemia, breathlessness, jaundice, visited two pvt hosp - received glucose in private Chiranjeevi hospital	Went to private hosp near term. Told to have IUD. Refd to med college (108). Admitted, given IV (?Induction of labour). ND next day. Breathlessness after that and died.	Public, Med. college	ND	SB	Public, Med. college	PN (Few hours)	Anaemia with CCF
2	Gujarat	Dahod	30	ST	Illiterate	Agriculture, migrant labourer, homemaker	Yes	Adivasi	3	Both earlier children dead (infant deaths), Night blindness, Severe anaemia (2 gms%) diagnosed in 7th month – given iron tabs in pvt hosp	Severe anaemia in AN period, not treated, Went with swelling to pvt hosp – refd to civil hosp. Induced labour at Civil Hosp, Referred to DH due to bleeding, not given vehicle, went to pvt hosp (pvt vehicle) where refused admission, went to another pvt hosp in Dist Hq where CS done – 4 units given, but died soon after.	Hospital, Private	CS	SB	Hospital, Private	PN (Few hours)	APH (Abruption) Severe anaemia
3	Gujarat	Dahod	21	ST	Illiterate	Agriculture, wage work, homemaker, construction worker (migrant) till 5 months	Yes	Adivasi	1	Conceived after 4 years of marriage after treatment, ANC in PHC and civil hosp. Hb 9 gms.	Fever in 7th month, Dai took to Civil Hosp(108) where diagnosed malaria, Rx begun and referred to DH, but came back home next day – trdnl healer at home. Died next day	NA	NA	NA	Home	AN (7/12)	Malaria
4	Gujarat	Panch -mahal	32	ST	Illiterate	Migrant worker in cotton mills	Yes	Adivasi	4	First three home deliveries (first one on construction site), past TB completed Rx, One ANC in PHC – only TT and 10 IFA, no Hb, BP. Breathlessness and pain at 8 months,	Went to PHC with pain and breathlessness. Refd from there to taluk hosp to DH. Dr in DH said he will not be there at night – so took to pvt hosp, but refused. So went back home. Took 3 days to arrange money, then to another pvt hosp in another town and then another. Here, told to have IUD, told to go to med college in city. So arranged ambulance and went there. After inv, next day dr in med college refd them to another pvt hosp in city. Decided to go back home as no Rx anywhere. Died that night.	NA	NA	NA	Home	AN (7/12)	Anaemia in CCF?
5	Gujarat	Panch-mahal	31	OBC	BA, B Ed	Mid day meal in charge	No	Hindu	2	Prev CS. Regular ANC at VHND and in Pvt – Hb 13 gms, USG done.	Pre term labour at 7 months. IUD diagnosed in pvt hosp, taken for CS, lasted 6 hrs, intra op bleeding, needed hysterectomy, given 2 units blood, refd to another pvt hosp in dist HQ with ambulance, nurse and blood (2 units more + 2 plasma given in ambulance), died in transit	Hospital, Private	CS	SB	Transit	PN (Few hours)	PPH, CS compli-cation
6	Gujarat	Dahod	20	ST	Illiterate	Wage work, sold mahua, homemaker	Yes	Adivasi	1	Married at 16, No Mamta card, One ANC in PHC - Hb 8, no iron given.	Labour at term. First called dai then taken to pvt hosp for delivery, refd after delivery to DH for blood, but went home and died on way	Hospital, Private	ND	LB	Transit (Hosp to home)	PN (Few hours)	Anaemia in CCF
7	Gujarat	Dahod	26	ST	Illiterate	Migrant labour	Yes	Adivasi	1	ANC in VHND – BP Normal, Hb not done, given 10 IFA only. Breathlessness during pregnancy, taken to pvt dr, told all normal.	Went to pvt dr at 8/12 with breathlessness and loss of FM, diagnosed IUD, refd to civil hosp, no dr, so went to pvt hosp in dist HQ, refused, went to another pvt hosp, delivered SB, D/S. Bleeding on D5, Called 108 next morning. Died while being carried in bedsheet to ambulance (6 kms away).	Hospital, Private	ND	SB	Home	PN (5 days)	Secondary PPH, Sepsis
8	Gujarat	Dahod	32	ST	Illiterate	Migrant labour	Yes	Adivasi	5	Prev one SB. No ANC at all, no Hb, BP. No visit by ASHA	Labour at term. Called 108. Had to wait 2 hours for 108. Carried in bedsheet for ¾ km to reach 108. No doctor in taluk hosp. Given inj by nurse. Found dead in bed sometime later.	NA	NA	NA	Hospital, Public, block level	Intra-natal	?
9	Gujarat	Panch -mahal	31	Chauhan	Primary	Agriculture, wage labour, homemaker	Yes	Adivasi	3	No ANC, Hb or BP. Given IFA.	Labour at term. Went to taluk hosp (108, 30 min). ND soon after. Bleeding + +. Delay in diagnosing and managing PPH, 3 hours before referral. Refd to med college (108). Seizures in the ambulance. Died on the way.	Public, Taluk hosp	ND	LB	Transit	PN (Few hours)	PPH
10	Gujarat	Dahod	28	Bariya	Illiterate	Agriculture, wage labour, homemaker	Yes	Hindu	4	2nd marriage, Prev 2 SB, ANC, Hb, BP done.	Labour at term. Delivered at home by dai. Not much bleeding, but died soon after.	Home	ND	SB	Home	PN (Few hours)	? Anaemia
11	Jhar-khand	Godda	23	No data	No data	No data	No data	No data	1	ANC only TT	Labour pains.Went to CHC (Mamta vahan with ASHA). ND in CHC. Had PPH. Refd to DH. Reached 3 hrs after delivery.Given IV, inj, but bleeding + so refd to med college in next state 70 kms away. Unconscious by then, Was there for 3 days, but only 1.5units blood given. Died D3	CHC	ND	LB	Public, Med. college	PN (3 days)	PPH
12	Jhar-khand	Godda	18	No data	No data	No data	No data	No data	1	No ANC.	Fever and fits at 8/12 – called local pctner. Then carried on cot to maternal village and called local healers. Finally mamta vahan called few hrs later but refused as it was night and died.	NA	NA	NA	Home	AN (8/12)	Eclampsia, ? Malaria (fever)
13	Jhar-khand	Godda	28	No data	No data	No data	No data	No data	3	Only TT, Fall in 7th month and confined to bed. Defecating in bed, unclean as no attenders. Starving.	Labour pain 10 d after fall. Went to CHC by Mamta vahan with ASHA, refd to DH. No bed, so was on floor. ASHA went back home in mamta vahan. No one with her, found dead	NA	NA	NA	Hospital, Public, DH	AN (7/12)	?

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
Yes, Private Chiranjeevi to Medical College	2	Yes	No data	No data		1. Anaemia in AN period - not treated adequately.	1. No detail of whether blood was given in med college. 2. Intranatal Mx of anaemia in med college inadequate.		1. Prompt diagnosis and adequate Rx of anaemia antenatally, 2. Appropriate Mx of anaemia intranatally – blood transfusion, AMTSL
Yes, Private Chiranjeevi to Civil Hosp to pvt hosp to pvt hosp in district HQ (pvt vehicle)	4	No	No data	19200	1. Ambulance not provided, 108 refused to come. 2. No accountability in ref-erral of a woman with sev-ere anaemia and APH – no vehicle, no accompaniment	1. Severe anaemia not adequately treated antenatally. 2. Ambulance not provided in emergency, 108 refused to come	1. Severe anaemia of 2 gms rxed with iron tabs instead of blood transfusion, 2. Anaemia in labour, APH - Mx inadeq in civil hosp.	1. Family took to pvt hosp instead of DH as perceived QoC in DH poor. 2. Migrant labourer – malnutrition (anaemia, night blindness)	1. Adequate Rx of anaemia antenatally – blood transfusion, 2. Adequate Mx of APH – stabilization, emergency transport, accountable referral with continuing care during transit
Yes, to DH but did not go	1	Yes	No data	No data		1. No follow up of a woman with malaria in pregnancy 2. Family not counselled adeq about seriousness of condition	Delay in diagnosis of severity of malaria, late referral	1. Migrant labourer, farming, looking after cattle at home - Work pressure. 2. Refused to go to DH for malaria Rx, instead trdnl healer.	1. Adequate Rx of malaria – information provision to family re: need for Rx and seriousness of condition, 2. Woman's life valued by family and decision to continue Rx
Yes, multiple. PHC (bike) to taluk Hosp (108 – went across a river on bike 3 km to reach 108) to refd to DH (ambulance), no Rx, went to pvt hosp, refd to Med college, Went home (chakda, bus, rickshaw), went to another pvt hosp (bus) and then another, then to Med College hosp (ambulance, pvtly arranged), refd to pvt hosp, so went home (bus, chakda). Overall 5 days.	7	No	No data	990	1.Denial of Rx in several public facilities including med college 2. No accountability of providers – refused Rx and refd woman in critical condition to pvt sector, 3. Pvt sector refused patient in emergency	1. Refd back and forth between public and pvt hospitals over 5 days with no treatment at all.	1. No care at all for woman in an emergency	1. Family took to several facilities for Rx, but finally went back home in desperation.	1. Prompt diagnosis and adequate Rx of anaemia antenatally, 2. Prompt Rx of her condition at various levels of facilities when she presented in an emergency, 3. Accountable behaviour by providers
Yes. Pvt hosp (1 hr, bike) to Pvt hosp in dst HQ (ambulance, 40 min, 40 km)	2	No	No data	2300		1. Responsibility of arranging blood family's	1. Indicn for CS not clear. 2. Intra op complication – blood given seems inadeq for amount of bleeding		1. More skilled intra op management
Yes, but did not go	1	Yes	No data	1320		1. Anaemia in AN period - not treated adequately. 2. No information from ASHA – did not know how to call 108.		1. Early marriage 2. Family did not take her condition seriously and took her home.	1. Prompt diagnosis and adequate Rx of anaemia antenatally, 2. information provision to family re: need for Rx and seriousness of condition, 3. woman's life valued by family and decision to take to DH for Rx
Pvt dr, refd to civil hosp, no dr, so went to pvt hosp in dist HQ, refused, went to another pvt hosp, deli-vered SB, D/S. Bleeding on D5, Called 108 next morning. Died while being carried in bedsheet to ambulance (6 kms away).	4	No	No data	No data		1. No Hb in ANC – anaemia not picked up or treated, only 10 IFA. 2. No staff in taluk hosp in emergency. 3. Not recorded as mat death as dispute over which area she belongs to.	1. Anaemia diagnosis and Rx inadeq both antenatally and intranatally, 2. Sepsis after instituitonal birth – lack of asepsis 3. Lack of PN care	1. Husband alcoholic, violence, stayed with parents. 2. Ambulance called only next morning after bleeding.	1. Prompt diagnosis and adequate Rx of anaemia antenatally, 2. Appropriate mx of anaemia intranatally – blood transfusion, AMTSL 3. Asepsis during delivery 4. PNC to pick up sepsis and Rx promptly 5. Family knew danger signs and called ambulance immediately and prompt care
No	1	Yes	No data	No data	1. Left to die unattended in taluk hosp.	1. No ANC at all in high risk woman – prev SB, 2. No visit by ASHA, 3. No dr in taluk hosp. 4. No emergency care of woman in critical condition		1. Delay in deciding to take her to hospital – husband unwilling to call 108.	1. Identification as high risk pregnancy and adeq ANC, 2. Family counselled on birth preparedness and emergency readiness, 3. Ambulance available promptly, 4. Immediate diagnosis and initiation of Rx by dr
Yes to Med College	1	No	No data	No data	1. No accountability in referral- no stabilizn, no accompaniment	1. No ANC at all	1. Delay in diagnosis of PPH		1. Adequate ANC and Rx of anaemia, 2. Prevention of PPH with AMTSL 3. Prompt diagnosis of PPH & initiation of Rx, 4. Accountable referral with accompaniment and continuing care
No	0	Yes	No data	No data				1. Family did not realize seriousness of problem. Main road only 100 feet away, but did not seek care.	1. Family counselled on birth preparedness and emergency readiness, 2. Family knew danger signs and called ambulance immediately and prompt care
Yes. Home to CHC (mamta vahan) to DH (18 km, Ambulance) to Med college (70 km, Ambulance, 500 rs assistance)	3	No data	70 km	4500	1. No accountability in referral - no stabilizn, no accompaniment	1. Poor QoC in ANC – only TT 2. No CEmOC in district – have to travel to next state	1. Inadequate mx of PPH in CHC and DH – No blood given 2. Blood given too less for magnitude of loss		1. Adequate ANC and Rx of anaemia, 2. Prevention of PPH with AMTSL 3.Prompt diagnosis of PPH & initiation of Rx, 4 Accountable referral with accompaniment and continuing care 5. Adequate blood transfusion
No	0	No data	70 km	1000	1. Emg transport refused to come at night	1. No ANC, 2. Did not have information on danger signs, so reliance on trdnl pctner		1. Reliance on tradnl healers for an emergency, delay in seeking care	1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Family aware of danger signs and avoided delay, 4. Prompt availability of emg transport
Yes, Sahiya to CHC (2km) to DH (22 km, Mamta vahan)	2	No data	70 km	No data	1. No bed given. 2. Abusive behaviour by staff. 3. Left unattended to die.			Husband alcoholic, did not take care. Had been starving for several days.	1. Prompt Rx after fall, 2. Family support for rx, 3.Adeq nutrition, 4. Prompt care in facility

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
14	Jhar-khand	Godda	26	ST	No data	No data	No data	No data	5	Light bleeding at 8/12. Labour pains and bleeding before death	Had APH, carried on cot to mission disp, no dr, so taken to mission hosp (pvt vehicle, took 3 hrs to arrange), refd to another mission hosp in dist HQ, then from there to mission hosp in next state 70 kms away. Multiple referrals as the hospitals did not have blood. At the final mission hosp also, relatives sent to med college for blood, but delivered and died before it was arranged.	Hospital, Private (Mission)	ND	Early Neonatal Death	Hospital, Private (Mission)	PN (Few hours)	APH and PPH
15	Jhar-khand	Godda	No data	No data	No data	No data	No data	No data	1	No ANC. Went to PHC once, but no dr.	No ANC. Swelling feet from 5/12. Headache and fits before death. Called local pctner, given inj for malaria, told to go to hosp. ASHA called Mamta vahan, but it refused to come as it was not called for delivery, but for illness. Died before pvt vehicle could be arranged.	NA	NA	NA	Home	AN (8/12)	Eclampsia
16	Jhar-khand	Godda	No data	ST	No data	No data	No data	No data	6	Breathlessness in prev preg, one pre term delivery, this pregnancy stiffness and arching like a bow since 5/12, took Rx from nearby pharmacy, Breathlessness before death (period of gestn NA)	Had breathlessness, husband went to arrange vehicle from near by town, but died unattended before he returned.	NA	NA	NA	Home	AN (Gest NA)	?Anaemia CCF
17	Jhar-khand	Godda	No data	ST	No data	No data	No data	No data	1	Only one TT. Convulsions 8/12 (Also 3 days earlier – rxed by ojha)	Convulsions – called tradnl healer, rpt after 3 days – called tradnl healer, no improvement, called local pctner – gave IV and inj, no improvement, Mamta vahan called 6 hrs after seizures, came 2 hrs later. Went to CHC refd to DH Took 10 hrs to reach this facility. Refd further to med college 70 kms away, but family decided not to go. Inj (?Mg SO4) in DH, but died soon after	NA	NA	NA	Hospital, Public DH	AN (8/12)	Eclampsia
18	Jhar-khand	Godda	16	ST	Illiterate	No data	No data	No data	1	Only one TT. Malaria and jaundice during pregnancy. Swelling feet, night blindness. Fits at 9/12	Labour at midnight. ASHA could not call mamta vahan as no charge in cell phone. Then Fits, taken to CHC in the morning, given 2 inj, refd to DH (18 km) in the evening. IVF and inj, refd to med college in next state, Reached next day evening, CS for transverse lie, postnatally very weak and breathless,given 2 units blood. Breathlessness D10, inj, O2 given, but died.	Public, Medical college	CS	LB (Died 22 d)	Public, Medical college	PN (10 days)	Anaemia, Eclampsia
19	Jhar-khand	Godda	20	ST	No data	No data	No data	No data	1	TT and IFA given. Anaemia diagnosed in 8/12 and admitted in DH, but LAMA.	Later labour – went to CHC (mamta vahan, 14 km) ND in CHC, unconscious after delivery, refd to DH in pvt vehicle but died on way	Public, CHC	ND	SB	Transit (CHC to DH)	PN (Few hours)	?
20	Jhar-khand	Godda	17	ST	No data	No data	No data	No data	1	Living together, not married, family disapproved.	Herbal medicines for abortion and died. No details, family refused to talk	NA	NA	NA	Home	AN (Early preg)	Unsafe abortion
21	Jhar-khand	Godda	18	OBC	No data	No data	No data	No data	1	TT and IFA given. Anaemia diagnosed in 8/12 and admitted in DH, but LAMA.	Unconsciousness and edema in 8/12, taken to DH (20km), did not even get off vehicle, refd to med college(70 km) and died there. No details. Death in natal home. No details from marital family.	NA	NA	NA	Hospital Public, Medical college	AN (8/12)	?
22	Jhar-khand	Godda	22	ST	Studying BA	No data	No data	No data	1	No	Labour – ND at home by dai (given inj by local pctner). Spasms (Fits?) and burning after 8 hrs. ASHA called, but did not recognize PN complicn. Family pawned jewellery and pvt vehicle to mission hosp (22km) in dist HQ – no dr. Then to pvt hosp, but no Rx. Then to DH. Brought dead at DH.	Home	ND	LB	Transit	PN (Few hours)	Eclampsia
23	Jhar-khand	Pakur	20	ST	Illiterate	No data	No data	No data	No data	Edema since 2/12. Ate very little – rice flakes, red tea. Very tired. Finally unconsciousness	Could not call local pctner when finally unconscious as night. Died at home in the night.	NA	NA	NA	Home	AN (Gest NA)	?
24	Jhar-khand	Godda	35	ST	Illiterate	No data	No data	No data	8	Prev 6 births, 1 miscarriage. No ANC. Abd pain in pregnancy on and off. Rxed by local pctner with inj.	Labour. Nearest road10 kms away. Husband not well so no one to carry her 10 km to mamta vahan, so decided to deliver at home. Home delivery. Weak and tired after that and died 7 hrs later. Did not seek care.	Home	ND	SB	Home	PN (Few hours)	? Anaemia
25	Jhar-khand	Godda	35	ST	No data	No data	No data	No data	3	No ANC. No TT or IFA.	Home del. 10 d later weakness of legs rxed by local pctner and better. On D 46, paralysis of hands and legs, semi conscious, fits. Rxed at home by local pctner. Died at home	Home	ND	LB (Died 15 d after mother died)	Home	PN (46 days) Late maternal death	?

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
Yes. Mission dispensary (1 km, carried on cot) to mission hosp (20 km, pvt vehicle, took 3 hrs to arrange) to mission hosp (½ hr, in dist HQ) to miss-ion hosp (70km)(all pvt vehicle without even get-ting off the vehicle)	4	No data	70 km	9700	1.Responsibility of arranging blood transferred to family – contributes to delay	1. Carried to first disp on cot, had to wait 3 hours for pvt vehicle to be arranged. 2. No CEmOC centre in district	1. No effort at stabilizing patient in any of the facilities visited en route.		1. Prompt availability of emg transport, 2. Initiation of primary Rx in facilities en route, 3. Accountable referral with accompaniment and continuing care, 4. prompt availability of blood
Local pctner refd to hosp but died before pvt vehicle arranged	0	No data	70 km	No data	1.Mamta vahan refused a case of emergency as it was supposedly only for delivery.	One attempt at ANC by woman – but no dr in PHC.		No recognition of danger signs – delay	1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3.Family aware of danger signs 4. Prompt availability of emg transport
Husband went to arrange vehicle, but died before that	0	No data	70 km	No data		1. No ANC, no diagnosis or Rx of anemia in AN period. 2. Not recognozed as high risk in spite of prev H/O of breathlessness and pre term. 3. Rx by pharmacist of complications in preg without referring to appropriate level.			1. Adequate ANC and Rx of anaemia, 2. Counselling on emergency readiness for family 3.Family aware of danger signs 4. Prompt availability of emg transport
Ojha, Local pctner, refd to CHC (35 km), refd to DH (40km), refd further to med college (70 km) but could not go	2	No data	70 km	700		1. Inadeq ANC, 2. No stabilizing mx in CHC-should have been given MgSO4 there. 3. No accountability in referral		No recognition of danger signs – delay	1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3.Family aware of danger signs and seek rx 4. Prompt availability of emg transport , 5. Mg SO4 given in CHC, 6. Accountable referral with accompaniment and continuing care
Sahiya to CHC (15 km, Mamta vahan after 8 hrs as cell phone not charged),to DH (18 km, after 8 hrs), to med college (70 km, after 36 hrs)	3	No data	70 km	16500		1. Inadeq ANC, danger signs not picked up, 2. Delay in mamta vahan, 3. No accountability during referral	1. Inadeq mx of eclampsia, not sure if MgSO4 given at CHC, 2. CS after 2 days only. 3. Postnatally anaemia not managed adequately–only 2 units blood given 4. No mx of CCF in med college.		1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Family aware of danger signs 4. Prompt availability of emg transport, 5. Accountable referral with accompaniment and continuing care 6. Expediting delivery of baby, 7. Adequate Mx of anaemia postnatally
CHC to DH (Pvt vehicle)	2	No data	70 km	2000	1. No accountability during referral – No ambulance provided from CHC	1. No community based follow up of woman with diagnosed anaemia	1. Anaemia diagnosis and Rx inadeq both antenatally and intranatally	1. Did not understand need for rx of anaemia and left LAMA.	1. Adequate ANC and Rx of anaemia, 2. Counselling on emergency readiness for family 3.Family aware of danger signs and continued rx, 4.Adequate intranatal Mx of anaemia – blood transfusion, AMTSL, 5. Availability of ambulance from CHC, 6. Accountable referral with accompaniment and continuing care
No	0	No data	70 km	No data	1. Access to safe abortion not available			1. No family support as not married. 2. Sought abortion services from unqualified provider	1. Availabililty of adolescent friendly SRH services, 2. Access to information and services on contraception, 3. Access to safe abortion services
Home DH to med college (70 km)	2	No data	70 km	No data		1. No stabilizing mx in DH-should have been given MgSO4 there. 2. No CEmOCcentre in district		2nd maternal death in same hamlet of this village.	1. Adequate ANC and Rx of anaemia, 2. Counselling on emergency readiness for family 3.Family aware of danger signs 4. Family supported in Rx of anaemia antenatally 5. Initial Rx in DH- Mg SO4 given. 6. Accountable referral with accompaniment and continuing care
Sahiya did not come. Pvt vehicle to mission hosp (22km, ½ hr), to pvt NH, to DH	3	No data	70 km	1300		1. ASHA did not recognize PN complicn. 2. No emg transport		2nd maternal death in same hamlet of this village.	1. Family counselled on birth preparedness and emergency readiness, 2. ASHA recognized PN complication and acted promptly, 3. Availability of emergency transport, 4. Initiation of Rx in first facility visited, 5. Accountable referral with accompaniment and continuing care.
No	0	No data	No data	No data		1. No ANC, did not have information on danger signs		1. No recognition of danger signs – delay	1. Adequate ANC, 2. Counselling on emergency readiness for family 3. Family aware of danger signs and sought care
No	0	No data	70 km	No data		1. ANM comes only 10 kms away and have to go thus far for ANC			1. Access to roads and transport facility, 2. ANM provided travel support to conduct VHND, 3. Adequate ANC and Rx of anaemia, 4. Family counselled on birth preparedness and emergency readiness, 5. Availability of SBA for home del 6. Access to emergency transport 7. Access to contraception
No	0	No data	70 km	1800		No ANC,		Mortgaged silver necklace to local pctner for rx	1. Family counselled on birth preparedness and emergency readiness, 2. Adequate PN care and recognition of complications

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
26	Jhar-khand	Godda	19	OBC	3	No data	No data	No data	1	2 TT, no ICDS services as she was in natal home.	Labour. ASHA took to HSC Delivered in HSC. Severe abd pain after ½ hr. Sent in mamta Vahan to CHC (18 kms, all ANMs going with her got down on the way at their homes). No referral note, so CHC refd further to DH (20 km). At DH (3hrs after del), did not know where to go, while she died in vehicle. Family did not want PM so brought back home hastily.	Public, HSC	ND	LB (Died 4/12 later)	Transit (CHC to DH)	PN (Few hours)	? PPH, ? Inversion uterus
27	Jhar-khand	Godda	25	SC	Illiterate	No data	No data	Minority	5	3 living children, 2 TT, 2 ANC in pvt clinic	Went to CHC in labour. Hand presentation (? Hand prolapse) – refd to DH. Kept overnight there, given IV and inj and then refd to med college in next state. CS in med college, 1 unit transfused, died before 2nd could be arranged. Husband donated both times.	Public, Medical college	CS	SB	Public, Medical college	**PN (Few hours)**	Obstructed labour, ? Uterine rupture
28	Jhar-khand	Godda	20	ST	Illiterate	No data	No data	No data	1	No	Seizures at 9/12. Taken to DH in mamta vahan – reached 4 hrs later. Given some inj, then refd to med college in next state. Delivered after 2 days in Med college, breathlessness after that and died in a few hrs.	Public, Medical college	ND	LB (END)	Public, Medical college	PN (Few hours)	Eclampsia
29	Jhar-khand	Dumka	21	SC	Illiterate	No data	No data	No data	1	Depressed since marriage.	Seizures at 8/12 . Taken to HSC (close by) in tempo, refd to CHC(14 kms) and from there to med college in next state(81 km) But taken to pvt hosp(29 km) and then another pvt hosp (52 km) and then to med college (same city). Died undelivered in med college. No details of timelines.	Public, Medical college	NA	NA	Public, Medical college	AN (8/12)	Eclampsia
30	Jhar-khand	Dumka	25	ST	Able to sign	No data	No data	No data	1	2 TT, ANC in pvt clinic. Fits during labour. Refd because of anaemia.	Home to CHC in labour. Refd to DH as anaemic (given 500 for referral transport), but went home, started having fits. Taken to another CHC (mamta vahan) – Given IV and inj and refd to DH next morning. Kept in DH till evening – IV, Inj. Then refd further. Family took her back home. Went to another town that night and 2-3 pvt clinics before being admitted in pvt hosp. CS next day. Unconscious D2 and refd further D3. By now, had spent almost 25000 rupees and mortgaged land so decided to take her home, died on the way home.	Hospital, Private	ND	LB	Transit (while coming home)	PN (3 days)	Severe anaemia, eclampsia
31	Jhar-khand	Dumka	26	ST	Illiterate	No data	No data	No data	3	2 TT	Severe lower abd pain. Taken to PHC. Refd to CHC and then to DH. Multiple referrals, but no Rx. Died soon after admitting in DH.	NA	NA	NA	Public, DH	Ante-natal	? Abruption
32	Jhar-khand	Godda	25	ST	Illiterate	No data	No data	No data	5	Diarrhoea in 7/12.	Rxed at home by local pctner. No improvement. So went to CHC after 24 hrs (Mamta vahan). DOA	NA	NA	NA	Transit (Home to CHC)	AN (7/12)	Diarrhoea, dehydra-tion
33	Jhar-khand	Godda	22	ST	Illiterate	No data	No data	No data	2	Previous abortion. No ANC this time, no TT, no IFA, Edema	Labour at term. ND at home. Felt weak and restless after delivery and died within 1 hr.	Home	ND	LB	Home	PN (1 hour)	? PPH, ? Anaemia
34	Jhar-khand	Godda	22	ST	Able to sign	No data	No data	No data	1	At 2/12, severe abd pain.	Local ANM sent to pvt pctner, given inj, IV came home after Rx and few hrs later restlessness, perspiration, died	NA	NA	NA	Home	AN (2/12	? Ectopic pregnancy rupture
35	Jhar-khand	Godda	20	ST	Illiterate	No data	No data	No data	1	No ANC at all	Home del. Excessive bleeding. Fits. Died within 1 hr.	Home	ND	LB (END)	Home	PN (1 hour)	PPH
36	Jhar-khand	Godda	28	ST	6	Sahiya (ASHA)	No data	No data	5	2 prev infant deaths. No ANC, no TT in this pregnancy	Sahiya, Home del, local pctner called as retained placenta, but died within 1 hr	Home	ND	LB	Home	PN (1 hour)	PPH, Retained placenta
37	Jhar-khand	Godda	27	ST	Illiterate	No data	No data	No data	1	Taken TT and IFA. Swelling feet.	Headache. Fits 5 hrs later (gestn not available), unconsciousness. Called local pctner. Told to go to hosp. Went to CHC 2 hrs later (mamta vahan), refd to DH. But went to pvt hosp in dist HQ as family felt QoC in DH poor. Died after 18hrs without being delivered.	NA	NA	NA	Hospital, Private	AN (Gest NA)	Eclampsia

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
HSC (mamta vahan, 1.5 km) to CHC (18 km, Mamta vahan) to DH (20km)	3	No data	70 km	No data	1. No accountability during referral, all ANMs accompanying got off en route. 2. Family did not know where to go - delay.	1. No portability of services between natal and marital home. 2. No referral slip. No stabilizing mx in CHC, refd without any Rx as no referral slip.			1. Prevention of PPH with AMTSL 2. Prompt recognition of complication in HSC and initiation of Rx, 3. Accountable referral with accompaniment and continuing care, 4. Information desk at facilities 5. Protocols for handling emergencies with prioritization.
CHC (12 km, mamta vahan) to DH to Med college (70 km)	3	No data	70 km	12000	1. Responsibility of arran-ging blood transferred to family – contributes to delay. Husband donated twice. 2. Informal payments to staff.	1, Delay in CS for transverse lie at DH. 2. No CEmOC centre in district		1. Inadeq mx of transverse lie – delay, 2. Inadeq mx of anaemia intranatally	1. Antenatal diagnosis of malpresentation, 2. Prompt mx of transverse lie -CS, 3. Adeq mx of anaemia -prompt blood transfusion
Mamta vahan to DH (20km) to med college (Pvt vehicle, 70 km)	2	No data	70 km	4390		1. DH should be able to manage eclampsia, but refd 70 kms away, 2. No CEmOC centre in district	1. Delivery not expedited in a case of eclampsia as is standared mx – took 2 days.		1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. MgSO4 given according to protocol in DH, 3. Accountable referral with accompaniment and continuing care 4. Expediting of delivery in DH/ medical college
HSC to CHC (14km, tempo), refd to med college (81 km) but went to pvt clinic (29 km) to another pvt clinic (52 km) to med college	5	No data	81 km	No data	1. No accountability during referral – No primary care provided, no accompan-iment or continuing care	1. Inadequate mx of eclampsia in multiple facilities. 2. No CEmOC centre in district	1. Delivery not expedited in a case of eclampsia as is standared mx		1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. MgSO4 given according to protocol in any of the facilities visited, 3.Accountable referral with accompan-iment and continuing care 4. Expediting of delivery in DH/medical college
Home to CHC (pvt vehicle, 14 km, 1000 rs), refd to DH, but went home and to another CHC (7km, mamta vahan), refd to DH (30 km, pvt vehicle, 600 rs), went back home (pvt vehicle, 1200 rs), then to pvt clinic in another town (58 km, 2500 rs,pvt vehicle). Then back home D3 (500 rs, pvt vehicle)	6	No data	No data	24800		1. Multiple referrals back and forth – no accountability to follow up, accompany, continuing care 2. Poor QoC	1. Inadeq mx of both anaemia and eclampsia	Family had to mortgage land.	1. Adequate ANC and Rx of anaemia, 2. Counselling on emergency readiness for family 3.Family aware of danger signs 4. Initial Rx in CHC - Mg SO4 given. 6. Accountable referral with accompani-ment and continuing care 7.Expediting of delivery in DH, 8. Adeq Mx of anaemia intranatally – blood transfusion, AMTSL, 9. Availability of free care, good quality in public sector
Dai to PHC (1 km) to CHC (11km) to DH (49km, pvt vehicle, given 500 for referral transport, had to pay 600 extra)	3	No data	No data	1700		1. No accountabilityin referral - No stabilizing mx in PHC or CHC. No accompaniment or continuing care, Family had to pay for emg transport			1. Adequate diagnostic skills to recognize AN complication in PHC/CHC, 2. Accountable referral – Accompaniment, continuing care, 3. Availability of emg transport
No	1	No data	70 km	No data			1. Inadeq Rx of dehydration	No recognition of danger signs – delay	1. Family counselled on birth preparedness and emergency readiness, 2. Family knew danger signs and called ambulance immediately and prompt care, 3. Prompt and adeq Rx of dehydration
No	0	No data	70 km	No data				No recognition of danger signs – delay	1. Adequate ANC and Rx of anaemia, 2. Counselling on emergency readiness for family 3. Family aware of danger signs and acted immediately
Home to local pctner (8 km, pvt vehicle)	1	No data	70 km	2000				No recognition of danger signs – delay	1. Prompt diagnosis of condition, 2.Initiation of stabilizing care 3. Accompanied referral with continuing care
No	0	No data	70 km	No data		No ANC at all		No recognition of danger signs – delay Did not seek care.	1. Adequate ANC, 2. Counselling on emergency readiness for family 3. Family aware of danger signs and sought care promptly
No	0	No data	70 km	No data		ASHA herself. No ANC at all.		No recognition of danger signs – delay	1. Adequate ANC, 2. Counselling on emergency readiness for family 3. Family aware of danger signs and sought care promptly, 4. Availability of emergency transport,
Local pctner to home, Mamta vahan to CHC (10km), refd to DH, but went to pvt hosp	2	No data	70 km	2600		1. No stabilizing mx in CHC- should have been given MgSO4 there. 2. Perceived QoC in DH poor – so went to pvt hosp.	Delivery not expedited in spite of being admitted for over 18 hrs in pvt hosp.		1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Family aware of danger signs 4. Prompt availability of emg transport 5. Initiation of MgSo4 in CHC 6. Accountable referral with accompani-ment and continuing care, 7. Expediting delivery of baby.

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
38	Jhar-khand	Dumka	25	OBC	Able to sign	No data	No data	No data	3	At 9/12 -Edema face, feet, hands. Breathlessness	Severe edema, so came to natal home. Taken by Sahiya to CHC, but no lab facilities, so went to pvt clinic. Later severe breathlessness, local pctner refd to higher centre, autorickshaw to dist HQ (55 km), sought care in several pvt clinics, but refused. Then went to DH, died soon after.	NA	NA	NA	DH	AN (9/12)	Anaemia in CCF
39	Jhar-khand	Godda	24	ST	Illiterate	No data	No data	No data	2	No ANC at all	ND at home.Unconsciousness 6 days postpartum, diagnosed PF malaria by local pctner, died next day. Child also developed fever and died 10 d later	Home	ND	LB (END)	Home	PN (6 days)	Malaria
40	Jhar-khand	Godda	35	ST	Illiterate	No data	No data	No data	6	No ANC at all	Retained placenta, heavy bleeding. Local pctner called home. Died soon after.	Home	ND	LB	Home	PN (6 hours)	PPH, Retained placenta
41	Jhar-khand	Godda	29	ST	8	No data	No data	No data	3	No	Vomiting severe in 9/12. Taken to CHC in mamta vahan. Refd to DH (20 km). Refd to med college in next state next morning. But family took to pvt hosp same town. Refd from there to med college. IV and inj on way in pvt clinic. Delivered on way to med college and DOA	Transait	ND	SB	Transait	PN (Few hours)	?
42	Bihar	Patna	32	ST	Illiterate	Veg and snacks seller	Yes	Hindu	8	Prev one SB. No ANC. Pain and bleeding at 9/12.	Pain and bleeding. Taken in thela to PHC. ANM took to pvt clinic, USG done. Refd to med college. No Rx as drs strike. Continued bleeding. Delivered stillborn, Bled to death. Multiple efforts at seeking care – lack of care at med college.	Public, Medical college	ND	SB	Public, Medical college	PN (Few hours)	APH, PPH
43	Bihar	Patna	27	OBC	Illiterate	Homemaker	No	Muslim	2	2nd marriage.ANC at quack.	Admitted in labour at quack's. Adv CS, called dr from outside for sx. Indicn of CS NK. Then developed breathlessness,refd to another dr. Told to go to higher centre. sought care at multiple pvt clinics, finally went back to same quack in desperation and died. Quack denies he ever took care of her.	Hospital, Private (Quack)	CS	LB	Hospital, Private (Quack)	PN (2 days)	?
44	Bihar	Patna	35	SC	Illiterate	AW Sahayika	Yes	Hindu	4	Details of ANC NK to family.	ASHA took to PHC after prolonged labour, breech so ANM refd to med college for CS, but taken by ASHA to quack and then pvt NH for CS. refd to med college after CS after giving some IV inj,(reason?) but DOA at med college.	Hospital, Private	CS	LB	Transit	PN (Few hours)	CS compli-cation
45	Maha-rashtra	Gadchi-roli	22	SC	9	Wage Worker	Yes	Hindu	1	Sickle cell anaemia (SS). ANC – Picked up as high risk.	Labour pains. Delay in going to PHC. Admitted in full dilatn in PHC. Undelivered for 5 hrs. Episiotomy given and resutured. Bleeding and unconscious. Refd to DH. DOA	NA	NA	NA	Transit	Intra-natal	Obstructed labour, sickle cell anaemia
46	Maha-rashtra	Gadchi-roli	27	ST	4	No data	Yes	Hindu	2	ANC 3 in records, but according to family, filled after death.	Home del by mother(TBA) as ambulance did not arrive for 3 hrs. PPH – taken to PHC and stitched. Postnatally fever chest pain, abd pain, burning sensn chest – care from PHC and local pctner, but not definitive. D 39 – severe chest pain and died	Home	ND	LB	Home	PN (39 days)	? Sepsis, ? Pulmo-nary embolism
47	Maha-rashtra	Gadchi-roli	23	ST	Illiterate	Wage Worker	Yes	Hindu	1	Not aware she was pregnant. Rx for fever 3months durn	Rx from local pctner for fever. Injections and tabs. Blisters on legs, mucosa. Diagnosed pregnant at RH, chickenpox by another local pctner. Finally went to trdnl healer	NA	NA	NA	Home	AN (3/12)	?
48	Maha-rashtra	Gadchi-roli	21	ST	Illiterate	Wage work homemaker	Yes	Hindu	1	ANC in RH. Edema in one foot during AN period.	Labour – delivered in RH. Convulsions and fever after delivery. Refd to DH, stayed for 2 days, then taken to pvt hosp, then to med college, brought home after one day as no improvement	Public, RH	ND	MSB	Home	PN (5 days)	Eclampsia, ?Malaria
49	Maha-rashtra	Gadchi-roli	23	OBC	D Ed	Homemaker	No	Hindu	1	Sickle cell anaemia. In Laws did not know. 2-3 blood transfusions one week before marriage. Was advised MTP in 1st trimester by the same pvt pctner but refused. Typhoid in 2/12. UTI (Rxed) and dengue (not rxed) during pregnancy.	Labour – ANM refd to pvt pctner. Refd to CHC. Then to DH. Normal delivery at DH. 24 hrs later fever, so family took to pvt hosp as DH QoC poor. Ventilatn in pvt hosp, Hb 4, low plts, refd to med college, died in transit	Public, DH	ND	LB	Transit	PN (3 days)	Sickle cell anaemia
50	Maha-rashtra	Gadchi-roli	29	ST	8	Agriculture, household chores	Yes	Hindu	3	Depression (mother died during early pregnancy). No ANC as ANM insisted husband should get sterilized, so husband was scared to go back. Swelling, boils and blisters left leg since 6/12.	Worsening ulcer left leg from 6/12. Went to DH but came back home for Diwali LAMA. Did not go back. Pre term del at home – male baby died, so worsening depression. Went to maternal home. No further rx sought. Ulcer worsened (maggots). Bed ridden. Died 4/12.	Home	ND	LB (Early ND)	Home	PN (4 months)	?
51	Maha-rashtra	Gadchi-roli	24	SC	Illiterate	Wage work homemaker	No	Hindu	3	Married 8 years. 2 previous miscarriages. At 9/12, blood stained vomiting and chest pain radiating to Left arm.	Taken to PHC with labour and chest pain. Refd to SDH. Kept overnight and refd to DH (stayed 12 hrs) – had breathlessness and coughing. Died before delivery.	NA	NA	NA	Public, DH	Intra-natal	?
52	Maha-rashtra	Gadchi-roli	21	SC	9	Agriculture	Yes	Hindu	1	Anaemia (7gms). Told to have big baby and small pelvis, so adv CS.	Labour. Went to PHU. Refd to DH, but went home and went to DH next day. CS in DH. Sudden onset of breathlessness post op and died.	Public, DH	CS	LB (Early ND)	Public, DH	PN (Few hours)	Anaemia in CCF, ? Pulmonary embolism (Records say pulm embolism)

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
Sahiya to CHC (5 km) for edema, then to pvt clinic. Finally auto to dist HQ (55km) multiple pvt clinics (refused admission) and then DH	6	No data	No data	3500	1. Refusal to Rx patient in critical condition by pvt hosp	1. No lab facilities in CHC. 2. Perceived QoC in CHC and DH poor – so went to pvt hosp.			1.Adequate ANC and Rx of anaemia ante-natally, 2. Diagnosis of anaemia in CHC and prompt Rx antenatally–blood or iron sucrose, 3. Accountable referral by pvt hosp – initiation of primary care and refrral with accompaniment and continuing care 4. Prompt mx of anaemia in heart failure in DH
No	0	No data	70 km	No data		1. No ANC at all 2. No PN care		Did not seek care for malaria in PN period.	1. Family counselled on emergency readiness, 2. Adequate PN care and recognition of complications, 3. Prompt diagnosis and Rx of anaemia
No	0	No data	70 km	600		1. No ANC at all		No recognition of danger signs – delay. Did not seek care.	1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3. Family aware of danger signs 4. Family sought care promptly, 5. Availability of emergency transport
Home to CHC (Mamta va-han), refd to DH (20 km), refd to med college, went to pvt clinic, refd to med college (70 km), died on way	4	No data	70 km	1500		1. No CEmOC centre in district 2. No accountability during referral – no follow up, no accompaniment, no continuing care			1. Family counselled on emergency readiness, 2. Prompt diagnosis and adeq Rx, 3. Referral with emergency transport, accompaniment and continuing care
ICDS worker at home to PHC (thela) to pvt clinic to med college	3	No	12 km	14000	1. Drs strike, so no care in med college – bled to death	1. No ANC. 2. No acountability in referral- No official referral from PHC, seen by ANM and USG in pvt clinic. No initial care, no accompaniment, no continuing care.	1. Inadeq Mx of APH in PHC	Husband took to med college in spite of others' advice as could not afford pvt care.	1.Adequate ANC, 2.Initial stabilization in PHC, 3. Accountable referral with accompaniment & continuing care, 4. Prompt care in medical college – blood transfusion, diagnosis and mx of APH. 5. Prevention of PPH with AMTSL. 6. Prompt Mx of PPH – blood transfusion.
Yes. Quack's clinic to pvt clinic, refd to med college, but went to 2 pvt clinics and mission hosp (refused admission) so came back to quack's clinic	5	No	5 km	8000	Irrational care by informal practitioner.	1. Failure to regulate pvt sector, informal practitioners	1. Probably unnecessary CS. 2. Inadequate Mx of post op complication	Reliance on informal pctner	1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3.Rational mx of labour and delivery, 4.Adeq intranatal mx of anaemia – blood transfusion, AMTSL, 5. prompt diagnosis and mx of post op complications
PHC to med college, but went to quack, then pvt clinic, then refd to med college	3	No data	12 km	3000		1. Failure to regulate pvt sector, informal practitioners	Poor QoC in CS	Reliance on pvt sector.	1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3. AN diagnosis of malpresentation, 4.CS under quality conditions – adeq intra op and post op care
Yes. PHC(2-3 km) to DH (55 km)	2	Yes	55 km	No data	1. Abusive behaviour of hospital staff, 2. Informal payments for postmortem	No accountability in referral – no accompaniment or continuing care	1. Sickle cell anaemia – ANC diagnolsis, but no mx plan. 2. Poor QoC in intranatal Mx – unable to identify obstructed labour	Pregnancy before marriage, Marriage against will of family – Lack of support from both natal and marital family	1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3. Adeq intranatal mx – partogram, early diagnosis of obstructed labour, 4. Accountable referral – emg transport, accompaniment, continuing care
No	0	Yes	70 km	No data	1. No ANC, 2. Records altered – ANC shown as done after death, Home del shown as inst del.	1. Ambulance delayed for del – so del at home. 2.Final event – ASHA called but away at monthly meeting.	No PN care	Husband alcoholic – physical and sexual violence including in pregnancy. Stayed in natal home.	1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3. Availability of emg transport, 4. Adeq PN care with prompt recognition of complications and Rx
No	1	No data	No data	No data		1. No regulation of pvt sector, informal pctners, 2. Absence of functioning public sector facilities in remote areas		Reliance on informal pctner	1. Prompt diagnosis and Rx of condition
Home to RH (14 km). Refd to DH(ambu lance, 130 km)to pvt hosp (60 km) to med college (110 km) to home (214 km)	4	No	130 km	No data		1. No accountability during referral – no continuing care		Both parents disabled, so burden of house work.	1. Family counselled on emergency readiness, 2. Adequate PN care and recognition of complications, 3. Prompt diagnosis and Rx of complication, 4. Accountable referral – accompaniment, continuing care
Home (ANM) to pvt pctner (19km) to CHC (6 km) to DH (70 km, delivered here) to pvt hosp (55 km) to med college (110 km, Died in transit)	5	No	70 km	No data		1. Sickle cell anaemia not picked up during ANC 2. Perceived poor QoC in DH. 3. Lack of blood transfusion facility in DH,		1. Stigma of sickle cell anaemia. 2. Pressure to procreate child imm-ediately after marriage 3. No proper last rites. Natal family feels in laws did not spend money to have saved her, also that they spent money on her educn.	1. Adeq ANC with diagnosis and Mx of sickle cell anaemia, 2. Adeq intranatal and postnatal Mx of sickle cell anaemia, 3. Accountable referral – emg transport, accompaniment, continuing referral
Informal pctner, to local pctner, to DH, returned home	0	No	No data	No data	Two child norm – denial of ANC for 3rd pregnancy	1.No ANC, 2. No counselling on need for Rx to family, 3. No follow up care in community 4. No PN care, 5. No mental health care	No timely ANC and treatment	1. Son preference, neglect, no Rx sought	1. Adequate ANC, 2. Counselling on birth preparedness and emergency readiness for family, 3. Adequate follow up in community of woman after discharge from hospital, 4. Adequate PNC with early recognition of complication and treatment
Home to PHC (1 km) to SDH (26 km) to DH (70 km)	3	Yes	70 km	No data	1. Abuse by health staff, 2. Informal; payments	1. No accountability during referral – continuing care, accompaniment	1. Poor QoC intranatally – probable obstructed labour not diagnosed.		1. Adeq intranatal Mx – partogram, diagnosis of complication, 2. Accountable referral – accompaniment, continuing care, 3. Prompt diagnosis and Mx in DH
Home to Public Health Unit, (3 km) refd to DH, but went back home and went to DH (32 km) next day	2	No	30 km	No data	1. Informal payments (paid Rs 700 for C-section),	1. Anaemia in AN period - not treated adequately. 2. No accountability during referral.	1. Anaemia diagnosis and Rx inadeq both antenatally and intranatally		1. Adequate ANC and Rx of anaemia, 2. Coun-selling on emergency readiness for family 3. Accountable referral from PHU–Emg trans-port, initial Rx, accompaniment. 4. Prom-pt diagnosis and Mx in DH, 5. Adeq Mx of anaemia intranatally–blood transfusion, AMTSL

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
53	Odisha	Mayur bhanj	23	ST	Illiterate	Agriculture, wage work, homemaker	Yes	Hindu	3	2nd pregnancy miscarriage, ANC in VHND	Home delivery, retained placenta for over 16 hrs, called traditional healer, no seeking care in facility	Home	ND	LB	Home	PN (Few hours)	PPH, Retained placenta
54	Odisha	Mayur bhanj	29	ST	Illiterate	Agriculture, wage work, homemaker	No	Hindu	1	ANC in CHC, VHND	Taken to CHC in labour. Refd after 5 hrs to SDH as no progress (govt vehicle). Delivered there, bleeding, refd to DH, but died in 2 hrs (vehicle could not be arranged)	Public, SDH	ND	SB	Public, SDH	PN (Few hours)	PPH
55	Odisha	Mayur bhanj	25	ST	Illiterate	Agriculture, wage work, homemaker forest produce	Yes	Hindu	3	ANC in CHC, VHND	Labour pains. Husband away so delay of 8 hrs in setting out to hosp. Then went to CHC. Dr was resting so did not see her till one hr after coming to CHC. Died by then on the verandah	NA	NA	Na	Public, CHC	Intra-natal	?
56	Odisha	Mayur bhanj	19	ST	Illiterate	Agriculture, wage work, homemaker forest produce	Yes	Hindu	1	ANC in VHND- TT and IFA. Malaria endemic area – had malaria during pregnancy. Anaemia. Slight bleeding at 7/12.	Lived with aunt in law in a forest with little access, away from her own marital village, so no entitled services. Bleeding at 7/12, ASHA of this village advised to go to CHC but did not accompany, husband went back to own village to get money, went to CHC 2 d later, not attended by anyone for over 2 hrs, went back to the forest village, continued bleeding, died next day.	NA	NA	NA	Home	AN (7/12)	APH, malaria, anaemia
57	Odisha	Mayur bhanj	25	ST	Illiterate	Agriculture, wage work, homemaker	Yes	Hindu	5	1st pregnancy still birth twin baby, 4th preg miscarriage, Anaemia in prev preg (needed blood transfusion) ANC in VHND, no Hb, only TT and IFA	Went in labour to SDH. Delivered normally, bleeding, died within 2 hrs	Public, SDH	ND	LB	Public, SDH	PN (Few hours)	PPH, Severe Anemia
58	Odisha	Kendu-jhar	25	ST	Illiterate	Homemaker	Yes	Hindu	2	Prev infant death. One ANC in VHND (TT,IFA).	No Hb Lives in remote hamlet. Nearest motorable road 10 km, nearest ambulance pick up point 40 km. Took 8 hrs to get a vehicle when in labour, went to CHC, but delivered and died on way	Transit	ND	LB	Transit	PN (Few hours)	? PPH
59	West Bengal	Malda	30	No data	Illiterate	Home based beedi worker	Yes	Muslim	5	ANC in VHND (TT, IFA, Hb, BP).	Labour pains – Matryan to BPHC. Delivered in BPHC, d/s in <24hrs. D3 Fever – rxed by quack. No improvement, breathing difficulty, so D8 – went to BPHC. Given inj, refd to med college, admitted, given IVF, inj, but died soon after	Public, BPHC	ND	LB	Public, Medical college	PN (8 days)	Sepsis
60	West Bengal	Malda	24	No data	Secon-dary	Home based beedi worker	Yes	Muslim	2	ANC in VHND (TT, IFA, Hb, BP).	Delivered in PHC. PPH. Refd to med college. Seen by dr after 20 min. Died soon after.	Public, PHC	ND	LB	Public, Medical college	PN (Few hours)	PPH
61	West Bengal	Malda	22	No data	BA	Home based beedi worker	No	Muslim	1	ANC in VHND (TT, IFA, Hb, BP).	Went to PHC in labour. Refd after 3 hrs to med college (?). Stayed in med college for 18 hrs, no progress, posted for CS, but developed seizures, CS not done. Family took to pvt NH, died soon after.	NA	NA	NA	Hospital, Private	Intra-natal	Obstructed labour, eclampsia
62	West Bengal	Malda	28	No data	8	Home based beedi worker	No	Muslim	5	Prev 4 home del. ANC in VHND (TT, IFA, Hb, BP).	Went to BPHC in labour, refd to med college after 4 hrs(?), but went to pvt hosp. CS done after 5 hrs. Did not regain consciousness. Died after 6 hrs.	Hospital, Private	CS	SB	Hospital, Private	PN (6 hours)	Post CS complicn, ? Anaesthetic compli-cations
63	Uttar Pradesh	Lucknow	30	SC	Illiterate	Wage work	No	Hindu	5	Prev 4 girls, ANC at VHND	Admitted in CHC in labour, was told will deliver in 2 hrs, but nothing for 32 hrs, then dr said breech, charged 5000 rs, difficult breech del, PPH. Refd to med college (pvt vehicle booked by dr, not accompanied), DOA	Public, CHC	ND	SB	Transit	PN (Few hours)	Obstructed labour, PPH
64	Uttar Pradesh	Varanasi	20	Yadav	8	Homemaker	No	Hindu	1	ANC in VHND, PHC and pvt clinic – TT and IFA	Labour pains. Went to main road by auto then 108 to PHC. Delivered in PHC. PPH. Only nurse, no dr. Not picked up for 1 hr. Then refd to DH, but went to nearby pvt hosp, Refused. Then went to another pvt hosp (108). DOA.	Public, PHC	ND	LB	Transit	PN (Few hours)	PPH
65	Gujarat	Nar-mada	27	ST	10	ASHA	Yes	Hindu	2	Husband died 2/12 before delivery.	ANC at pvt hospND in pvt hosp. Hb 9 gms, but given blood. Reaction with 2nd pint. Referred, but died in transit.	Hospital, Private	ND	LB	Transit	PN (Few hours)	Blood transfusion reaction
66	Uttar Pradesh	Azam-garh	25	SC	5	Homemaker	No	Hindu	5	Prev one infant death (?Cause). Past H/O TB, Rxed. At 6/12, diagnosed to have TB and Rx in CHC. Postnatally fever	Past H/O TB. Recurred in pregnancy – on Rx. Postnatal fever – given some tabs by PHC dr (in pvt?). Worsened. Went to two pvt drs D12 – told to be anaemic. Admitted, given IV and inj. Died soon after.	Public, PHC	ND	LB	Hospital, Private	PN (12 days)	TB, sepsis

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
No	0	Yes	45 Km	No data	No access to health facility	Structural issues – the village is situated inside a National Park. Communication is a major problem. No network available for mobile phones. One has to walk or use a bicycle to reach hospital which is 50 kms away (does not have CEmOC facility).		No recognition of danger signs – delay	1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3. Availability of SBA for home del. 4. Prompt recognition of danger sign by family and seeking care, 5. Availability of road and emergency transport
Yes. Home to CHC (ASHA, Janani Exp, 12 km) to SDH (26 km, 40 min, govt vehicle). Refd further to DH, but died before vehicle arranged.	2	Yes	14 Km	1200		No vehicle for emergency transportation in SDH.	Inadequate mx of PPH in SDH.	Love marriage, no support from in laws. Stayed with natal family.	1. Early diagnosis of prolonged labour in CHC – Partogram, 2. Accountable referral – Accompaniment, Continuing care, 3. Prevention of PPH in SDH – AMTSL, 4. Prompt diagnosis and Mx of PPH in SDH – Oxytocics, fluids, 5. Prompt, accountable referral – Emg transport, primary care, continuing care, accompaniment
Home to CHC (14 kms)	1	Yes	30 Km	500	Woman in labour and probably obstetric complication not attended to for over 1 hr in CHC – left to die on verandah			No decision making power for woman – waited till husband returned to decide to go to hospital.	1. Family counselled on emergency readiness, 2. Prompt recognition of emergency and seeking care by family, 3. Availability of emg transport, 4. promptly attended to in CHC with prompt diagnosis and emergency care
ASHA to CHC (22 km, Janani Exp) to Home	1	Yes	65 Km	400	1. No portability of services between natal, marital and resident village. ASHA refused to accompany as not her area pt, 2. No guidance in CHC as to where to go and what to do for a woman in emergency	1. No protocols for management of a woman in emergency. 2. No malaria in pregnancy programme for a malaria endemic area	APH not recognized as emergency.	No recognition of danger signs – delay	1. Adequate ANC in spite of being migrant, 2. Recognition and adeq Rx of malaria in pregnancy, 3. Family counselled on emergency readiness, able to recognize danger signs, 4. Availability of free emergency transport, 5. ASHA accompanied woman to facility, 6. Help desk in facility for guidance, 7. Prompt diagnosis and treatment
Home to SDH (8 kms, hired auto)	1	Yes	8 Km	1100	Delay in arranging blood	1. High risk of anaemia – no diagnosis or mx in antenatal period.	1. Inadeq mx of anaemia antenatally and intranatally, 2. Inadeq Mx of PPH		1. Adequate ANC and Rx of anaemia, 2. Adequate intranatal Mx of anaemia – Blood transfusion, 3. Prevention of PPH – AMTSL, 4. Prompt Mx of PPH – Oxytocics, fluids,blood
Home to CHC (28 kms, hired a private vehicle)	0	Yes	55 Km	0		Structural issues – remote hamlet with no roads, transport			1. Adequate ANC in spite of remote hamlet, Provision for ANM for transport 2. Availability of roads and emergency transport, 3.Family counselled on emergency readiness and prompt decision to seek care, 4.Availability of SBA for home del
Yes. Delivery in BPHC, went home. D8 – BPHC (pvt car, 5 km), refd to med college (ambulance, 40 km)	2	No data	40 Km	No data		1. Sepsis after facility birth, 2. No postnatal care	Sepsis after inst delivery – QoC in infection control inadeq.	No recognition of danger signs – delay	1. Adequate asepsis during delivery, 2.Discharge after 48 hrs stay in facility, 3. Adeq PN care and prompt recognition of complications and referral
Yes. Home to PHC (3 km) to med college (Ambulance, 40 km, 40 min)	2	No data	40 Km	No data			1. Inadeq mx of PPH in PHC. 2. Delay in being seen in emergency at med collge.		1. Prevention of PPH – AMTSL, 2. Prompt recognition and Mx of PPH in PHC – Oxytocics, fluids, 3. Accountable referral – emg transport, accompaniment,continuing care
Yes. PHC (8 km) to med college (48 km, govt vehicle). From there, taken to pvt hosp	3	No data	50 Km	No data		1. Poor perceived QoC in med college 2.Inadequate mx of obstructed labour and eclampsia in med college.	Prolonged labour – not managed adeq	Reliance on pvt sector.	1. Early diagnosis of prolonged labour in PHC – Partogram, 2. Accountable referral – Accompaniment, Continuing care, 3. Early diagnosis of prolonged labour in medical college – partogram, 4. Monitoring of blood pressure during labour, early diagnosis of hyperetension and mx.
Home to BPHC (pvt car, 5 km) to med college (40km), but went to pvt hosp (40 km, pvt vehicle)	2	No data	40 Km	No data		1. Poor perceived QoC in med college. 2. Inadeq mx of prolonged labour in BPHC.	Poor QoC in CS.	Reliance on pvt sector.	1. Early diagnosis of prolonged labour in PHC – Partogram, 2. Accountable referral – Accompaniment, Continuing care, 3. CS without delay in higher facility
Home to CHC (30 km, pvt vehicle) to med college (pvt vehicle, 35 km)	2	No data	35 Km	No data	Relatives and patient abused. Found that uterine packing had been done during last rites. PM done and FIR lodged.	Drs cite lack of HR	Poor QoC – Inadeq mx of obstructed labour, malpresentation and PPH		1. Adeq ANC and diagnosis of malpresent-ation, 2. Early diagnosis of malpresentation and prolonged labour – partogram, 3. Accountable referral - Emg transport, accompaniment, continued care, 4. Prevention of PPH – AMTSL, 5. Prompt recognition and Mx of PPH – oxytocics, fluids, blood
Home to PHC (auto, 108, 8km) to DH (10 km), but went to pvt hosp (pvt vehicle) to another pvt hosp (108)	3	No data	20 Km	No data		No accountability in referral, no emergency transport provided	PPH not diagnosed, delay in mx		1. Prevention of PPH – AMTSL, 2. Prompt recognition and Mx of PPH – oxytocics, fluids, blood, 3. Accountable referral - Emg transport, accompaniment, continued care
Pvt hosp to med college (90 km, ambulance)	2	Yes	20 Km	0			Unnecessary blood transfusion. PN anaemia could have been managed with iron sucrose or oral iron		1. Mx of postpartum anaemia with oral iron or iron sucrose, 2. Protocols for blood transfusion followed.
D12 – Went to pvt dr (not there), another pvt dr (27 km)	2	No data	35 Km	No data		1. TB in pregnancy – inadeq diagnosis and Rx. 2. No PN care.		Reliance on pvt sector. Unemployment, so very little food.	1. Adequate diagnosis and Mx of TB in pregnancy, 2. Adeq postnatal care with prompt diagnosis and mx of complications

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
67	Uttar Pradesh	Azam-garh	32	OBC	Illiterate	Homemaker	No	Hindu	4	One prev infant death. ANC at CHC, DH	Went to CHC in labour. Told to go to DH. Seen by dr >2 hrs after admissn. Delivered after 4 hrs. PPH – not seen by nurses/drs as duty changing time.	Public, DH	ND	LB	Public, DH	PN (Few hours)	PPH
68	Uttar Pradesh	Banda	23	SC	Illiterate	Wage work	No	Hindu	2	Worked in stone quarry till 7th month. Fever and bleeding at 7/12.	Fever and bleeding 7/12 -Traditional healer for 2 days. Then went to hosp in tempo, but miscarriage on the way, so brought back home. But continued to bleed. Next day – jeep to pvt NH. D&C for retained products. Still bleeding for 2 days. So refd to CHC (Pvt vehicle). Sent to DH from there without admitting in 108. DH, not seen – refd to med college. Went instead to pvt NH. Admitted and rxed for 1 week, but died.	NA	NA	NA	Hospital, Private	Posta-bortal	Unsafe abortion, sepsis
69	Uttar Pradesh	Banda	24	SC	BA	Homemaker	Yes	Hindu	3	One prev SB, also retained placenta in that delivery. This pregnancy – 1 ANC in pvt NH (Had USG, but no BP)	Labour. Went to HSC twice, but locked. So delivered at home by dai. Retained placenta. Taken to CHC (tempo) 5 hrs later. Placenta removed by nurse piecemeal. Then refd to DH. But died outside CHC.	Home	LB	LB	Transit	PN (Few hours)	PPH, Retained placenta
70	Odisha	Mayur-bhanj	27	ST	Primary	Wage work	No	Hindu	3	Prev 2 CS by first marriage. One infant death. Second marriage now.	Labour, went to PHC only next day (no money). Refd to DH. Admitted there and asked to buy drugs. No intervention as no money to buy. Died after 8 hrs.	NA	NA	NA	Public, DH	Intra-natal	Rupture uterus
71	Chhatt-isgarh	Bilaspur	29	ST	3	Wage work	Yes	Hindu	4	Prev 3 home del, all alive.	3/12 unwanted preg. Abortion by traditional midwife (tradnl med PV). D6 – Expelled fetus at home and bleeding. Could not seek care as night. Next morning went to CHC – admitted, given inj. Died 1 hr later.	NA	NA	NA	Public, CHC	Posta-bortal	Unsafe abortion, post abortal bleeding
72	Chhatt-isgarh	Bilaspur	21	ST	10	Homemaker	Yes	Hindu	1	Anaemia in pregnancy- given IFA	Labour – given inj by jholachap dr. Then refd to med college. 108 took to CHC. Seen by nurses and sent to med college. Admitted and CS after 11 hrs. 2 days later – giddiness, vaginal burning sensn, abd pain. Died few hrs later.	Public, Medical college	CS	LB	Public, Medical college	PN (3 days)	Anaemia
73	Chhatt-isgarh	Bilaspur	25	ST	No data	Farm work	Yes	Hindu	4	One prev ND. Anaemia – given IFA	Mitanin took to PHC in labour. No dr, so refd to CHC. Refd to med college as meconium. Diagnosed twins in med college. ND few hrs later (twins). Bleeding. Injections, 2 units blood, died 12 hrs later.	Public, Medical college	Twin del	LB	Public, Medical college	PN (Few hours)	PPH
74	Chhatt-isgarh	Mungeli	25	General	BA	Homemaker	No	Hindu	1	No	PROM. Taken to pvt hosp 6 hrs later. ND soon after. Uterus prolapsed (?inversion) in 3rd stage. Bleeding. Reposited by dr. Given 1 unit blood. But died in 4hrs.	Hospital, Private	ND	LB	Hospital, Private	PN (Few hours)	PPH, Inversion uterus
75	Chhatt-isgarh	Bilaspur	20	SC	10	Homemaker	No	Hindu	1	Swelling and jaundice 8/12	Went to CHC with swelling, jaundice. Adv USG outside. Admitted in CHC next day, given 1 unit blood and D/S. Had convulsions that night. Taken to CHC (108). Admitted one day, inj and D/S. Cough and blood stained vomiting that night. Admitted in CHC again and given some med. Decided to go to med college as poor QoC in CHC. Pvt vehicle – took 4 hrs (traffic jam). DOA.	NA	NA	NA	Transit	AN (8/12)	Eclampsia
76	Chhatt-isgarh	Bilaspur	40	SC	Illiterate	Farm work	Yes	Hindu	11	Prev all home del. Eight living children. No ANC. Breathlessness and bleeding at term	Bleeding at term. Taken to CHC (108). Refd to med college (2 hrs). USG in pvt centre. Bleeding profusely. CS at med college after 8 hrs. PPH. Died within 12 hrs. 4 units transfused.	Public, Medical college	CS	SB	Public, Medical college	PN (Few hours)	APH, PPH
77	Chhatt-isgarh	Mungeli	26	SC	5	Homemaker	Yes	Hindu	3	Prev home del. Swelling all over in prev preg. This time, swelling, breathlessness, backache.	Rxed at home by jholachap and tantrik for 3 days for backache, swelling and breathlessness. Worsened on D3 night. Could not be taken at night to hosp. Died before getting vehicle next morning.	NA	NA	NA	Home	AN (7/12)	Severe anaemia
78	Chhatt-isgarh	Mungeli	20	OBC	8	Farm work	Yes	Hindu	1	ANC with ANM (TT, IFA). Swelling hands and feet	Home del. Profuse bleeding. Taken immed to pvt hosp (20 min). DOA.	Home	ND	LB (Early ND)	Transit	PN (1 hour)	PPH

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
Home to CHC (pvt vehicle, 12 km) to DH (35 km, Pvt vehicle)	2	No data	35 Km	No data	Family members repeatedly told staff about excessive bleeding, but not recognized. Nurse and dr refused to see as duty changing time.		PPH not recognized or mxed.		1. Prevention of PPH – AMTSL, 2. Prompt recognition and Mx of PPH in DH – Oxytocics, fluids, blood
Home to pvt NH (pvt vehicle, 20 km), to CHC (pvt vehicle, 1 km) to DH (ambulance, 35 km), refd to med college (130 km), but went to pvt NH (5 km)	4	No data	No data	No data	No accountability during referral	No access to safe abortion services in public sector.	Sepsis not diagnosed or treated adeq.	Husband disabled, addicted to drugs and alcohol, did not work.	1. Family counselled on emergency readiness, 2. Availability of emg transport, 3. Access to safe abortions services in public sector, 4. Adequate post abortal care with prompt diagnosis and mx of sepsis
Home to CHC (pvt vehicle, 11km) to DH (30 km), but died before that	4	No data	45 km	No data	No accountability during referral		Inadeq mx of PPH and retained placenta in CHC.		1. Family counselled on birth preparedness and emg readiness, 2. Availability of SBA in HSC, 3. Prevention of PPH – AMTSL, 4. Prompt diagnosis of retained placenta, PPH – oxytocics, fluids, 5. Accountable referral – emg transport, continuing care, accompaniment, 6. Adeq Mx of retained placenta in CHC – Manual removal, blood, fluids, oxytocics
PHC (1.5 km, pvt vehicle) to DH (50 km, pvt vehicle)	2	No data	50 km	1200	Admitted in DH for 8 hrs for CS – not attended to and died in the DH.	Unavailability of drugs and basic supplies.		Husband alcoholic – does not work. No money.	1. Family counselled on birth preparedness and emergency readiness, 2. Sought care without delay, 3. Availability of emg transport, 4. Prompt CS in DH
Home to CHC (29km)	1	No data	29 km	350	No access to safe abortion services.		No Rx for incomplete abortion with bleeding in CHC – only inj given, no evacuation	Husb wanted her to continue preg, so did not tell him about abortn.	1. Access to contraception, 2. Access to safe abortion services in public sector, 3. Family counselled & aware of danger signs, 4. Availability of post abortal care, 5. Availability of emg transport, 6. Prompt recognition and Mx of abortion complication in CHC – uterine evacuation, fluids, blood.
Home to CHC (108, 10 km) to Med college (108, 32 km)	1	No data	42 km	7000	No access to emrgency obstetric care, 11 hrs after admission CS performed		Sepsis not diagnosed or treated adeq in med college	Reliance on traditional healer in emergency	1. Family counselled on birth preparedness and emergency readiness, 2. Sought care without delay, 3. Availability of emg transport, 4. Accountable referral from CHC – accomp-animent, continued care. 5.Prompt CS in med college under adeq asepsis, 6. Adeq PN care in med college, 7. Prompt recognition and mx of sepsis
Mitanin to PHC (108, 12 km) to CHC (108, 4 km) to med college (pvt vehicle, 3500 rs)	3	No data	16 km	3500			1. Twins not diagnosed in AN period 2. Inadeq mx of PPH in med college. Blood transfusion not adeq.	Early marriage (16 yrs), Son preference	1. Adeq ANC with diagnosis of twins. 2. Family counselled on birth preparedness and emergency readiness. 3. Accountable referral – Accompaniment, continuing care, 4. Prevention of PPH – AMTSL, 5. Adeq Mx of PPH – Oxytocics, fluids, adeq blood.
No	1	No data	No data	No data			1. Third stage mx inappropriate. 2. Inadeq mx of PPH. Blood transfusion not adeq.		1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of PPH – Oxytocics, fluids, blood
Went to CHC thrice (4 km), Then to med college (20 km,took 4 hrs, 700 rs, pvt vehicle)	4 (CHC 3 visits)	No data	4 km	13000	No access to prompt emergency medical care		Poor QoC in CHC – did not pick up complications, sent woman with eclampsia home.		1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Prompt recognition of complication in CHC and initiation of MgSO4, 4. Accountable referral with emg transport, accompaniment and continuing care
Home to CHC (108) to med college (20 km)	2	No data	6 km	600	Sent from med college to pvt centre for USG	Access to contraception	1. APH not recognized as emergency – CS after 8 hrs. 2. Inadeq Mx of PPH in med college.		1. Adequate ANC 2. Counselling on birth preparedness and emergency readiness for family 3. Prompt recognition of APH and accountable referral from CHC – stabilizing care (fluids), accompaniment, continuing care, 4.Prompt care at med college – prompt CS, blood 5. Adeq Mx of PPH – fluids, oxytocics, blood
No	0	No data	20 km	No data				No recognition of danger signs – delay. Reliance on trdnl healing in emergency.	1. Adequate ANC and Rx of anaemia, 2. Family counselled on danger signs and sought care, 3. Availability of emg transport
No	1	No data	21 km	No data			Probable Anaemia - diagnosis and Rx inadeq		1. Adequate ANC and Rx of anaemia, 2. Family counselled on birth preparedness and emg readiness, 3. Availability of emg transport

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
79	Chhattis-garh	Bilaspur	24	SC	8	Wage work	Yes	Hindu	3	ANC at VHND – Told to have severe anaemia (Rx?). Severe headache, chest pain at 9/12	Headache, chest pain at 9/12. Jhadphook at home. Went to PHC after 6 hrs as no improvement. Nurse refd to med college. But compounder promised to rx at home. So went home. Compounder transfused 1 unit blood at home. Seizures after 6 hrs. Compounder refd to med college. Died in transit.	NA	NA	NA	Transit	AN (9/12)	Eclampsia, severe anaemia
80	Chhattis-garh	Bilaspur	24	ST	MA	Homemaker	Yes	Hindu	1	Joint pains, chest and stomach pain seasonally. Sick during early preg. ANC in VHND – low Hb, low weight (35kg)	Labour, admitted in pvt hosp. Swelling, chest pain post delivery. Transfused 1 unit blood. Irritable, abnormal behaviour. Died 12 hrs later.	Hospital, Private	ND	LB (late ND)	Hospital, Private	PN (12 hours)	Severe anaemia
81	Assam	Chirang	21	OBC	7	Homemaker	Yes	Hindu	1	ANC (Only TT). Did not take IFA. Was anaemic. ASHA did not counsel.	Labour. Called 108, but delivered at home before that. So 108 sent back. Worsened next day. Taken to state disp (no dr), then to pvt NH. Kept for a few days - jaundice – LAMA and taken to Ojha, but worsened. Finally to pvt (refused), then pvt hosp – died.	Home	ND	LB	Hospital, Private	PN (7 days)	Severe anaemia
82	Assam	Chirang	23	ST	Illiterate	Wage worker	Yes	Hindu	2	Prev home del. Anaemia during pregnancy	ND at home by dai. Some bleeding and then breathlessness – called ojha, but died	Home	Normal	LB	Home	PN (1 hr)	Severe anaemia, ? Pulmonary embolism
83	Assam	Chirang	16	ST	7	Homemaker	Yes	Hindu	1	16 years. 3 ANC, 2 TT. Headache in late pregnancy	Labour at 4 am. Husband away, so delay. ASHA called 108 – went to CHC (500m,no dr), taken to civil hosp (not seen?) then to pvt NH (16 hrs after onset of labour). CS next day morning. Died the next day.	Hospital, Private	CS	LB	Hospital, Private	PN (1 day)	Obstructed labour
84	Assam	Santipur	26	ST	Illiterate	Wage worker	Yes	Hindu	3	Urinary retention in late pregnancy – drained by a pharmacist	ND at home by dai Then bleeding. Did not seek care. Died	Home	ND	LB	Hospital, Private	PN (Few hours)	PPH
85	Assam	Darang	25	Bengali Muslim	7	Homemaker	No	Muslim	2	Regular ANC in civil hosp.	8/12 – abd pain – 108 did not come – so pvt vehicle after 2 hrs – went to civil hosp. Saline, inj, tabs given. Catheterized (Reason?). Several injections given periodically. Family not informed of woman's status. Refd to med college next morning. But died soon after	NA	NA	NA	Civil Hospital	AN (8/12)	?
86	Assam	Darang	24	Bengali Muslim	Illiterate	Homemaker	Yes	Muslim	2	Regular ANC at SC	Severe headache at term. Called ojha. Worsened at night. 108 refused to come. Home delivery. Had seizures 1/2 hr later, bleeding. Almost 24 hrs later, called vehicle, but died before that.	Home	ND	LB	Home	PN (1 day)	Eclampsia, PPH
87	Assam	Darang	34	Bengali Muslim	Illiterate	Homemaker	Yes	Muslim	6	Married at 15 yrs age, ANC in SC, rations irreg from ICDS, suffered from dysentery 7/12	No Rx for dysentery. Delivered in the toilet after 3 days. Died within 2 hrs.	Home	ND	SB	Home	PN (Few hours)	?
88	Assam	Darang	21	Bengali Muslim	4	Homemaker	Yes	Muslim	2	ANC in SC.	Went to state disp for ANC at term. Told to get admitted as term. ND at state disp. Bleeding after del. Refd to civil hosp (pvt vehicle) Dr tried to give inj, but was shaking hands and legs. Died soon after.	Public, state dispen-sary	ND	LB	Public, civil hospital	PN (7 hrs)	PPH
89	Assam	Darang	26	Bengali Muslim	7	Wage worker	Yes	Muslim	2	Fever, vomiting and bleeding in 5/12.	Fever, vomiting and bleeding in 5/12. Went to State Dispensary after 2 days, stayed 3 days--no improvement, refd to Civil Hospital. Told she needed blood and D&C immediately. When Family members came after arranging blood, then doctor was not at the hospital. So blood could not be given and patient died.	NA	NA	NA	Public, civil hospital	AN (5/12)	Post abortal bleeding
90	Assam	Darang	21	Bengali Muslim	HSLC Madrasa	Homemaker	No	Muslim	1	Fall at 4/12	Fall at 4/12. Took to civil hosp. Told to be Normal. Home del at term. Stopped talking 15 min after del. Went to hosp, but died in transit.	Home	ND	SB	Transit	PN (Few hours)	? ? Pulmo-nary embolism
91	Assam	Darang	26	Bengali Muslim	6	Wage worker, Brick kiln worker	Yes	Muslim	3		Violence by husband. Went to natal family after 10 days. Had pain. Called 108, refused to come. Taken by pvt vehicle to civil hosp. Told to have IUD. Delivered SB. Family asked to arrange for blood, but could not. D/S after 5 days and saw pvt pctner. Could not afford medicines, Died that evening	Public, civil hosp	ND	SB	Home	PN (5 days)	Severe anaemia

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
Yes. PHC (½ km) to med college, but went home. Then to med college(pvt vehicle, 30 km, 500 rs), but died en route	1	No data	30 Km	1500		No dr in PHC, Rx by compounder including blood transfusion at home		Reliance on informal pctner	1.Adequate ANC and Rx of anaemia antenatally, 2. Diagnosis of anaemia in PHC, 3.Accountable referral – with emg transport, accompaniment and continuing care 4. Prompt mx of anaemia in higher facility – blood
Home to pvt hosp	1	No data	22 Km	No data		Anaemia in AN period - not treated adequately.		Reliance on informal pctner	1.Adequate ANC and Rx of anaemia antenatally, 2. Intranatal Mx of anaemia – blood, AMTSL, 3. Adeq postnatal care with prompt Rx of complication
Yes, from state disp to pvt NH (pvt vehicle), Then ojha, then pvt NH, then private hosp	4	yes	46 Km	45000	No accountability during referrals	Anaemia in AN period - not treated adequately.	QoC in state disp not known.	Reliance on informal pctner	1.Adequate ANC and Rx of anaemia 2. Availability of emg transport, 3. Adeq PN care with prompt recognition of complications and Rx, 4. Adeq PN Mx of severe anaemia – blood, 5. Accountable referral – emg transport, continuing care, accompaniment
No	0	No	46 Km	0		Anaemia in AN period – not treated adequately.		No recognition of danger signs – delay. Reliance on trdnl healer.	1. Adequate ANC and Rx of anaemia, 2. Family counselled on birth preparedness and emg readiness, 3. Availability of emg transport, 4. Prompt recognition of danger signs and seeking care
Yes, ASHA to CHC to civil hosp (26 km) to pvt NH (7 km).	3	No	19 Km	1 Lakh	1. No care in emergency in public sector.	1. Probable anaemia in AN period -not treated adequately.	Obstructed labour not mx adeq. Delay in CS.	Husband migrant – away, so delay in decision making. Expenditure about a lakh	1. Adequate ANC and Rx of anaemia, 2. Family counselled on birth preparedness and emg readiness, 3. Availability of emg transport, 4. Prompt recognition of danger signs and seeking care, 5. Accountable referral – emg transport, accompaniment, continuing care, 6. Early recognition of prolonged labour – partogram and CS, 7. Intranatal Mx of anaemia – blood
No	0	No	30 Km	10000	No access because of poverty	Structural issues. Sold a cow for the urinary retention. No resources to go to any facility. Access also poor (rivers with a broken bridge). So decided not to seek care.		Reliance on informal pctner	1.Adequate ANC, 2. Family counselled on birth preparedness and emergency readiness, 3. Availability of SBA for home del 4. Availability of emg transport, 5. Prompt recognition of danger signs and seeking care, 6. Free and quality services in public sector
Yes, home to civil hosp to med college (30 km) (died at civil hosp)	1	No	No data	5000	Family does not know what the woman suffered from		No details of what Rx was given in civil hosp – so unable to comment on appropriateness.		1. Availability of emg transport, 2. Prompt recognition and Mx of emergency, 3. Accountable referral – emg transport, continuing care, accompaniment
No	0	No	No data	300	No access to emergency transport – asked for 108 but did not come			Reliance on informal pctner	1. Family counselled on birth preparedness and emergency readiness, 2. Sought care without delay, 3. Availability of emg transport
No	0	No	No data	0				No recognition of danger signs – delay	1. Adeq ANC, 2. Family counselled on birth preparedness and emergency readiness, 3.Sought care without delay, 4. Availability of emg transport
Yes, state disp to civil hosp	3	No	No data	5000			Inadeq mx of PPH.		1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of PPH – Oxytocics, fluids, blood, 4. Account-able referral – emg transport, stabilizing care,accompaniment, continuing care
State disp to civil hosp (10 km)	2	No	No data	7000	Although family managed to arrange blood, doctor absent, nurses did not recognize seriousness and told family to wait until doctor came when patient needed emergency care		Delay in treating incomplete abortion in state disp. Inadeq mx of bleeding, anaemia		1. Family counselled on birth preparedness & emg readiness, 2. Recognized danger signs and sought care immediately, 3. Prompt recognition of complication and initiation of Rx in state dispensary. 4. Accountable referral – Emg transport, accompaniment, continuing care, 5.Prompt care for incomplete abortion in civil hosp – uterine evacuation, blood
No	0	No	No data	2000				Madrasa teacher – did not want to go to hospital for religious reasons.	1. Family counselled on birth preparedness and emg readiness, 2. Recognized danger signs and sought care immediately, 3. Availability of emg transport
Home to civil hosp, then pvt pctner	0	No	No data	5000		1. No emergency transport, 108 refused to come. 2. Responsibility for arranging blood transferred to family	No Rx for PN anaemia for 5 days in civil hosp	Hit on the abdomen by bricks by husband, worked even till term	1. Family counselled on birth preparedness and emg readiness, 2. Availability of emg transport, 3. Adeq PN care – recognition of complications, adeq and prompt Rx

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
92	Assam	Darang	26	Bengali Muslim	Illiterate	Homemaker	Yes	Muslim	2	Regular ANC in SC. ICDS rations irreg.	Labour – went to PHC (108). No dr. Sent to state disp. ND few hrs later. Bleeding after del. Given inj, saline. Refd to civil hosp.(ambulance). Continued to bleed. Died that night.	Public, state dispen-sary	ND	LB	Public, civil hosp	PN (Few hours)	PPH
93	Assam	Dibru-garh	25	ST	Illiterate	Homemaker	Yes	Hindu	2	Past: caesarean and 7 unit blood transfusion in earlier delivery at Tea Estate Hospital.	Was anaemic and jaundice, diarrhoea in pregnancy. Admitted in TE hosp with pain for 7 days. Refd to med college in labour – ND. Baby died next day (Reason?). Bleeding after del. Given 4 units blood. Was taken to TB ward D8, put on O2. Died D9. ASHA suspended for this death.	Public, Medical college	ND	LB (Early ND)	Public, Medical college	PN (9 days)	Anaemia, TB
94	Assam	Dibru-garh	22	ST	10	Homemaker	Yes	Hindu	1	One month before delivery, cough and swelling – tea estate hosp – told to have TB verbally, no Rx	TB in AN period? Not rxed. ND in med college hosp. After 2 days, swelling of legs. Admitted some days later in TE hosp. LAMA because of Puja holidays. Lost weight. Died 1/12 later	Public, Medical college	ND	LB	Home	PN (32 days)	TB
95	Chhattis-garh	Bilaspur	27	ST	Illiterate	Agriculture	No	Hindu	4	Prev 3 miscarriages. ANC in SC and pvt (TT, IFA, abd exam).	Labour pains. Went to CHC. Refd after 6 hrs to med college. ND few hrs later. Baby admitted in NICU next day (meconium). Mother D/S D2 and waited outside NICU. Fever since D3. Readmitted in PN ward. No Rx there so family got medicines from med store for fever. Persistent fever. Fainted D7, given IV. Died soon after.	Public, med college	ND	LB	Public, med college	PN (7 days)	Sepsis
96	Chhattis-garh	Mungeli	24	OBC	Illiterate	Homemaker	No	Hindu	2	Prev obstructed labour – SB. One ANC in CHC (BP, weight, abd exam, Hb, TT).	Labour pains. Went to CHC. Admitted and given 4 inj by nurse. Pains stopped. So family took to pvt hosp. Hb 10.6. Told she needs CS. To arrange blood. Blood given (Rs 3000). Refd after blood transfusion as worsening, died before vehicle could be arranged.	NA	NA	NA	Hospital, Private	Intra-natal	Obstructed labour, ? Uterine rupture
97	Chhattis-garh	Bilaspur	24	OBC	8	Homemaker	Yes	Hindu	3	K/C/O sickle cell anaemia. Prev 2 daughters. ANC in med college. At term BP 120/90, Hb 11.8.	Labour at term. Went to med college (108, 1 hr). ND after 1 hr. Profuse bleeding. Told to nurse – did not see as she was conducting another delivery. When bleeding ++ told dr. Given IV, injections and 1 unit blood. But died within 3 hrs.	Public, Medical college	ND	LB	Public, Medical college	PN (3 days)	PPH, sickle cell anemia
98	Chhattis-garh	Bilaspur	30	OBC	2	No data	No data	No data	3	Prev 2 home del, girls. ANC in VHND (BP in 3/12 – normal). Swelling face, hands since 7/12.	ND at home by untrained dai. Well postnatally. Swelling face and hands. Seizures on D5 evening. Traditional healer at home. Raining, could not go to hosp. Went next morning to CHC. Nurse admitted, but could not find inj in CHC or med store. So refd to med college after 1 hr. Delay in admission in med college (rooms being cleaned, no dr). Died soon after admission.	Home	ND	LB	Public, Medical college	PN (6 days)	Eclampsia
99	Chhattis-garh	Bilaspur	17	ST	5	No data	No data	Hindu	1	No ANC. Dry cough in pregnancy. Told to be anaemic by local pctner.	Lived in a resettlement village because of tiger reserve. 10 kms from road, cut off during rains. No ICDS centre. ANM does not visit. No immunization in the village. ND at home by dai. Then bleeding ++. Decided to take to hosp after 1 hr. Delay in arranging vehicle. Died on way.	Home	ND	SB	Transit	PN (2 hrs)	PPH
100	Uttar Pradesh	Azam-garh	25	OBC	Illiterate	Homemaker	Yes	Hindu	3	Prev early ND, prev miscarriage. ANC>3 in CHC. Did not take IFA (side effects)	Labour pains. Taken by ASHA to CHC (motorbike, 2km). ND after 4 hrs. After 1 ½ hrs, some bleeding, breathlessness and heartburn. Given some inj. Worsening – refd to DH for blood transfusion (ambulance, reached after 3 hrs). Given IVF, inj, O2. Died before blood transfusion.	Public, CHC	ND	LB	Public, DH	PN (Few hours)	Anaemia in CCF
101	Uttar Pradesh	Azam-garh	22	SC	8	Agriculture	Yes	Hindu	2	Prev miscarriage, 3 ANC (IFA, TT, 2 USG). Swelling face and hands near term, blurring of vision. Seizures after 4 days	Seizures near term. Taken to local pctner (pvt vehicle after 6 hrs). Refd to pvt NH in another town (2 hrs). 2 inj, O2. Refd after 3 hrs to DH. Given 2 inj, told to have IUD, prepared for CS. But died before that.	NA	NA	NA	Public, DH	AN	Eclampsia
102	Uttar Pradesh	Banda	19	BC	8	Homemaker	No	Hindu	1	ANC in CHC. Told to be anaemic (IFA). Fever at 8/12.	Abd pain – taken to pvt dr, told not in labour. Then went to HSC – nurse said 2F dilated will deliver by evening. Gave inj. But sent home in the evening. Continued to have pain, so taken to DH next morning, told to be anaemic and refd to med college. But took to 7 different trdnl healers next 2 days. Worsened, taken to CHC on third day, refd to med college, died on way.	NA	NA	NA	Transit	AN (8/12)	? Abruption, ? Obstructed labour
103	Uttar Pradesh	Banda	21	BC	8	Wage worker	No	Hindu	2	Prev early ND. 3 ANC in VHND. Told to be anaemic. Fever and jaundice in pregnancy	Labour. Went to HSC, given inj, refd to med college after 6 hrs. Went to pvt NH. Refd to another pvt hosp. Told to have anaemia and jaundice. Given blood. Delivered SB. Unconscious after that. Died few hrs later.	Hospital, Private	ND	SB	Hospital, Private	PN (Few hours)	Anaemia, ? Hepatitis

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
PHC to state disp to civil hosp (10 km)	3	No	30 Km	No data		Inadequate mx of PPH in multiple facilities.			1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of PPH – Oxytocics, fluids, blood, 4. Accountable referral – emg transport, stabilizing care, accompaniment, continuing care
TE hosp to med college (30 km)	2	No	No data	10200	Was put on the floor as no beds available in the PN period. Also, family felt the wards were very unclean and that she would have survived if brought home.	Anaemia in AN period - not treated adequately.			1. Adequate ANC and Rx of anaemia, 2. Adequate intranatal Mx of prolonged labour, anaemia – partogram, Blood transfusion, 3. Prevention of PPH – AMTSL, 4. Adeq Mx of PPH – oxytocics, blood, fluids 5.Adeq PN care – Prompt recognition and Mx of complications
T.E. Hospital to Medical College Hospital (Ambulance, 30 kms, 30-40 min).	2	No	No data	7000			Inadeq Rx of TB in AN period.	Negligence by family – abandoned earlier in the hospital.	1. Adequate ANC and Rx of TB. 2. Adeq PN care- follow up to ensure TB Rx
Home to CHC to med college (108, 30 km)	2	No data	19 Km	No data	Family had to buy medicines from pharmacist in pvt medical store while admitted in med college	Inadequate mx of PPH in multiple facilities.	Sepsis after inst delivery – QoC in infection control inadeq. Not diagnosed or treated adeq.		1.Adeq asepsis during delivery, 2. Adeq PN care – recognition of complication and prompt Rx
CHC (12 km), taken by family to pvt hosp (pvt vehicle, rs 400, 30 min, 8 km)	2	No data	7 km	400	Responsibility of arranging blood transferred to family – contributes to delay	Prev obstructed labour. Not picked up as high risk	Probable labour augmentation by nurse in CHC.		1. Adeq ANC 2. Family counselled on birth preparedness, emergency readiness. 3. Adeq Mx of labour in CHC – partogram, early diagnosis of obstructed labour, no IM oxytocin for augmentation. 4. Accountable referral – emg transport, accompaniment. 5. Prompt CS.
No	1	No data	14 km	No data			Inadeq mx of PPH in med college. Inadeq blood transfusion.	Son preference	1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of PPH – Oxytocics, fluids, blood
Home to CHC (pvt vehicle, 30 min) to med college (108, 1000rs)	2	No data	18 km	2600	1. Informal payment for 108 2. Had to purchase medicines at med college	Delay in both CHC and med college – no drugs. No triage for emergency.		1. No recognition of danger signs – delay, 2. Son preference	1. Family counselled on birth preparedness and emg readiness, 2. Recognized danger signs and sought care immediately, 3. Availability of emg transport, 4. Initial Mx in CHC- MgSO4,. 5. Accountable referral – stabilizing care, accompaniment, continuing care, 6. Prompt Rx in med college
Home to CHC (pvt vehicle, 2000 rs), died on way	0	No data	9 km	2000		Structural issues – remote hamlet with no roads, transport. No facilities made for resettlement village.		Early marriage (17 yrs)	1. Availability of roads, and other facilities for resettlement village. 2. Travel provision made for ANM for ANC. 3. Family counselled on birth preparedness, emg readiness. 4. Availability of emg transport specific to terrain, 5. Availability of SBA for home delivery. 6. Prompt recognition of danger signs and seeking care.
Home to CHC (ASHA, motorbike, 2 kms). Refd to DH after del (ambulance, 40km, 1 hr)	2	No data	40 km	No data		Anaemia in AN period -not treated adequately.	Inadeq Mx of PPH and anaemia in the PN period.		1. Adequate ANC and Rx of anaemia, 2. Prevention of PPH – AMTSL, 3. Prompt Mx of PPH – Oxytocics, fluids,blood, 4. Adequate postnatal care – early recognition of complication and mx. 5. Accountable referral – Emg transport, accompaniment, continuing care
Home to local pctner (pvt vehicle, 8 kms, 300rs), to pvt NH (pvt vehicle, 8 kms, 300rs), to DH (40 kms, 2 hrs)	3	No data	50 km	No data			Inadeq Mx of eclampsia in pvt sector.	1. No recognition of danger signs – delay, 2. Reliance on informal pctner, pvt sector.	1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Availability of emg transport 4. Prompt recognition of complication in pvt clinic and initiation of MgSO4, 5. Accountable referral with emg transport, accompaniment and continuing care
Yes, pvt NH (14 kms, bike), then HSC (10kms, bike), then DH (35 km, bike) refd to med college. Went to CHC after 2 days (pvt vehicle, 22 km), refd to med college (pvt vehicle, 150 km). Died in transit	4	No data	35 km (in MP)	No data	No accountability during referral – no follow up to see if patient indeed went.	Anaemia in AN period -not treated adequately.		Reliance on informal pctner, trdnl healer in emergency	1. Adequate ANC and Rx of anaemia, 2. Adequate intranatal Mx of anaemia, prolonged labour – partogram, 3. Accountable referral with accompaniment, emg transport. 4. Prompt Mx of prolonged/obstructed labour
Home to HSC (bike, 1 km) to med college. Went to pvt NH (pvt vehicle, 100km, 5 hrs) and then pvt hospital (pvt vehicle, 5 km).	3	No data	42 km (DH)	No data		Anaemia in AN period -not treated adequately.	Danger signs – fever, jaundice – not recognized by HSC.	No recognition of danger signs – delay	1. Adequate ANC and Rx of anaemia, 2. Adequate intranatal Mx of anaemia, – Blood transfusion, 3. Prevention of PPH – AMTSL, 4. Postnatal Mx of anaemia – blood

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
104	Uttar Pradesh	Banda	30	SC	Illiterate	Wage work	No	Hindu	6	Prev 5 living children. No contraception. Unwanted pregnancy.	Unwanted pregnancy. Confirmed at 4/12. Went to ANM's house – tablet inserted in vagina and sent home. Profuse bleeding next day. ANM came home and gave inj. Taken to ANM's home few hrs later as bleeding continued. Given some more inj. Continued to bleed and died a few hrs later.	NA	NA	NA	ANM's home	AN (4/12)	Unsafe abortion, Post abortal bleeding
105	Uttar Pradesh	Mirzapur	20	Yadav	9	Homemaker	No	Hindu	1	Swelling face and hands since 6/12. Altered sensorium, abd pain 8/12.	Edema since 6/12. Altered sensorium. Traditional healer at home. After few hrs, ASHA called – taken to PHC by ambulance, sent to DH. Sent to med college, but died in transit. No Rx in between anywhere.	NA	NA	NA	Transit	AN (8/12)	Severe pre eclampsia
106	Uttar Pradesh	Mirzapur	30	Pal	5	Wage work	No	Hindu	4	No ANC at all. Very weak, could not speak (?unconscious) at 8/12	Taken to PHC as stopped speaking (?unconscious). Given IVF. Then refd to CHC. Admitted 8 d. Then D/S and tradnl healing. Worsened. Then taken to mission hosp by natal family. Brought home after 2-3 days and died next day.	NA	NA	NA	Home	AN (8/12)	?
107	Uttar Pradesh	Mirzapur	25	Brahmin	10	Homemaker	No	Hindu	3	3 Prev pre term del, neonatal death.	ANC in PHC. ? Had heart disease earlier? PROM at term. Pvt vehicle taken to DH by ASHA. ND in 3 hrs. Had seizure 10 min after del. Given tabs and then shifted to ward. Chest pain after 3-4 hrs. Given IVF, inj. Died within 2-3 hrs.	Public, DH	ND	LB (early ND)	Public, DH	PN (Few hours)	?, Pulmonary embolism
108	Gujarat	Bharuch	22	ST	5	Homemaker	No	Hindu	1	ANC in VHND. Admitted in NGO hosp 8/12 with severe anaemia (4.5 gms Hb). Diagnosed to have dengue.	Admitted in NGO hosp in 8/12 – severe anaemia and dengue. No improvement after 10 days, so refd to med college (ambulance). Admitted and asked to buy medicines for Rs 11000 outside. Came back home since no money. Pre term del next day. Early ND. Fever, swelling after that. Shown to local pctner D7. Given IVF and inj. Worsened 4 days later. Died while being taken to local pctner on bike.	Home	ND	LB (early ND)	Transit	PN (within 15 days)	Severe anaemia, Dengue
109	Gujarat	Bharuch	22	Pal	Illiterate	Wage work	Yes	Hindu	2	1 ANC in VHND.	Altered sensorium at 4/12. Called tradnl healer, then MPW home. Worsening, unconscious. Took to pvt hosp (25km, pvt vehicle). Refd to med college. But went to another pvt hosp. Admitted in ICU and treated, but died next day. Hosp slip diagnosis – Hepatitis, ARDS, with convulsions, septicaemia	NA	NA	NA	Hospital, Private	AN (4/12)	Hepatitis, ? Encepaha-lopathy
110	Gujarat	Bharuch	24	ST	Illiterate	Homemaker	No	Hindu	2	ANC in pvt dr. Severe abd pain and fever at 9/12.	Severe abd pain and fever at 9/12. Brought to NGO hosp. Diagnosed to have sickle cell disease. Died despite rx in 2 days.	NA	NA	NA	Hospital, NGO	AN (9/12)	Sickle cell Disease – crisis
111	Gujarat	Bharuch	25	Brahmin	Graduate	Homemaker	No	Hindu	2	Tiredness and giddiness since early preg. Admitted twice in pvt hosp for rx. Adv admissn at term for delivery, but refused as there was a religious fn at home.	ND at home before dai could arrive. Profuse bleeding. 108 was busy so another 108 had to come from 70 km away and came after 1 ½ hrs. Was unconscious by then. 108 took to CHC, no dr/nurse there. So went to pvt NH. Admitted and given 5 units blood. Breathlessness D2, so refd to another pvt hosp, given 1 more unit. But worsened. So refd to med college after 11 hrs. In 108, but vehicle broke down in between. Another 108 called and taken to med college (dr and nurse accompanied), but died before reaching.	Home	ND	LB	Transit	PN (3 days)	Severe anaemia, PPH
112	Gujarat	Anand	31	SC	7	Homemaker	No data	No data	4	Prev 2 girls and a boy (visually impaired) This preg because of son preference. 3 ANC in HSC (BP 110/70, Hb 9.5). USG monthly till 8/12, then weekly.	Labour at term, Went to charity hosp, sent home, but pains increased and went back that night Started pushing soon after and had ? seizure (eyes fixed stare and bleeding from mouth) Dr called in 15min and inj given. Physician called – heart only 25% working – shifted to ICU of another hosp, ventilator. Died within an hour.	NA	NA	NA	Hospital, Private	Intra-natal	Heart disease
113	Gujarat	Anand	27	Vaghela	No data	No data	No data	No data	1	ANC in SC. Refd to PHC in 7/12 as high BP	Refd to PHC at 7/12 as BP high. Refd from there to pvt hosp (chiranjeevi). Refd from there to charitable hosp Suspected to have heart disease there and sent to another charitable hosp. Diagnosed to have hole in heart, given med. Labour at term – taken back to this charitable hosp (108). CS – LB. Was in ICU, seizure on D3 after shifting to ward. Shifted back to ICU. Relatives asked to arrange blood – neg group so got after 6-7 hrs with difficulty after checking in 3 blood banks. D/S and taken home, continued to have seizures, so taken to another pvt hosp – no improve-ment after 2-3 days, so taken home. Died next day.	Hospital, Private	CS	LB	Home	PN (10 days)	Heart disease
114	Gujarat	Anand	20	SC	10	No data	Yes	Anand	1	ANC in HSC and pvt hosp – diagnosed twins. Had cervical cerclage.	Went at 8/12 to pvt hosp in labour. Delivered twins by ?vacuum. Altered sensorium after that. So refd to another pvt hosp – MRI, CT done – no improvement after rx. So refd to another pvt hosp – told to have severe anaemia. No improvement. Died D6.	Hospital, Private	Instru-mental	LB (Twins)	Hospital, Private	PN (6 days	?

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
No	0	No data	35 Km (DH)	No data	No access to safe abortion services.	ANM arrested after this death.		Husband did not agree to termination. So gave anklets for the abortion.	1. Access to contraception, 2. Access to safe abortion services in public sector, 3. Family counselled and aware of danger signs, 4. Availability of post abortal care, 5. Availability of emg transport, 6. Prompt recognition and Mx of abortion complication – uterine evacuation, fluids, blood.
ASHA to PHC (ambulance) to DH (102) to med college (reserve auto). Died in transit.	2	No data	No data	No data			Inadeq mx of eclampsia in multiple facilities – $MgSo_4$ not given in any facility en route.	No recognition of danger signs – delay	1.Adequate ANC & diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Availability of emg transport 4. Prompt recognition of complication in PHC and initiation of MgSO4, 5. Accountable referral with emg transport, accompaniment and continuing care
Yes, from PHC to DH, then to mission hosp.	3	No data	No data	No data		No ANC. Anaemia in AN period – not treated adequately.		2nd marriage, 2nd wife (first does not have children). Violence – occasionally moved out of home.	1. Adequate ANC and Rx of anaemia, 2. Family counselled on birth preparedness and emg readiness, 3. Availability of emg transport, 4. Prompt recognition of danger signs and seeking care, 5. Prompt diagnosis of emergency and Mx
Home to DH	1	No data	No data	No data					1. Adequate PN care – diagnosis and Mx of complication
Yes, NGO hosp to med college (ambulance)	2	Yes	45 km (NGO hosp)	3000	Asked to buy drugs from outside in med college – no follow up to see what happened to pt	Lack of availability of free medicines			1. Family counselled on birth preparedness and emergency readiness, 2. Prompt free Rx in med college with free drugs available
Pvt hosp. Refd to med college, but went to another pvt hosp	2	Yes	25 km (NGO hosp)	10000		No ANC. Anaemia in AN period – not treated adequately.		Reliance on pvt sector.	1. Prompt provision of tertiary critical care
No	1	Yes	10 km (NGO hosp)	0	Marriage in other caste, so not picked up as tribal, high risk of sickle cell disease and AN screening missed.				1. Adequate ANC and diagnosis of sickle cell anaemia in a high prevalence group
Yes. Home to CHC (no dr) so pvt NH. Then pvt hosp. Refd to med college, but died before reaching.	3	Yes	40 km	37000		Access to emergency transport –first- 108 came late. 2nd 108 out of order on the way in 3rd 108 patient died, Anaemia in ANC period not diagnosed			1.Adequate ANC and Rx of anaemia antenatally, 2. Family counselled on birth preparedness and emg readiness, 3. Availability of emg transport, 4. Propmpt Mx of PPH – fluids, oxytocics in CHC
Yes. Home to charity hosp (rickshaw, 8 kms, ½ hour) Then pvt hosp.	2	No data	No data	No data	Irrational care during preg (overmedicalizn) – Multiple USG			Son preference	1. Adequate ANC and diagnosis of probable heart disease, 2. Adeq intranatal Mx of heart disease
Yes. From HSC to PHC to pvt hosp to charitable hosp to another charitable hosp (in AN period). Then for del – charitable hosp, home, then to pvt hosp	6	No data	No data	No data	Responsibility of arranging blood transferred to family – contributes to delay				1. Adequate postnatal care and mx of complications
Yes, pvt hosp to another pvt hosp to another pvt hosp	3	No data	No data	1.5 lakhs		Anaemia in AN period -not treated adequately.			1. Adequate postnatal care and mx of complications

Sr. No.	State	District	Age of Woman as	Caste	Edu-cation	Occu-pation	BPL Status	Religion	Total No. of pregnancies so far (including this one)	Any significant history in past or present pregnancy	Course of events	Place of delivery	Type of delivery	Outcome of delivery	Place of Death	Time period of death	Probable medical cause of death
115	Rajast-han	Udaipur	32	ST	Illiterate	Migrant labourer, Wage work	Yes	Hindu	5	2 ANC by ANM (TT,IFA, Hb 9.6, BP Normal)	Labour at term. Taken to CHC.ND soon after. Retained placenta. Given inj by nurse. Called dr after 1 hr. Bleeding +. Given IVF, inj. Refd to med college after 2 ½ hrs. No vehicle in CHC, so told to arrange pvt vehicle. Husband went back to village to arrange money, got pvt vehicle (4 hrs after del). Died in transit.	Public, CHC	ND	LB (Late ND)	Transit	PN (Few hours)	PPH, Retained placenta
116	Rajast-han	Thoulpur	21	OBC	5	Migrant labourer, Wage work	Yes	Hindu	1	No details from family on ANC.	Migrant labourer in city in neighbouring state. Labour at term, went to pvt hosp in this city. Told to have twins with one breech,delivered by CS that night. Sx lasted 1 ½ hrs, shifted to ward. 2 hrs later, abd swollen, abd pain, restlessness, no urine output, breathless. Seen by dr and taken back for Sx. Complicns during second sx, so refd to med college hosp in same city after 3 hrs. Died soon after admission there.	Hospital, Private	CS	LB (Twins, Late ND both)	Public, Medical college	PN (Few hours)	CS compli-cation
117	Rajast-han	Bharat-pur	21	OBC	Illiterate	No data	No data	No data	1	3 ANC, Hb 9, Swelling during pregnancy	Admitted in DH in labour. Told to have high BP and anaemia, needs CS. Given 1 unit blood, CS done. Did not regain consciousness after CS. Abd bloating, restlessness, no urine output on D1. Refd to med college (185 km) 36 hrs after CS. Took 5 hrs to reach. Admitted, given inj, O2. Died soon after. Told to have brain hemorrhage.	Public, DH	CS	LB	Public, Medical college	PN (2 days)	Severe pre eclampsia
118	Rajast-han	Bharat-pur	24	SC	9	No data	No data	Hindu	2	3 ANC. Swelling feet, hands, face. Tiredness. Weight 36 kg	Admitted in CHC in labour. Given 8-10 inj to increase pains. No improvement. Refd to DH after 8 hrs. Family took to pvt hosp. Told to have IUD, obstructed labour. CS after 7 hrs. Abd bloating, pain, breathlessness after CS. Refd to med college after 2 days. Family took to DH, but refd from there to med college (185 km). Died in transit	Hospital, Private	CS	SB	Transit	PN (2 days)	Obstructed labour, sepsis
119	Rajast-han	Chittor-garh	22	General	8	No data	No data	Muslim	3	Prev 2 miscarriages. Marital home in MP. ANC in pvt NH in natal home in Rajasthan. Told to be anaemic.	Admitted with PROM in pvt hosp in 9/12. Inj given to induce labour, but no pains. So CS after8 hrs (gynae called from town 50 km away). 2 units blood got from this town. Given 1 unit blood after sx. 2nd unit started next day – started feeling restless. So transfusion stopped, blood bag left hanging on IV stand – same blood bag started after 6 hrs. Again restlessness, but transfusion continued. Breathlessness, restlessness, frothing from mouth. Taken in hospital vehicle by dr to next town (50 kms), but died en route.	Hospital, Private	CS	LB	Transit	PN (1 day)	Blood transfusion reaction
120	Rajast-han	Udaipur	20	OBC	No data	No data	No data	Hindu	1	ANC in pvt hosp, Blood and urine inv done, told to be normal	Labour in 9/12. Went to PHC (½ km). Told to be in early labour, so returned home and went back 5 hrs later. Delivered by ANM – left home immed after del. Staff nurse left in ½ hr saying the night duty nurse will arrive shortly. Started bleeding 1 hr after del. Family tried to call dr 8-10 times, came after 1 hr and refd to med college. No vehicle in PHC. Arranged pvt vehicle (600 rs) to med college(40 km). Died in transit.	Public, PHC	ND	LB (END)	Transit	PN (Few hours)	PPH
121	Rajast-han	Dungar-pur	20	ST	2	Migrant labourer, Wage work	No data	Hindu	1	ANC with ANM. Told to have transverse lie in late pregnancy in taluk hosp.	Labour at 9/12.Went to taluk hosp. Seen by nurse and told to go to higher centre. Went to see lady dr of taluk hosp at home, again told to go to higher centre. Went to DH in next state (100 km). CS done immed, increased bleeding, was in OT for over 6 hrs. Then told that she needed blood and to take to med college (100 km) . Admitted there, no details of rx, died next day.	Public, DH	CS	SB	Public, Medical college	PN (2 days)	PPH, CS compli-cation
122	Rajast-han	Dungar-pur	20	OBC	5	No data	No data	Hindu	2	ANC in CHC – told to be normal.	Went in labour to DH. Given inj to augment labour for 3 days. No progress. Died on 3rd day.	NA	NA	NA	Public, DH	Intra-natal	Obstruc-ted labour
123	Gujarat	Banas-kantha	No data	ST	No data	Farm work	No data	No data	4	Had chest pain in prev preg. Details of ANC not known to husband.	Chest pain in 8/12. Taken to PHC. Adv to go to higher centre. Went home and then to pvt clinic in near by town, refused in 2 clinics, so stayed overnight at relatives and went to civil hosp next morning. Admitted, given IVF and told to take to med college (145 km). Went home next day. The day after, severe chest and abd pain. Went back to pvt clinic in next town, refd to civil hosp, refd to med college, but died before vehicle arranged.	NA	NA	NA	Public, civil hosp	AN (8/12)	?
124	Gujarat	Kheda	21	No data	12	LIC agent	No data	No data	1	ANC in HSC. TT and IFA	Went at term to pvt NH. ND in a few hours. Profuse bleeding, Given prostaglandin inj. Refd to CHC after 2 hrs. DOA.	Hospital, Private	ND	LB	Transit	PN (few hours)	PPH

Referral	Total No. of facilities visited	Health system Enquiry	Nearest CEmOC facility	Out of pocket expen-diture (Rs.)	Violation of rights during care	Gaps in health system	Gaps in Technical care	Gaps in Social domain	Missed opportunites that would have saved life
Yes, home to CHC (pvt vehicle, 500 rs) to med college (pvt vehicle)	1	No	15 Km	2000	No accountability during referral – no referral transport provided. No accompaniment by health staff of patient in critical condition.		Delay in managing retained placenta, PPH.		1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of retained placenta, PPH – Oxytocics, fluids, blood, 4. Accountable referral – emg transport, accompaniment, continuing care
Yes, pvt hosp to med college	2	No	Same city	29000		Twins not diagnosed in pregnancy	Poor QoC in CS.		1. Adequate ANC and diagnosis of twins, 2. Family counselled on birth preparedness, emergency readiness, 3. Sx under good quality conditions, 4. prompt diagnosis and Mx of intra op complication, 5. Accountable referral – Emg transport, accompaniment, continuing care
Yes, DH to med college (ambulance, 185 km, 5 hrs)	2	No	Same city	22000			Inadeq mx of severe preeclampsia.		1. Adequate ANC and diagnosis of pre eclampsia with prompt mx, 2. Counselling on emergency readiness for family 3. Prompt recognition of complication in DH and initiation of MgSO4, 5. Accountable referral with emg transport, accompaniment and continuing care
Yes. From CHC to DH. Went to pvt hosp. Refd to DH, then to med college (185 km). Died in transit.	3	No	35 km	35000			Irrational use of oxytocin in labour. Obstructed labour not diagnosed in CHC.	Reliance on pvt sector.	1. Adequate mx of labour with early diagnosis of obstructed labour – partogram. 2. No augmentation of labour with intramuscular oxytocin. 3. Accountable referral – emg. Transport, accompaniment, continuing care, 4. Prompt CS under aseptic, quality conditions. 5. Adeq PN care – prompt recognition and mx of complications
Yes, pvt NH to next town (50 km, hosp vehicle), died in transit	1	No	45 km	10000			Unnecessary blood transfusion. PN anaemia could have been managed with iron sucrose or oral iron		1. Appropriate postnatal anaemia Mx with oral iron, iron sucrose.
Yes, PHC to med college (pvt vehicle, 40 km, 600 rs)	1	No	40 km	10000	Left unattended immed after del. No accountability during referral – no emergency transport.	Two drs posted in PHC, but both do not stay there.	Inadeq Mx of PPH – delay		1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of PPH – Oxytocics, fluids, blood, 4. Accountable referral – emg transport, stabilizing care,accompaniment, continuing care
Yes, taluk hosp to DH (next state, 100 km) to med college (100 km)	3	No	100 km	8500		Transverse lie detected AN, but no plan for delivery			1. Family counselled on birth preparedness and emergency readiness, 2. Accountable referral with emg transport, accompaniment, continuing care, 3. Prompt CS. 4. Adeq Mxof PPH – Oxytocics, fluids, blood
Home to DH	1	Yes	No data	1000	Given 1500 rs informal payment to dr to do CS.		Obstructed labour not diagnosed.		1. Prompt diagnosis of obstructed labour – partogram and CS
Yes. PHC to 2 pvt clinics to civil hosp to med college (back and forth with going home in between)	4	No data	No data	No data				Had one son earlier, but wanted one more as she was afraid of her only son dying and then being abused by her husband.	1. Prompt diagnosis of condition in PHC 2.Family counselled on birth preparedness and emergency readiness, 3. Sought care without delay, 4. Availability of emg transport
Yes, pvt hosp to CHC	2	No data	No data	No data		No Hb in ANC according to pvt dr.	Obstructed labour not diagnosed.		1. Prevention of PPH – AMTSL, 2. Adequate third stage mx, 3. Prompt recognition and Mx of PPH – Oxytocics, fluids, blood, 4. Accountable referral – emg transport, stabilizing care, accompaniment, continuing care

List of abbreviations for Annexure 1

Abbreviation	Expansion
?	Could not be ascertained
? diagnosis	Probable diagnosis, but uncertain
AMTSL	Active Management of Third Stage of Labour
AN	Antenatal
ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
APH	Antepartum haemorrhage
AW	Anganwadi
BP	Blood Pressure
BPHC	Block Primary Health Centre
BPL	Below Poverty Line
CCF	Congestive cardiac failure
CHC	Community Health Centre
CS	Caesarean section
d	days
D Number	Day Number
DH	District Hospital
DOA	Dead On Arrival
D/S	Discharged
Emg	Emergency
END	Early Neonatal Death
FM	Foetal movements
Hb	Haemoglobin
H/O	History of
HQ	Headquarters
hr	hour
HSC	Health Sub Centre
IFA	Iron folic acid
IUD	Intra uterine death
IVF	Intra venous fluids
K/C/O	Known Case of
LAMA	Left against medical advice
LB	Live birth
MSB	Macerated Stillbirth
MTP	Medical Termination of Pregnancy
Mx	Management
NA	Not applicable
ND	Normal delivery
NH	Nursing Home
NICU	Neonatal Intensive Care Unit
NK	Not known
Number/12	Number of months
OBC	Other Backward Caste
OT	Operation Theatre
PHC	Primary Health Centre
PHU	Public Health Unit
Plts	Platelets
PN	Postnatal
PNC	Postnatal care
PPH	Post-partum haemorrhage
QoC	Quality of Care
RH	Rural Hospital
rpt	repeat
Rx	Treatment
SB	Stillbirth
SBA	Skilled Birth Attendant
SC	Scheduled Caste
SDH	Sub District Hospital
ST	Scheduled Tribe
Sx	Surgery
TB	Tuberculosis
TBA	Traditional Birth Attendant
TE	Tea Estate
TT	Tetanus toxoid
USG	Ultrasonogram
UTI	Urinary Tract Infection
VHND	Village Health and Nutrition Day

Annexure 2

Tool for social autopsy of maternal deaths

Annexure 2

Final version of social autopsy tool

Name of deceased woman	Age	Caste (Please tick appropriate option and specify name of the caste) SC/ST/OBC/BC/Others Name of caste:
Education (Tick appropriate option) None/1-5/ 6-10/ 11-12/ Diploma/Graduate/ Postgraduate	Religion	Certified BPL (Tick appropriate option) Yes/No
Date and Time of Death	When did death occur (Tick appropriate option) Antenatal/ Intra-natal/ Postnatal/ Abortion	Place of Death (Tick appropriate option) Home/During transit/Facility If facility, specify name of facility and whether public/private.
Husband's name	Husband's education	Village
Block	District	State
Date of Investigation (Indicate all the dates)	Name of Investigators/ Designation	Name of the respondents and relation with deceased

I. Background information

1. Type of family

   a) Joint

   b) Nuclear

	Male	Female	Member of SHG/PRI/ Co-operative/ASHA/ANM (if any please specify)
Total members			
Working adults			
Children under 5			
Elderly above 70			

2. Socio economic status of family

a) Does the family own any land? (tick appropriate option)

i. Landed (cultivated)
ii. Landed (Not cultivated)
iii. Landless

b) Type of house lived in

i. Pucca
ii. Semi pucca
iii. Kutcha

c) Household income from all sources monthly (NREGA, wage work, agricultural income etc)

3. Does the family have a RSBY card? Yes / No

If yes, did the deceased woman receive benefits under RSBY? Yes / No
(Please include any other state specific schemes as relevant to the context)

4. Did the woman get rations from the ICDS during this pregnancy? Yes / No

If yes, did she eat the provided take home ration? Yes / No

5. Any history of migration/displacement in the family - Did the deceased woman or her husband migrate seasonally for work?

a) Yes (specify and give details)
b) No

II. Personal history of deceased woman

1. Age at marriage (Write NA if not married)

2. Occupation of the deceased woman (Tick all appropriate options)

Home maker	Government employee
Agricultural labour	Formal private sector (please specify)
Cultivator	Self employed (please specify)
Non agricultural labour	Others (please specify)

3. Did the woman receive maternity leave/maternity benefits during this pregnancy? Give details.

Narrate in the respondents' own words the events leading up to the woman's death

Referral (Narrate it in the story based on the guidelines below) Field staff should also write distance covered in kms and number of facilities visited.

1. Which facility did the woman first go to?
   (please specify whether it is public/private, SC/PHC/CHC etc.)
2. How far is it from her home? (write in km)
3. How was she taken from home to hospital?
4. How many facilities did she totally visit?
5. What was the reason for referral?
6. Did nurse or doctor give referral note while referring her to other facility?
7. Did nurse or doctor explain to family members reasons for her referral?
8. Did any health care provider accompany her during referral?
9. How was she taken from one facility to another?
10. How much time did the emergency ambulance/vehicle take to reach after the call was made?
11. If the woman used 108 service, did 108 ambulance driver demand money?
12. How much time did it take to reach from home to hospital and from one facility to another?
13. What treatment did she receive during transit/ facility?

III. Reproductive history of deceased woman

Pregnancy number	Outcome of pregnancy (Write appropriate option - whether abortion, live birth, stillbirth)	Place of delivery (Home or health facility or in transit) Write NA if abortion	Whether any complications during delivery or after (Fill Yes/No)	If yes, explain (For eg, increased BP, bleeding, prolonged labour, caesarean, sepsis etc.)	Sex of the child (M/F)	Is the child alive now? Yes/No

Was any contraceptive used by woman or her husband before the most recent pregnancy?

IV. Medical history of deceased woman

Did the deceased woman ever have any illness for which she needed long term medication? If yes, specify.

V. Details of current pregnancy

1. Number of antenatal check ups during the current pregnancy

   a) None

   b) 1

   c) 2

   d) 3

   e) >3

2. Place of antenatal checkups (Tick more than one if different places were visited at different times)

VHND	District hospital
PHC	Medical college hospital
CHC	Private sector (please specify)
	Sub district hospital

3. Services received during antenatal care for the most recent pregnancy (Tick the appropriate response and specify number of times wherever information is available)

Service	Yes	No
Blood pressure recording		
Abdominal examination		
Hemoglobin testing		
IFA tablets (at least 100)		
Tetanus toxoid injections		

4. Were you ever told that her hemoglobin levels were low or that she did not have enough blood? (This could be corroborated with the hemoglobin level mentioned in the ANC card if measured)

5. Did any health worker inform the woman or a family member about possible options of places for delivery and help the woman/family decide on this?

6. Did any health worker inform you (family member) about possible danger signs during pregnancy, delivery and post partum period? If yes, can you remember a few points of what they said?

7. Did any health worker inform you about what to do in the event of an emergency - whom to contact, where to go, how to call for ambulance?

DEATHS DURING THE ANTENATAL PERIOD

Use this format for deaths that took place in the antenatal period before the onset of labour. If death was due to abortion related causes, use the form for deaths due to abortion instead.

1. Specify the month of pregnancy in which death occurred.

2. Did the woman have any problems during the antenatal period

   a) Yes
   b) No
   c) Don't know

3. If yes, tick the problems from the table below

Headache	Bleeding p/v
Oedema	No foetal movement
Anaemia	Fits
Breathlessness	Sudden excruciating abdominal pain
High blood pressure	High fever with rigor
Others (specify)	

   a) During which month of pregnancy did these problems occur? (There may be several months in which problems may have occurred. Record all)

   b) Did she seek any care for the same? Yes/No

   c) If yes,

      i. Where did she seek healthcare? (Record all places that she may have gone for health care)

      ii. Did she get any treatment?

      iii. Who provided it?

      iv. Details of the treatment provided during each time (Tick and write at which months of pregnancy)

Medicines	Injections
I.V. fluids	operation
Blood transfusion	Others (specify)
Lab & Radiological tests	

4. a) Was the family explained about the complications and the treatment provided to the women?

   b) Was the family provided with document/s indicating complications? If yes, please corraborate from the documents with the family.

5. a) How much time elapsed between the time the problem was perceived by the woman/her family and decision to seek care? Describe for each time care was sought

   b) If there was any delay in this, what was the reason? (Give for each time)

      i. Understanding the severity of the problem

      ii. Mobilizing funds

      iii. Arranging transportation

      iv. Others (specify)

6. If the woman had any complication and did not seek any treatment then what were the reasons, tick appropriate boxes.

Severity of complications not known	Distance of health facility
Lack of money	Lack of transport
No attender available	Provider behaviour
Beliefs and customs	Others (specify)

DEATH DURING OR AFTER INDUCED ABORTION/MISCARRIAGE

(Some of these questions are sensitive in nature and thus need to be explored gently during conversations with the family and neighbours and the responses written down in a narrative form)

1. Was the woman happy with the most recent pregnancy?.

2. If no, then

   a) Was there any attempt to end the pregnancy?
   b) Whether abortion services were sought ?
   c) What problems did she encounter when seeking abortion services?

3. Did she die while abortion procedure was being conducted?

   a) Yes
   b) No
   c) Don't know

4. In which month of pregnancy were abortion services sought? (Convert into weeks)

5. What method was used for abortion?

   a) Oral medicine
   b) Traditional vaginal herbal application
   c) By using medical instruments
   d) Any other method (specify)
   e) Don't know

6. Where was the abortion done?

   a) Home
   b) Government hospital (specify)
   c) Private hospital/clinic (specify)
   d) Any other (specify)
   e) Don't know

7. Who performed the abortion?

   a) Doctor
   b) AYUSH practitioner
   c) Nurse
   d) Informal practitioner
   e) Dai
   f) Any other (specify)

8. Did the woman have any problems during or after the abortion?

   a) Yes
   b) No
   c) Don't know

9. If yes, what was the problem?

a) Fever
b) Bleeding
c) Abdominal pain
d) Foul smelling discharge
e) Any other (specify)

10. Did she seek any care for the same?

a) Yes (specify where)
b) No

11. If no, what was the reason

Severity of complications not known	Distance of health facility
Lack of money	Lack of transport
No attender available	Provider behaviour
Beliefs and customs	Others (specify)

12. a) If yes, how much time elapsed between the time the problem was perceived by the woman/her family till it was decided to seek care for the same?

b) If there was any delay in this, what was the reason?

i. Understanding the severity of the problem
ii. Mobilizing funds
iii. Arranging transportation
iv. Others (specify)

13. a) Where did she seek healthcare? Mention all the places from where health care was sought

b) Did she get the treatment? Give details for all places approached.

c) Who provided it? Give details for all places approached.

DEATHS DURING THE INTRANATAL PERIOD

Use this format for deaths that took place during labour, during caesarean section and before the birth of the baby. For deaths that took place after the baby was born, use the form for deaths in the postnatal period

1. In which month of pregnancy did the woman start labour pains?

2. Did the woman go to any facility at the onset of labour pains? Yes / No

3. If yes,
   a) Specify the name and type of facility where care was sought?

   b) Who attended to the woman during labour?

      i. Family member
      ii. Dai
      iii. Informal practitioner
      iv. ANM
      v. Nurse
      vi. Doctor
      vii. Any other (specify)

4. Was there any problem during labour?

   a) Yes

      i. Prolonged labour (Primi >12 hrs, Subsequent deliveries >8 hrs)
      ii. Labour pains which disappeared suddenly
      iii. Excessive bleeding
      iv. Need for caesarean
      v. Fits
      vi. Breathlessness
      vii. Unconsciousness
      viii. Others (specify)

   b) No

5. If the woman was at home when the problem began,

   a) Did she seek care for the above mentioned problems?

      i. Yes (specify where, who provided the care and what treatment was provided-)

      ii. No

   b) If no, what was the reason?

Severity of complications not known	Distance of health facility
Lack of money	Lack of transport
No attender available	Fear of provider behaviour
Beliefs and customs	Others (specify)

c) How much time elapsed between the onset of the problem and deciding to seek care?

d) If there was any delay in deciding to seek care, what was the reason?

i. Understanding the severity of the problem
ii. Mobilizing funds
iii. Arranging transportation
iv. Others (specify)

e) If the woman sought care for the problem

i. Where was the treatment sought?
ii. Was she given any treatment there?

1. Yes (specify details - type of treatment, who provided, any delay)

2. No

6. If the woman was in a facility when the problem began

a) Who detected the problem?

i. Family member
ii. Dai
iii. Nurse
iv. Doctor

b) Was any treatment provided for the problem? If yes, give details - what was the treatment? Who provided it?

c) Was there any delay in providing treatment at the facility?

d) Were the family members explained about the condition of the women, treatment provided and were the give any medical document?

DEATHS DURING THE POSTPARTUM PERIOD

Use this format for deaths that have occurred after the birth of the baby

1. Place of delivery

    a) Sub health centre / PHC
    b) CHC / Sub district hospital
    c) District hospital
    d) Medical college hospital
    e) Private sector
    f) NGO / charity hospital
    g) In transit (during travel/referral to institution)
    h) Home
    i) Any other

2. Who conducted the delivery?

    a) Family member
    b) Dai
    c) ANM
    d) Nurse
    e) Doctor
    f) Informal Practitioner
    g) Any other (specify)

3. How many months pregnant was the woman when delivery took place? (mention months/weeks and also whether preterm, also mention the date of delivery)

4. How many hours/days after delivery did death occur?

5. Type of delivery

    a) Normal
    b) Assisted deliver through Instruments (forceps)
    c) Caesarean

6. Outcome of delivery

    a) Live birth (Also mention if the baby is alive now?)

    b) Stillbirth *(A stillbirth is when the baby is born dead. A fresh stillbirth is when the baby died during labour and looks like a normal infant. A macerated stillbirth is when the baby has been dead inside the uterus before the onset of labour - here the baby looks swollen, with peeling skin)*

        i. Fresh

        ii. Macerated

7. If delivered in institution, how long did she stay in the institution after delivery?

a) <12 hours
b) 12-24hours
c) 24-48 hours
d) >48 hours

8. If not stayed up to 48 hours, then what were the reasons?

9. PNC received ***(before filling this question, check whether it is applicable to the deceased woman based on her time of death)***

	Tick if PNC received	Who provided the PNC
On the day of delivery		
3rd day of delivery		
7th day of delivery		
42nd day of delivery		

10. Did the woman have any problems during the postpartum period?

Excessive bleeding	Sudden chest pain
Fever	Severe pain and swelling in the leg
Foul smelling discharge	Pain and swelling in the breast
Unconsciousness	Abnormal behaviour
Severe anaemia	Any other (specify)

a) If yes, who detected the problem?

Family member	Nurse
Dai	Doctor
AWW	Informal practitioner
ASHA	Any other

b) Did the woman seek care for the problem Yes/ No

If the woman sought care for the problem,

i. How much time was spent in taking the decision to seek care? In case of delay, reasons for the same

ii. Who provided the treatment?

iii. What was the treatment?

c) If no, what were the reasons?

Severity of complications not known	Distance of health facility
Lack of money	Lack of transport
No attender available	Provider behaviour
Beliefs and customs	Others (specify)

d) Was there any delay in providing treatment at the facility?

e) Were the family members explained about the condition of the women, treatment provided and were they given any medical documents?

RIGHTS SECTION

Quality, dignity

- Were you happy with the way the woman was treated?
- Did you face any discrimination, abuse, violence or anything which made you uncomfortable?
- Did the care provided ensure privacy and dignity? (Covering up the body, preventing men or others from coming in etc)

Grievances

- Suppose you had any grievance, question or complaint, did you know whom to approach or how to register the grievance? Was there a notice or a toll-free number displayed, or a help-desk?
- (If there had been an attempt to make a complaint/seek redressal for a grievance) Did anyone try to put any pressure on you to change the grievance or complaint?
- Did anyone give you any compensation? Apology?
- In case of the death in the hospital, were you told about the cause of death, how was it explained?
- Did you get a death certificate, a post-mortem etc?
- Was there any support to take the body home?

Corruption

- Did you have to make any informal payment at any point of time to receive any services/benefits? If yes, specify details

Rights of the woman in the family

(Some of these questions are sensitive in nature and thus need to be explored gently during conversations with the family and neighbours and the responses written down in a narrative form)

1. Position of woman in the family (Eg. Daughter, Daughter in law, Eldest, Youngest)
2. What was her daily routine? (Probe for the work she used to do before/ during/after delivery including household work and wage work?)
3. Number of hours she use to sleep everyday (including during the day and night)
4. Any history of alcohol or substance abuse in the woman? If yes, specify details.
5. Any history of alcohol or substance abuse by her husband?
6. History of violence
   a) Any history of violence by husband/in laws?
   b) Any history of violence by persons outside the family?
7. Any history /of disability in the woman? If yes, specify details.

HEALTH FACILITY VISIT

Checklist of what to look for in a health facility

- Presence of a help-desk, notice board, toll free number displayed?
- Mortuary van?
- Doctors on duty - list? Nurses on duty - list with contact numbers?
- Are all records regarding the treatment of the woman available to the family on request?
- Was the doctor on duty when the woman died?
- Where did the woman die, who was attending at that time? Who was handling the birth?
- What is the condition of the labour room, how many beds, how many women usually come?
- Does the Labour Room clearly display charts/instructions about what to do if something goes wrong? Protocols for managing complications?
- Health workers' rights - their workload, duty hours, their level of recent training and supervision?

DETAILS FROM COMMUNITY LEVEL DISCUSSIONS

Issues to be explored in community level discussions

- Socio cultural practices
- Discrimination
- Geography related exclusion from health services
- HIV, disability related exclusion

Availability of health facilities, services and transport

1. Is there a Traditional Birth Attendant in the community?
2. ICDS
   a) Distance of nearest ICDS centre from home
   b) Services provided at the ICDS centre - health education, nutrition. For all castes/hamlets?
3. Subcentre
   a) Name and location of nearest sub health centre, Distance of sub health centre from home
   b) Is it accessible at all times of the year and all weather?
4. How frequently does the ANM visit the village? Are all caste/hamlets visited equally?
5. Public health facility
   a) Name and location of nearest government health facility. Specify whether it is PHC, CHC, DH etc.
   b) Distance of this health facility from home
   c) Is it accessible at all times of the year and all weather?
6. Are there any private providers of health services in the community?
   a) Yes
      i. Formally qualified
      ii. Informal
   b) No

7. Emergency Obstetric Care

a) BemOC

i. Name and location of the nearest government providing BasicEmergency Obstetric Care Services (this includes normal delivery services with ability to recognize and provide initial management for complcations and refer)

ii. Distance of above facility from home

iii. Is it accessible at all times of the year and all weather?

b) CEmOC

i. Name and location of the nearest government providing Comprehensive Emergency Obstetric Care Services (this includes ability to do caesarean section including presence of obstetrician surgeon, anestherist and operation theatre and ability to do blood transfusion)

ii. Whether Obstetrician/ Anaesthetist is available in the above health facility

1. Obstetrician

2. Anaesthetist

iii. Distance of above facility from home

iv. Is it accessible at all times of the year and all weather?

8. Ambulance

a) Has anyone in the community used any ambulance service (108 or other state specific service) in the last one year?

b) Distance to nearest ambulance pick up point

c) Distance to nearest motorable road

ANALYSIS OF GAPS LEADING TO MATERNAL DEATH AND RECOMMENDATIONS

	Gaps	Actions recommended	By whom	Remarks
Science(Technical) issues				
System issues				
Social issues				
Rights issues				

About CommonHealth

CommonHealth (Coalition for Maternal Neonatal Health and Safe Abortion) is a multi state coalition of organizations and individuals.

VISION
CommonHealth's vision is to create “a society that ensures maternal-neonatal health care and safe abortion for all women, especially from the marginalized communities of India”.

MISSION
Its mission is to “raise visibility of the unacceptably high mortality and morbidity among mothers and newborns and the lack of access to safe abortion, especially among the disadvantaged”.

About Jan Swasthya Abhiyan

Jan Swasthya Abhiyan is the Indian circle of the People's Health Movement, a worldwide network of people's organisations, civil society organisations, NGOs, social activists, health professionals, academics and researchers working to establish health and equitable development as top priorities through comprehensive primary health care and action on the social determinants of health.

The Jan Swasthya Abhiyan network consists of over 20 networks and 1000 organisations as well as a large number of individuals that endorse the Indian People's Health Charter (2000) a consensus document that arose out of the First National Health Assembly held in December 2000 when concerned networks, organisations and individuals met to discuss the Health for All challenge.

VISION of PHM
"Equity, ecologically-sustainable development and peace are at the heart of our vision of a better world - a world in which a healthy life for all is a reality; a world that respects, appreciates and celebrates all life and diversity; a world that enables the flowering of people's talents and abilities to enrich each other; a world in which people's voices guide the decisions that shape our lives...."

Maternal death public hearing, Gadchiroli district, Maharashtra. (Photo credit : Sanjeeta Gawri)

PHC level meeting of sangathan women and health care providers, Devgadh Baria Block, Dahod district, Gujarat. (Photo credit : Pradeepa Dube)