Building a Cost-effective System of Maternal death surveillance in Resource-Poor Settings by Involving Communities and Innovative Implementation Structures

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Background

- Chhattisgarh is one of the poorest states in India and has population of 27 million (32% tribes)
- MMR of Chhattisgarh state is 221 whereas the national average for India is 167 (SRS 2011-13)
- State has a system of Maternal Death Reviews (MDR) by government Medical Officers

Background

- Maternal death surveillance remains a critical challenge despite government guidelines on reporting and review
  - Low Coverage
  - Community voice is missing
  - Points out medical causes but not enough feedback on what to improve in the system of maternal healthcare
- In order to augment the MDR system, the state Government in consultation with central ministry decided in September 2013 that community audits should be initiated.
- State Health Resource Centre (a civil society agency working as additional technical capacity to Health department) was asked to carry out this initiative utilising CHW network in the state.

The system

- There are 66,200 rural CHWs known as Mitanins working with 19200 Village Health Sanitation and Nutrition Committees (VHSNCs)
- Village Health Committees are mandated by National Health Mission to record deaths each month including maternal deaths
- Mitanin CHWs help in recording of deaths
- Facilitators of CHWs supervise and discuss each maternal death in monthly meeting of health committee
- 170 coordinators from CHW programme were trained to conduct a form of verbal autopsy (using a structured data collection tool designed to find out systemic gaps)

The system

- A team of trained Technical Reviewers discuss each case with surveyors and prepare a Summary of each case after analysing the key gaps in healthcare
- The summary is taken back by the facilitator to community in VHSNC where the audit process completed – discussion on how to prevent deaths in future
- Gaps in services raised in annual Public Hearings organised in each block in front of government officials and elected representatives
- Quantitative Analysis is done and presented to state government– to draw state level response to the audits
- State Health Resource Centre anchors the process

Results from First Year of Implementation

Coverage

- The total expected annual maternal deaths in rural population of the state were around 1105 (based on MMR of 221 as per SRS 2011-13).
- The study was able to conduct 402 verbal autopsies of the 576 reported maternal deaths, thus covering around 37% of total maternal deaths in rural Chhattisgarh
- Out of 402 cases covered, 23% were ante-natal, 1% related to induced abortion, 76% were during or after delivery

Findings: Medical causes and risk factors identified

- **Cause of death-**

- Direct Causes - Hypertension disorders, PPH and anaemia were the three leading causes of maternal deaths.

  Other significant causes were prolonged labour, APH, ruptured uterus, sepsis, obstructed labour

- Indirect causes - Jaundice, fever, malaria, diarrhea, sickle cell disease top the list among the indirect causes.

- **Risk factors identified**

- Poor nutrition status of pregnant women was the leading risk identified followed by Inadequate birth interval

Finding: Transport

Home to facility transport

- 63% of the women who called free government transport received its services.

Inter-facility transport

- 53% of the women who were referred from one facility to another and actually went to the referred facility, got Govt. transport for inter-facility transport.

Finding: Healthcare sought

- 83 % consulted local Mitanin CHW
- 88 % of the cases tried reaching a facility and out of them 82% actually reached.
- CHC (45%) was seen as first common choice and PHC (23%) as second most common choice for the first visit.
- DH (62%) was first common choice for facility to facility referral followed by CHC (34%).
- 18% of the maternal death cases could not reach any kind of facility and 16% went to only private service providers. Amongst the cases who reached some kind of facility, 80% had gone to a government facility.

Finding: Healthcare in facilities

- Amongst cases in which complications were identified during antenatal period, 73% sought treatment, out of which about half were perceived as treated successfully.
- Amongst intra-partum or post-partum deaths, 78% of the cases were delivered in institutions.

Number of facilities women had to go to

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ONE	38%
TWO	38%
THREE OR MORE	24%

62% of cases had to go to more than one facility, Non-availability of a service esp. lack of blood transfusion facility was the most common reason

Recommendations

A strategy of increasing overall institutional deliveries may be ineffective in a situation of limited availability of critical services in health-facilities

- Need to bring back the priority on high risk pregnancies
- Improve identification of high risk pregnancies through Mitanin CHWs and ANMs
- Clearly Designate cases as high risk during ANC

Recommendations

- Change Referral protocols to avoid multiple referrals. Clearly designate functional FRUs and instruct Mitanins, ANMs and 102 to directly take high risk cases there. (accepted by Government)
- Increase number of functional FRUs keeping geographical distribution in mind. Availability of blood needs improvement. (accepted by Government)
- Creation of waiting rooms in functional FRUs for high risk cases (in order to reduce delay) esp. in areas where transportation is difficult (accepted by Government)
- Expand transport capacity (accepted by Government)

Recommendations

- Mandate at-least one ANC check-up at PHC/CHC level for high risk pregnancies with free transport to improve quality
- Frequent BP check-ups in third trimester
- RD test for malaria during ANC – intermittent screening (accepted by government)
- Awareness on Sickle cell disease for pregnant women and test if they desire it during antenatal check-ups (government likely to accept soon)

Gains from the Process

- Communities were able to raise its concerns in front of authorities and legislators by presenting the audits in annual block level Public Hearings
- Helped in understanding the systemic gaps from perspective of community. Acts as counter-balance to MDR done by Government officials.
- Last one year has seen the number of functional emergency care health facilities increase from 31 in the state to 45.
- Health department put forward a proposal for funding expansion of referral transport fleet.

Presenting audits in Public Hearings

Presenting audits in Public Hearings

Gains from the Process

- Involved communities in auditing it – raised awareness around why maternal deaths happen. Helped them in assessing.
- High sustainability – Integrated with existing community processes in the state.
- Involved miniscule additional funding and HR. Direct Cost per death covered was around INR 2000 ($30) on training, review, data entry and analysis. Almost equal amount of hidden cost for time given by existing HR.
- Created capacity for ongoing community auditing of maternal deaths which could be extended to child deaths
- Improved commitment of CHWs and their support structure to recognize maternal mortality and act to reduce it
- Maternal death reporting in subsequent year has increased by 30%.

Challenges

- Coverage of Abortion related deaths needs to be improved
- Though the initiative is Government funded, the acceptance by Government officials of a community led system remains a challenge

Integrating it with mandatory MDR - Creating a Joint surveillance by government functionaries and communities though a challenging combination, is the vision towards where the process is planned to evolve.

Conclusion

- Understanding the perspective of communities regarding gaps contributing to maternal deaths is of crucial importance.
- Large-scale and cost-effective systems of maternal death surveillance are feasible by integrating them with CHW programs and other community based structures with facilitation structures
- The significant autonomy accepted by Government for alternative facilitation structures is crucial to functioning of community-based death-surveillance systems.