Case Study

High Risk Pregnancy Tracking System
Bundi District, Rajasthan

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EXECUTIVE SUMMARY

Rajasthan witnesses one of the highest rates of maternal mortality in the country. As per the Sample Registration Survey,1 Rajasthan’s MMR stood at 318 per 1000 live births between 2007 and 2009. The lack of awareness among women about the importance of antenatal care (ANC) and postnatal care (PNC), inadequate infrastructural facilities and a lack of skilled professionals to extend required medical assistance during pregnancy and delivery, are some of the reasons for high occurrence of maternal deaths in the state.

Bundi district in Rajasthan is amongst the worst affected districts, with a very high rate of MMR. In order to address this problem, the district administration designed the High Risk Pregnancy Tracking System in April 2011 to identify women undergoing difficult pregnancies and ensure that they are provided with adequate and timely pregnancy related healthcare facilities so as to avoid any complications during delivery.

Under the programme, a survey of pregnant women is conducted and if any abnormalities are found, they come on the priority list of the medical staff that then take care of the mother during her pregnancy period and conduct periodic tests to check her haemoglobin level, blood pressure and weight. Rural health workers keep a track of pregnant women with high risks by marking a circle on her house and alerting the community and family members about her situation. They also maintain a high risk diary, which is regularly checked by the district medical officers who ensure that the required assistance is extended to the woman and her family.

One of the major successes of the High Risk Pregnancy Tracking System lies in its ability to create community awareness about pregnancy related risks and the necessary precautions to be taken. The system has succeeded in building a participative environment in the district wherein the entire community is watching out for the pregnant women in their area.

The implementation of the High Risk Pregnancy Tracking System did not require major changes in the district health activities and commitments of the administration. The system leveraged existing financial and human resources to cover an additional responsibility in a simple yet effective manner. In this manner, the new system has brought down the number of maternal deaths in Bundi from 48 in 2009-10 to 28 in 2011-12. Based on this success of the initiative, the Medical and Health Department of Rajasthan has issued orders to all the

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1 The Sample Registration System (SRS) is a large-scale demographic survey for providing reliable annual estimates of birth rate, death rate and other fertility & mortality indicators at the national and sub-national levels.
hospitals of the state to implement the High Risk Pregnancy Tracking System. As a part of this up scaling, the programme will be integrated with the Mother and Child Tracking Programme under the NRHM.

**METHODOLOGY**

The Governance Knowledge Centre (GKC) documents best practices in governance in India in support of further replication. For this purpose, select initiatives that are significantly contributing towards the betterment of public service delivery are identified by the GKC research team. The team conducted extensive secondary research using credible web sources to establish the suitability of the High Risk Pregnancy Tracking System in Bundi District, Rajasthan as a best practice. This research reflected the manner in which the High Risk Pregnancy Tracking System is using a simple and easily adaptable process for monitoring the health of high risk pregnant women and ensuring the timely delivery of health care to them.

Having recognised the High Risk Pregnancy Tracking System as a best practice, the key stakeholders in the initiative were identified and interviewed to gain a deeper insight into the operation and impact of the initiative. This document has been created by compiling the information collected through secondary research as well as the insights gathered through an interview with the Chief Medical Health Officer of Bundi District.

Efforts have been made to provide objective information in the document. However, since only the implementers of the project were interviewed, there is a possibility of percolation of information bias.

**BACKGROUND**

The state of Rajasthan has amongst the highest Maternal Mortality Rate (MMR)2 in the country. As per the Sample Registration Survey, Rajasthan’s MMR stood at 318 per 1000 live births between 2007 and 2009. Government medical facilities that are largely unequipped, provide the bulk of maternal health services in the state. The availability of maternal health services in rural areas of Rajasthan, remains poor because of low availability of skilled human resources.

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2 MMR measures number of women (aged between 15-49 years) dying due to maternal causes per 1,000 live births.
especially midwives and clinical specialists, and their non-residence in rural areas. This combines with the lack of awareness among women about the importance of antenatal care (ANC) and postnatal care (PNC), inadequate infrastructural as well as medical facilities and assistance during delivery, incomplete immunisation and improper treatment of birth related problems to worsen the maternal mortality situation in the state.

Various national programmes, such as the Family Planning, Child Survival and Safe Motherhood and Reproductive and Child Health (phase 1 and 2), have attempted to improve maternal health in the state; however, they have not made the desired impact because of slow and ineffective implementation strategies.

Bundi district in Rajasthan is amongst the worst affected districts in the state with a very high rate of MMR. The reasons mentioned above combine with the prevalent illiteracy among women and the overburdening of unskilled rural health workers (Accredited Social Health Activist, ASHAs, Auxiliary Nurse Midwives, ANMs and Anganwadi workers) to make matters worse. Though the Janani Suraksha Yojana - a national scheme under the National Rural Health Mission (NRHM) to give financial incentives for delivering in government institutions- has led to substantial increase in the proportion of institutional deliveries in the district and providing access to pregnancy related healthcare to women, yet the progress on reducing the MMR is considerably very slow.

In order to curb these high incidences of maternal deaths in the district, the district administration designed the High Risk Pregnancy Tracking System in April 2011 to identify women undergoing difficult pregnancies and ensure that they are provided with adequate and timely pregnancy related healthcare facilities.

**OBJECTIVE**

The High Risk Pregnancy Tracking System in Bundi District, Rajasthan aims:

- To create awareness about pregnancy related risks and prepare caretakers to deal with the same.
- To monitor the health of women with high risk pregnancies and ensure that they receive timely assistance and care.
- To identify reasons for the high MMR in Bundi and take steps to reduce it.

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PROGRAMME DESIGN

KEY STAKEHOLDERS

- **The District Magistrate** of Bundi conceptualised and rolled out the High Risk Pregnancy Tracking System.
- **Rural health workers** i.e Accredited Social Health Activist (ASHAs), Auxiliary Nurse Midwives (ANMs) and Anganwadi workers that are responsible for tracking at risk pregnant women and ensuring that they get access to adequate and timely healthcare.
- The **Chief Medical Officer** of the district is responsible for monitoring the proper functioning of the system and ensuring that rural health workers are performing their allocated tasks.
- **Community members** are active participants in the High Risk Pregnancy Tracking System as they play a vital role in keeping a check on high risk pregnant women and extending support.

PROGRAMME INITIATION

The High Risk Pregnancy Tracking System was launched in Bundi with a survey being conducted by the rural health workers across the district to identify reasons for maternal deaths in the region. The survey involved questions related to the health of the women, her past pregnancies if any, her experience during pregnancy, the nature of care received by her and her satisfaction with the performance of the rural health workers. The survey revealed that, most women in Bundi had not undergone basic tests like haemoglobin check, blood pressure check and weight measurement check on a regular basis during their pregnancy which led to complications during the delivery. Most of these women had only been given diet suggestions and necessary injections. Further, there was general unawareness about handling various pregnancy related complications among family members leading to negligence and high risks. The cumulative findings of the survey influenced the formulation of the High Risk Pregnancy Tracking System.

Programme components

The High Risk Pregnancy Tracking System in Bundi has the following components:

- Training of rural health workers to perform basic tests like haemoglobin check, blood pressure check and weight measurement on a regular basis during their field visits.
- Tracking of high risk pregnant women cases
• Awareness generation among family members, community members and local PRI officials about pregnancy related risks and the necessary precaution and care to be taken and
• Overall monitoring of the functioning of the system.

a) Training: Rural health workers are trained at the Primary Health Centres (PHCs) by medical officers, for identifying high risk pregnancy cases and for providing related treatment. This identification is done on the basis of the basic tests. Each rural health worker is trained on how to conduct haemoglobin, blood pressure and weight measurement checks and advised to do these tests regularly. The health workers are also ordered to maintain a high risk health diary with the details of pregnant women and the results of these tests in order to track the high risk cases.

b) Tracking: If a pregnant women tests inadequate on any of these parameters i.e. haemoglobin, blood pressure, weight etc, then she is marked as a high risk case and an entry is made in the high risk case diary that the rural health worker is expected to maintain. Every such case recorded in the diary, is given special attention by the rural health worker and each such woman’s pregnancy is tracked throughout the nine months with medical inputs being provided from time to time.

Along with an entry in the high risk diary, the rural health worker also draws a red circle on that particular pregnant woman's house, making it easy to identify and track households with high risk pregnancy cases. This marking also serves the purpose of involving community members in the caretaking of the at risk pregnant woman.

c) Awareness generation: For ensuring the community’s involvement in the process of tracking high risk pregnancies, various IEC activities were conducted throughout the district with the active involvement of local PRI officials and rural health workers. Through these IEC activities, community members were made aware of the possible risks during pregnancy, the significance of the red mark on houses and the role that they can play. Community members are asked to keep a check on the marked houses and extend support whenever and wherever they can.

d) Monitoring: For the purposes of ensuring that the system works efficiently, in charge medical officers periodically check the high risk diary’s of rural health workers to ensure that they are capturing such cases adequately and keeping a report on the progress made. Each rural health worker is expected to fill out pre designed reports with details like number of high risk pregnancy cases, expected date of delivery, number of field visits in the month etc. and
submit them to the District Programme Manager, who takes a stock of procedures and suggests necessary corrective measures, if required.

**FINANCIAL RESOURCES**

The development of the High Risk Pregnancy Tracking System in Bundi did not require any major expenditure on the part of the district health set up. All rural health workers were already performing field visits under the NRHM and other schemes and were now just required to do some additional tests which required little time, effort and money. Any additional costs incurred by the new system like cost of blood pressure machines or any other diagnostic tools are to be met by the funds allocated to each PHC by the Medical and Health Department.

**IMPACT**

**Encouraging community participation in dealing with pregnancy related risks**

One of the major successes of the High Risk Pregnancy Tracking System lies in its ability to create community awareness about pregnancy related risks and the necessary precautions to be taken. The system has succeeded in building a participative environment in the district wherein neighbours and family members alike look out for women who are undergoing a difficult pregnancy. A collaborative spirit is ensuring that every house with a red mark on it gets required support whenever necessary. These developments are in stark contrast to an earlier time where people were not aware of the reason for the high occurrences of maternal deaths. Now, the number of these deaths is being significantly reduced due to a collective community endeavour.

**Reducing the occurrences of maternal deaths in the district**

In 2009-10, 48 women died during delivery in Bundi. This number has been brought down to 28 in 2011-12 as a result of the High Risk Pregnancy Tracking System. This new system has put in place a procedure for easily identifying cases that require attention, making it possible to streamline the delivery of required healthcare facilities to concerned women. As a result of this system, the major causes of maternal deaths in the district like anaemia, blood pressure and improper weight have been identified, subsequently resulting in rolling out of appropriate corrective measures and prevention of pregnancy related deaths in the future.

**Developing a simple and easy to adapt system**

The implementation of the High Risk Pregnancy Tracking System did not require major changes in the district health activities and commitments of the administration. The system
leveraged existing financial and human resources to cover an additional responsibility in a simple yet effective manner. The existing rural health workers and community members are collectively ensuring that all pregnant women vulnerable to any kind of risks are taken care of without putting any strain on the health administration. In fact the system is building some basic skills in rural health workers making them a valuable asset for the future of the health related service delivery in the future, as these workers are the first points of contact between the administration and community members.

**CHALLENGES IN IMPLEMENTATION**

The High Risk Pregnancy Tracking System was a very easy system to develop as it did not involve major changes at any level. The few challenges that were faced during the development of the system came forth in the course of training rural health workers to conduct basic tests during their check up of pregnant women. Rural health workers were not familiar with the method of checking haemoglobin and blood pressure and were initially apprehensive about their capability to conduct these checks. However, over time with frequent visits and regular checkups, these workers have now become adept at conducting the tests and providing medical guidance to women and their family members.

**POTENTIAL FOR REPLICATION**

The Medical and Health Department of Rajasthan has issued orders to all the hospitals of the state to implement the High Risk Pregnancy Tracking System. As a part of this up scaling, the programme will be integrated with the Mother and Child Tracking Programme under the NRHM wherein an immunization record of both mother and child is maintained through online software and a state wide database is maintained. Now this software will also record details of high risk pregnancies, so that their treatment can be monitored at the state level. In this manner, a state level initiative to control and reduce the rate of maternal deaths in Rajasthan is gradually taking shape.

The High Risk Pregnancy Tracking System can also be replicated in states all across India with the problem of high rate of maternal deaths with a minor tweaking of the responsibilities of rural health workers and through active community participation.

**SUSTAINABILITY OF THE PROGRAMME**

As mentioned, the High Risk Pregnancy Tracking System is a simple and effective tool to identify, track and monitor the health of women with difficult pregnancies. It is not a high maintenance system; in fact, it requires minimal time, effort and money and is solely dependent
on the commitment of rural health workers and the willingness of the community to extend support. One risk that the programme faces can be the overburdening of rural health workers, however in the future its integration into the online software is expected to reduce rural health workers documentation work by enabling the preparation of automatic reports and sending regular alerts and updates to health professionals so that they can take necessary action. The state level up scaling of the initiative validates its usefulness in reducing maternal deaths across the state in the long run.

CONCLUSION

The High Risk Pregnancy Tracking System in Bundi reflects how small and simple administrative efforts have the potential of addressing major gaps in service delivery. The system simply leverages existing resources in a manner that their coverage is extended to address a significant problem area in the health services of the district. Very often, the unavailability of resources both financial and human pose roadblocks to addressing lacunas in service delivery, however the High Risk Pregnancy Tracking System shows that sometimes a lot can be achieved through the optimum utilization of existing resources.

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REFERENCES


APPENDIX A – INTERVIEW QUESTIONNAIRE

Chief Medical Health Officer - Bundi

Background

1. What were the reasons for introducing the High Risk Pregnancy Tracking System in Bundi? When was the initiative introduced?
2. In what ways is the pregnancy tracking system an improvement over existing mechanisms to monitor the health of pregnant women in the region?
3. The High Risk Pregnancy Tracking System seeks to address the problems of high Maternal Mortality Rate (MMR) in Bundi. Was it introduced as a part of the National Mother and Child Tracking Programme (MCTP) under the NRHM?
4. What are the specific maternal health related issues that the High Risk Pregnancy Tracking System seeks to address?

Program Design

Stakeholders

5. The key stakeholders in the project are the District Collectorate of Bundi, PHCs, CHCs and rural health workers like ANMs and ASHAs. What are their roles and responsibilities?
6. Are there any other stakeholders in the initiative? If yes, please explain their roles and responsibilities. If no, is there a need and plan to involve any stakeholders in the future?

Process flow

7. What are the main components of the High Risk Pregnancy Tracking System in Bundi? Could you explain the work flow the system with the help of an example?

Awareness generation and capacity building

8. How was awareness about the purpose and functioning of the High Risk Pregnancy Tracking System generated among beneficiaries? How did beneficiaries respond to this new system?
9. How was the support of service providers (mainly rural health workers) achieved? Was there any resistance on their part? If yes, how was it overcome?
10. Were the service providers provided any training for performing their responsibilities under the new pregnancy tracking system? Is yes, please provide details of the training provided: resource persons, participants, exact content, methodology, duration, following up mechanisms.
Monitoring and evaluation

11. Are there any mechanisms for monitoring the functioning of the High Risk Pregnancy Tracking System in Bundi?
12. What are the parameters for assessing the performance of the initiative?

Financial costs

13. How were the funds procured for development of the High Risk Pregnancy Tracking System?
14. What was the overall cost of development of the project? Please provide a breakdown of the major heads of expenditure.
15. What are the daily operational costs of the project?
16. What are the current sources of funding?

Impact and Potential

Achievements

17. What have been the major achievements of the High Risk Pregnancy Tracking System?
18. How has the High Risk Pregnancy Tracking System impacted (a) health service providers, (b) target population, and (c) the overall maternal health scenario in the region?

Challenges

19. What are the major challenges faced in the implementation of the High Risk Pregnancy Tracking System? How are they being overcome?

Enhancements

20. What are the major enhancements planned for the future?
21. Based on the success of the High Risk Pregnancy Tracking System in Bundi, the Government of Rajasthan has decided to upscale the model to the entire state. What is the progress on this front?
22. Have any other states shown interest in replicating the High Risk Pregnancy Tracking System? What do you think are the necessary preconditions for the success of such an initiative?
23. Please provide the following data:
a. Number of women tracked till date under the High Risk Pregnancy Tracking System
b. Data to show reduction in MMR as a result of the new system
c. Pictures