

CASE STUDY

Improving essential newborn care through quality improvement interventions in Regional Hospital Chamba, Himachal Pradesh, India

Summary

The USAID ASSIST Project started working in Chamba District, Himachal Pradesh in December 2013, supporting five facilities including Regional Hospital Chamba to address maternal and neonatal mortality and morbidity. By picking specific aims to improve essential newborn care and newborn resuscitation, the quality improvement team at Regional Hospital Chamba was able to provide essential newborn care to all neonates in the facility and is doing a better job of identifying and resuscitating newborns with respiratory problems.

Introduction:

Chamba is one of the high priority districts identified in the Government of India's RMNCH+A initiative. It has a population of 538,000 and approximately 7,000 women deliver each year. Chamba is a mountainous district with numerous snow-bound areas which are cut off from the rest of the district for nearly three months a year. In addition to the challenges presented by the terrain and weather, Chamba is also home to nomadic tribes that are difficult to track for providing health services like antenatal care and child immunization. Chamba has one regional hospital and three civil hospitals which are mainly providing obstetrical and neonatal care. Regional Hospital Chamba has 200 beds and provides primary, specialist and emergency services. It provides delivery care to approximately 150 women a month (45 percent of all institutional deliveries and 22 percent of total deliveries in the district). It is the only facility in the district which conducts caesarian deliveries.

Intervention:

The USAID ASSIST Project started working in Regional Hospital Chamba in December 2013 and is supporting staff to address the causes of maternal and neonatal mortality and morbidity. The hospital team works to ensure that neonates receive essential new-born care (ENC) and to improve resuscitation of new-borns. The hospital had been trying to improve in these areas for several years but had not made much progress. After the team agreed upon their goals, they then discussed the barriers they faced using analysis tools they had learned about in the initial USAID ASSIST Project classroom training.

They agreed that the main issues that were preventing them from providing ENC to all babies were:

1. Not all staff knew what care to provide to neonates;
2. The essential elements were not provided routinely, e.g. vitamin K was only given if the paediatrician prescribed it;

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3. The right equipment was not always available in the labour room (e.g. cord clamps were not always there, vitamin K was being ordered in the facility as ten mg vials so there was a lot of wastage and it was not always in the labour room); and
4. There was no data on the quality of care for new-borns so no one knew what was or was not happening.

The main issues with resuscitating new-borns were:

1. Paediatricians were on another floor so there was a considerable delay in getting asphyxiated new-borns to a clinician who could provide the needed care;
2. Nurses did not know how to resuscitate new-borns; and
3. Equipment was not checked regularly and was sometimes not working when needed.

"I have seen lot of improvement in the ENC services provided at the Regional Hospital. We are trying the same for the last two to three years but could not be able to improve. But the quality improvement team interventions really brought many improvements. Please continue with the same efforts."

–Medical Officer, Regional Hospital Chamba.

Based on this analysis, the team developed a series of solutions they put into place in February of 2014. To improve ENC, the team implemented five changes:

1. The medical officer trained the nurses on ENC during the QI team meeting and for the next week, the staff nurses discussed the elements of ENC with the nurses from the next shift;
2. They developed a register to record whether the elements of ENC were provided or not and the matron reviewed these records regularly;
3. They worked with the hospital management to ensure that cord clamps and one mg vitamin K vials were ordered;
4. The nurses checked that the essential drugs and supplies were in the labour room at the start of each shift and when each woman came into the room for delivery; and
5. To improve breast feeding, the team decided to give vitamin K after the baby started feeding. Women want the vitamin K injection for their babies so are keen to breast feed.

"Earlier there was no documentation of the ENC services provided. But now since we have to document the ENC services provided makes us more responsible. We have now identified areas wherein we will be requiring training to enhance our skills"

–Staff Nurse, CHC Sahoo, Chamba.

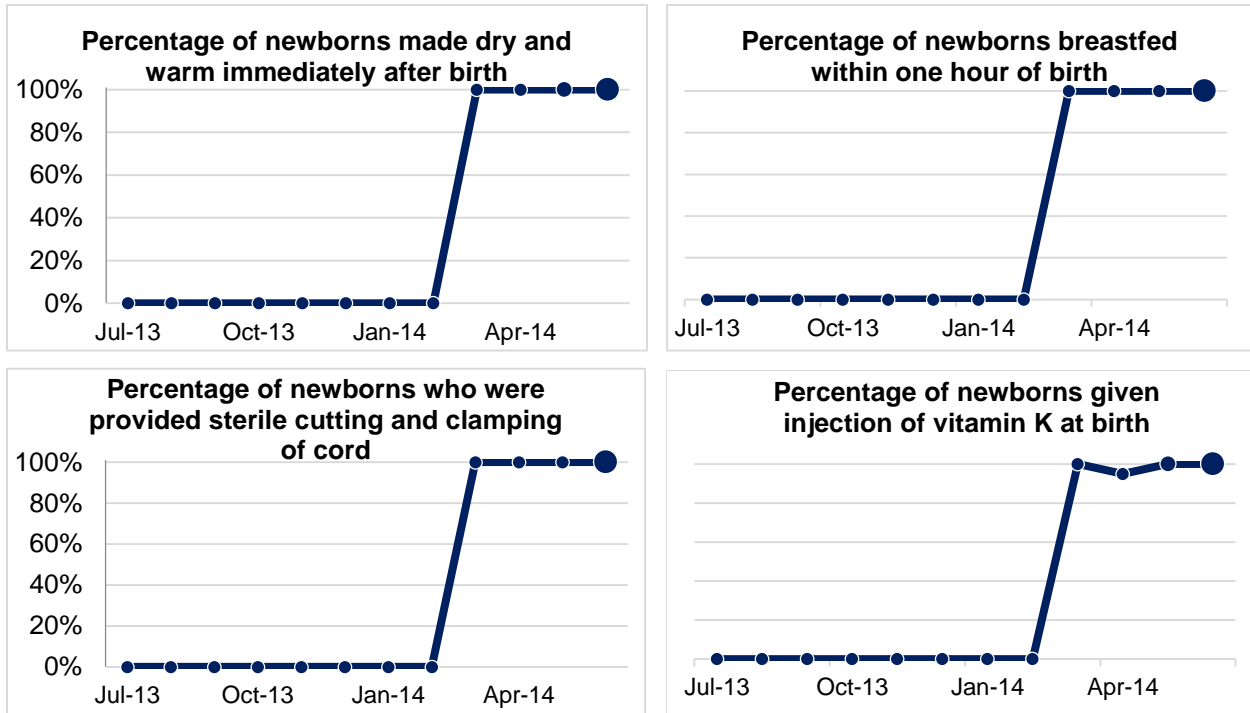
To improve resuscitation of neonates the team made three changes:

1. The nurses received training in June first week and the medical officer and matron assessed the skills of the nurses to make sure they were resuscitating correctly;
2. The nurses checked that the supplies were in the labour room and functional at the start of each shift, and
3. They changed the hospital policy so that neonates were resuscitated in the labour and delivery room by the nurse before contacting the paediatrician.

Results:

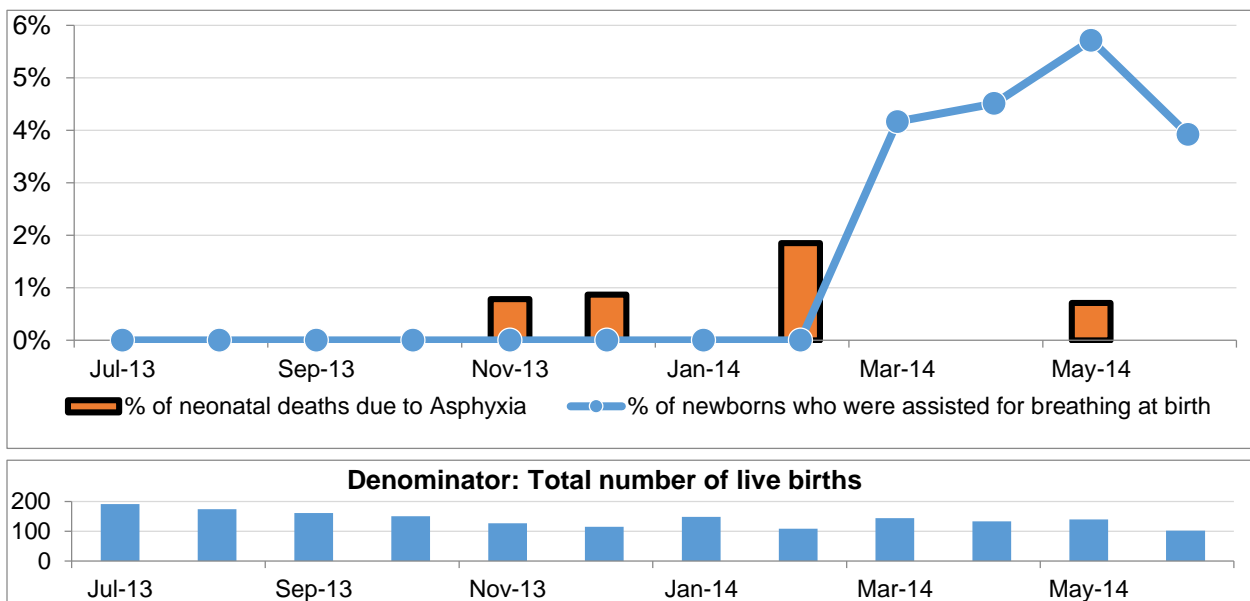
Prior to the start of improvement efforts, there was no data on ENC coverage, but since starting work in early February, 100 percent of babies delivered by vaginal delivery have received a breathing assessment and assistance if required, sterile cord clamping, drying and warming, vitamin K and breast feeding in the first hour.

Figure 1: Aim - To provide ENC services for all the live vaginal births from zero percent to 100 percent by May 2014



The change in the hospital's approach to reducing asphyxiation has led to 24 neonates being resuscitated in the labor room between March and June of 2014. One neonate died of asphyxiation in the three month period (0.2 percent of all live births) compared to four in the previous eight months (0.4 percent of all live births).

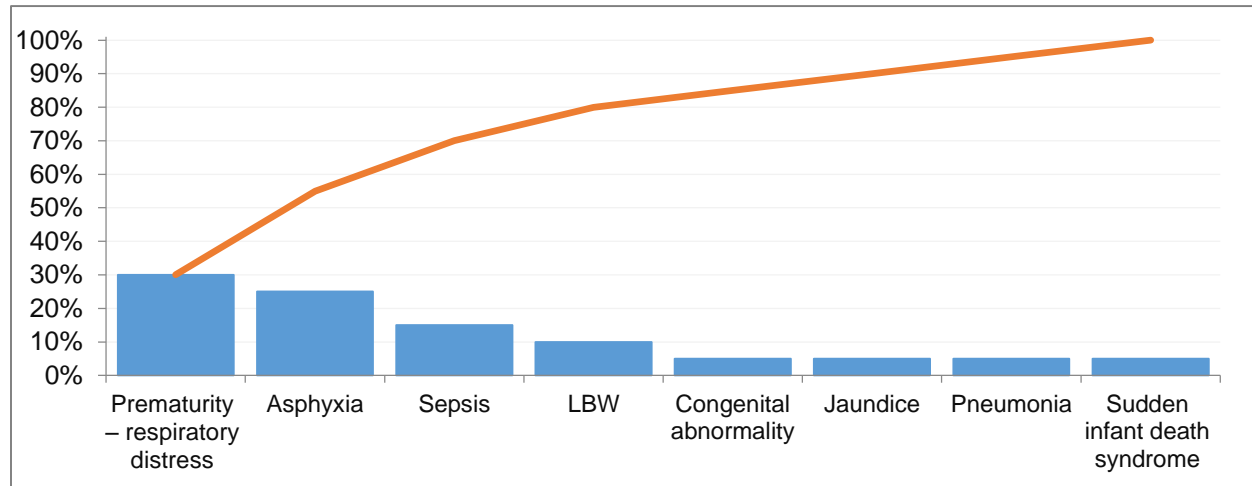
Figure 2: New-borns assisted with breathing in the labour and delivery room and neonatal deaths due to asphyxia in the facility



Next Steps:

The quality improvement team has made significant improvements in providing ENC and resuscitating neonates at birth. Since the start of their improvement interventions, they have seen a decrease in deaths from asphyxia. To identify future priorities, the team has reviewed all neonatal deaths in the hospital since July of 2013. Asphyxia and respiratory distress syndrome related to prematurity have been the leading causes of death. Based on the review of deaths, it will be important for the RHC team to start work on improving management of premature deliveries.

Figure 5: Pareto Chart- Causes of neonatal deaths in Chamba regional hospital, July 2013- June 2014 (n=20)



Conclusion:

Regional Hospital Chamba has been trying to improve neonatal care unsuccessfully for the past two years. Within three months of forming an improvement team and starting to use quality improvement approaches, they are now providing ENC to all neonates in the facility and are doing a better job of identifying and managing new-borns with asphyxia. The team is also planning interventions to address other causes of death in the neonatal period.

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