



## CASE STUDY

### Improving post-partum care in a large hospital in New Delhi, India

#### Summary

Bhagwan Mahavir Hospital in New Delhi delivers around 6,000 babies a year. In 2013, five women died after delivery and they decided that they wanted to do a better job of identifying and managing women with complications after delivery. After using an iterative approach to improving their system, they are now providing better post-partum care to mothers and babies and no women have died in the post-partum ward in the first eight months of 2014. This case study provides lessons that can be used in other hospitals to improve post-partum care and for others learning to use quality improvement methods.

#### Introduction

Bhagwan Mahavir Hospital (BMH) is a secondary level hospital in North West Delhi, one of the high priority districts identified under the Government of India’s RMNCH+A initiative. BMH provides care to a largely low-income population including slum and resettlement colony dwellers, unskilled labourers and migrants. The hospital has 124 doctors, 125 nurses and 46 paramedics. The 50-bed obstetrics and gynaecology department has a bed occupancy rate of over 100 percent. Sixteen doctors, 30 staff nurses and four auxiliary nurse midwives provides around the clock services and deliver about 6,000 babies every year. In 2013, five women died in the post-partum ward of BMH including two who died in December. When the USAID

<b>Table 1: Members of the BMH Quality Improvement Team</b>	
Sunita Rani	Medical Officer, Obstetrics and Gynecology
Nidhi Chopra	Medical Officer, Pediatrics
Rajkumari Sood	Deputy Nursing Superintendent
Kamlesh Chandna	Sister In- Charge, Labor Room

ASSIST Project team met them in January 2014, the BMH staff wanted to improve their system for providing good post-partum care. They formed a quality improvement team (Table 1).

#### Intervening to improve post-partum care

As there was no readily available information on women were to be managed after delivery, the first thing the improvement team did was to collect data on how often they were assessing women in the first six hours after delivery. The government of India’s guidelines suggest that women should be seen eleven times but they found that women were only assessed twice.

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To increase the frequency of assessments, the improvement team asked the deputy medical superintendent to issue a letter to the labour room and post-partum ward instructing nurses to assess women six times in the first six hours after delivery. One week later, the improvement team met again. They found that women were now being assessed more than six times. However, the labour room nurses had interpreted the letter to mean that they should keep women in the labour room for six hours after delivery. This led to a lot of overcrowding. The team congratulated the nurses on increasing the number of assessments and clarified that women could be discharged to the post-partum care ward where the nurses there would take over the assessment.

Between February and June, the number of assessments stayed at six to seven in the first six hours. However, the team was not collecting data on how many women with complications were identified and managed. Because of this it was not clear if they were improving care or not. When they reviewed their records they found that two women (0.1 percent) were identified with post-partum danger signs during the last five months. One woman had eclampsia and the other was in shock due to blood loss. Both were managed appropriately and discharged from the hospital.

The infrequent identification of women with complications and the fact that both were diagnosed so late likely means that many more women were being discharged home with early but unidentified complications. So, while the number of assessments had increased it was unlikely that women were receiving better care.

The QI team met again to discuss how to improve care. Since they were now more experienced in improvement methods they did three things differently: spending time to identify root causes, using small scale testing to learn what works, and focusing on the patient. The team spent about 30 minutes discussing the root causes that were making it hard for them to identify women with early complications. They agreed that the nurses were not assessing carefully because of time constraints. Rather than simply stopping there and complaining about how they needed more staff, the team looked for reasons why the assessment was taking so much time.

The main problem was that they were spending a lot of time walking around to find the assessment equipment and to find the patient. So, they decided to eliminate the walking. They thought that one way to do that was to reorganize the ward to make an observation room for women newly discharged from the labour room. Instead of immediately reorganizing the ward, the team did a small scale test to learn if this was a good idea. They timed how long it took to do the assessment when women were in the planned observation room (five minutes) compared to when they were elsewhere on the ward (20 minutes). This small bit of testing gave the team the confidence to move ahead and reorganize the ward so that women would arrive in the observation room after delivering.

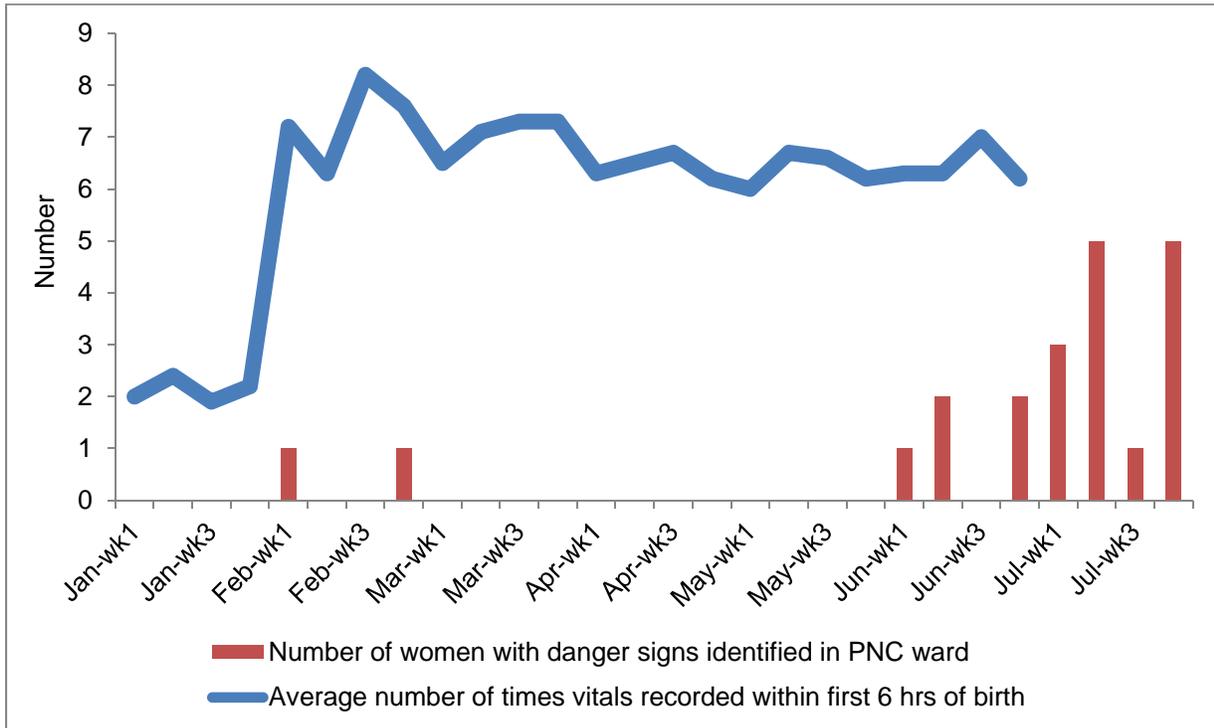
They then set up the observation room and tested it for two days. It worked well and the team made a second change: partnering with patients. The nurses in the observation room educated women and their relatives about common danger signs and told them to call the nurse if needed. This improved the efficiency as patients and their families were thus brought in as a resource to identify the complications.

## **Results**

After the reorganization of the ward, five women (1.6 percent) were identified with danger signs in this four week period, two of which were picked up by relatives. All were identified early, managed appropriately and discharged within a week.

The team was happy with their progress and they decided to keep measuring how many women were being identified with complications and to stop measuring the number of assessments. In the following four weeks 14 women (2.7 percent) were identified with complications, treated appropriately and discharged home. There have been no deaths on the post-partum ward in 2014 compared to five deaths in 2013.

**Figure 1: Postnatal monitoring and identification of women with complications**



**Lessons for hospitals trying to improve post-partum care**

1. Look for ways of making routine assessment as efficient as possible:

One of the barriers to identifying women with complications is finding enough staff time to do frequent assessments. In most cases you will not be able to get new staff so instead you should look for ways of making assessment easier and more efficient. In this hospital that meant eliminating time wasted looking for equipment and the patient.

2. Partner with women and their families:

Another change that worked for this hospital was to involve patients and their families. This is a good way of improving care without adding work for busy nurses.

3. Measure how many women are being identified and when they are identified:

Trying to improve post-partum care is a challenge since you cannot measure how many women with complications you were not able to identify. You can, however, there are two ways to measure if you are identifying as many women as you need to.

- a. Roughly two to six percent of women will have complications early after delivery. If the number you are identifying is less than this you are probably missing women.
- b. A good system for identifying women with complications will identify them early on. If you are only finding women who are severely ill then you are probably missing women.

## Lessons for people learning to use quality improvement methodology

As with any new skill, learning how to use quality improvement methods takes practice. There are a number of lessons that new people learning quality improvement can learn from this team.

### 1. Be thoughtful when coming up with ideas to change systems:

People learning quality improvement often focus on training or issuing management directives to solve problems. These can solve some problems, but not all. In this hospital, it was necessary to address efficiency issues to improve care. If your team is only using management directives and training, you are missing other tools that you can use to improve care.

### 2. Use small scale tests to learn if change ideas work:

New improvement teams like to come up with ideas and then implement them in the entire clinic or ward. If you are 100 percent sure that these changes will work and will not cause harm, then this is the right approach. In most cases though, it is not clear what changes will work and you need to do some testing. In this story, the first change was a directive from management to do more assessments.

If a draft of the letter had been tested by showing it to a labour room nurse, she would have been able to explain that this would lead to overcrowding. So the lack of five minutes of testing led to a week of worse care and more work. If you find that your team is always implementing changes or trying them for days or weeks at a time you are likely causing more work for yourselves and also missing opportunities to test more creative solutions to learn what works. Consider trying more changes on a smaller number of patients or shorter time period to avoid mistakes and to learn.

### 3. Keep focused on your aim – to help other human beings:

New improvement teams can sometimes lose track of their goal which is to provide better care to other human beings. They can get caught up in the process of improvement. To prevent this it is always good to ask yourself 'so what?' If you cannot prove to yourself that someone is benefiting from your work you should re-evaluate what you are doing and how you are measuring benefit.

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