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## CASE STUDY

### Setting Up a Self-Sustaining Quality Improvement Network in India

#### Summary

In May 2016, Kalawati Saran Children's Hospital (KSCH) began using QI approaches to improve maternal and newborn care in their facility. This approach was very helpful for them in improving processes of care, and they achieved impressive results in outcomes in a short period of time. Motivated by the good results at their facility, the QI team at KSCH wanted to introduce this methodology to clinicians in other institutions across north India. They identified two main challenges to spreading QI: 1) lack of a mechanism to support people learning QI to communicate and share experiences, and 2) lack of funding to support workshops or travel. KSCH overcame these challenges by leveraging virtual communication technology to link and formalize their own extensive but informal network of contacts and by partnering with the USAID ASSIST Project to support some of the costs to initiate the network. This case study describes the efforts undertaken to establish a self-sustaining network of quality improvement practitioners to implement and spread QI approaches throughout hospitals in India.

#### Background

India has made substantial improvements in delivering better care to mothers and newborns. Between 2001-03 and 2011-13, the maternal mortality rate (MMR) decreased from 301 per 100,000 live births to 167 per 100,000 deliveries, and the neonatal mortality rate (NMR) decreased from 40 per 1000 live births to 29 per 1000 live births.<sup>1,2</sup>

The country is planning to do even better, and under the United Nation's Sustainable Development Goals, India aims to reduce the MMR to 70 per 100,000 live births and the infant mortality rate to less than 10 per 1000 by 2030. The India Newborn Action Plan (INAP) also aims to achieve single digit neonatal mortality and still birth rates by 2030.<sup>3</sup>

These reductions, while achievable, will require new ways of working. One new potential approach is the use of quality improvement (QI) methods. QI is a management approach that provides health workers with tools and skills to analyse and solve problems at the service delivery level without waiting for additional resources. Over four hundred facilities have successfully used QI methods to reduce perinatal mortality by more than 15% between 2014 and 2015.<sup>4</sup> The learning from this work led WHO SEARO to develop a new QI training approach.<sup>5</sup>

#### Individual and Institutional Champions

Kalawati Saran Children's Hospital (KSCH) is an academic hospital that is developing the capacity to support others to use QI methods. KSCH is one of the largest tertiary care hospitals in India. The department of neonatology caters to a load of over 15,000 deliveries and over 2500 NICU admissions per year. It is a National Centre of Eminence, a recognition given by the Government of India based on the institution's contributions in various health programs, and serves as the resource centre for many national programs and initiatives of the Government of India.

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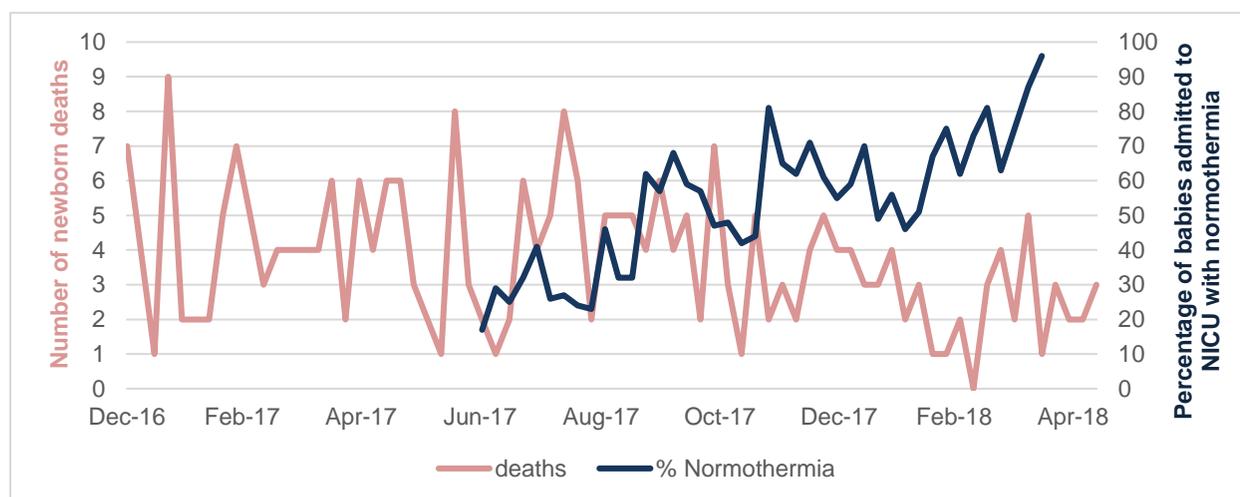
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KSCH started using QI approaches in May 2016. Dr Vikram Datta, director professor of neonatology, was nominated by the Government of India to attend a WHO regional meeting on QI methods. During this workshop, he learned the fundamental principles of QI. Previously, Professor Datta had developed and used quality assurance (QA) approaches as the Secretary for the National Neonatology Forum of India.

This experience led him to believe that, while QA was useful for ensuring sick newborn care units (SNCU) were properly equipped, a different approach was required to make sure that babies receive the right processes of care. During the regional QI training workshop, he realized that what he was learning could be directly applied to improve patient care in his department and across India. He then started planning a QI project.

After returning to KSCH, Professor Datta worked with staff in his unit, facility leadership and advisors from the USAID ASSIST project to use QI methods to prevent hypothermia after delivery and improve hand hygiene. Over the next 12 months, the QI team was able to increase the percentage of neonates admitted to the NICU with normothermia from 30% to 96%. **Figure 1** below shows the increasing proportion of babies admitted to the NICU with a healthy, normal body temperature (normothermia), and a corresponding 39% reduction in newborn mortality in the unit.

**Figure 1: Percentage (%) of babies admitted to NICU who were normothermic and number of newborn deaths**



### Spreading QI approaches

Motivated by the good results at their facility, the QI team staff at KSCH wanted to introduce this methodology to clinicians in other institutions across north India. They identified two main challenges to spreading QI. First, there was no existing mechanism to help people learning QI to communicate and support each other. Second, they did not have funding to support workshops or travel.

KSCH developed different strategies to overcome these challenges. The team used their own extensive contacts to identify motivated individuals and facilities that they believed would be interested in not just learning QI methods but using them to solve real problems for newborns. This group already existed as part of an informal network. The KSCH team believed that bringing them together to learn about QI as a group, and then keeping them connected over emails and WhatsApp, would lead to a self-sustaining and supportive network of QI practitioners. Secondly, they partnered with ASSIST to support some of the costs to initiate the network.

The first event in October 2016 was a one-and-a-half-day-long workshop in New Delhi to learn the fundamental skills of QI and to develop a QI project. ASSIST supported the cost of the venue and provided staff to help with the training; participants funded their own travel and accommodation. KSCH invited staff from 17 public, private and academic medical facilities to learn QI approaches and prepare their QI projects to deliver better care to newborns. Together, these facilities provide services to 42,450 deliveries per year. After the workshop, staff returned to their facilities, and nine facilities started QI projects. **Table 1** below shows the aim and results of the QI projects undertaken by the initial nine facilities.

Why did health care providers decide to use their spare time and resources to learn about QI?

- QI was a new innovation and they wanted to learn more
- They wanted to provide better care to their patients
- Good reputation of KSCH: 'If it's good enough for KSCH, it's good enough for us'
- Being associated with the USAID ASSIST Project was attractive

**Table 1: Aim and results of initial QI projects undertaken by nine facilities**

No.	Name of facility	Type of facility	Aim	Results
1	Max Super Speciality Hospital, Patparganj Delhi	Private corporate	Reduce nasal trauma in neonates with breathing difficulty on C-PAP	Improvement work in process
2	UCMS & GTB Hospital, Delhi	Public academic	Reduce neonatal hypothermia at admission to NICU Initiate breastfeeding within one hour of delivery	Hypothermia reduced from 47% to 19% Initiation of breastfeeding in first hour increased from 23% to 80%
3	Deogiri Children's Hospital, Aurangabad	Private	Improve filling of preterm growth monitoring chart	Filling of growth monitoring chart improved from 20% to 100%
4	Sita Ram Bhartia Institute of Science and Research, Delhi	Private Academic	Improve use of 25% dextrose as analgesia before sampling in neonates	Use of dextrose increased from 20% to 100%
5	ESI Hospital, Rohini Delhi	Public	Initiate breastfeeding within one hour of delivery	Initiation of breastfeeding in first hour increased from 27% to 90%
6	NBCC Bareilly, Uttar Pradesh	Private	Reduce proportion of babies with hypothermia at time of admission in NICU	Hypothermia reduced from 70% to 0%
7	LNJP Hospital, Delhi	Public academic	Increase breast milk output in first week (Team started by improving proper technique for expression of breast milk.)	More than 70% mothers started using right technique for expression of breast milk
8	Safdarjang Hospital, New Delhi	Public academic	Improve essential newborn care (ENBC) Increase kangaroo mother care (KMC) hours	Improvement work in process
9	Hindu Rao Hospital, Delhi	Public academic	Improving hand hygiene practices	Improvement work in process

By the first quarter of 2017, this network created a WhatsApp group and started sharing some lessons and challenges they were learning while undertaking their QI work. By this time, 12 participating facilities had undertaken one or two QI projects. It was strongly felt that another face-to-face meeting would be beneficial to share learning.

In March 2017, the network met in-person for a day. Staff from these facilities shared the results of their QI projects and learned from the experiences of each other. This peer-to-peer learning was found to be very valuable. This meeting served as a platform for extensive cross learning and mutual exchange of ideas pertaining to the QI process. This meeting served to further strengthen the network in north and central India.

At the concluding session, it was unanimously decided by the teams to self-sustain this initiative in north India. Three hospitals volunteered to coordinate and arrange such future meetings at their facilities every quarter.

University College of Medical Sciences, and associated Guru Teg Bahadur Hospital, Lady Hardinge Medical College and KSCH, and Swami Dayanand Hospital agreed to fund and organize the subsequent three meetings. The network members also decided to develop their own website dedicated to supporting the sharing of experiences in using QI and for helping others learn about QI methods. Some members also volunteered to learn how to mentor new QI teams in different facilities. The network's goal is to build a more formal structure for spreading the use of QI approaches across India. The hospitals who have not yet completed a QI project are still in the network and attend the meetings. As they learn more from the network, we anticipate that they too will use QI methods.

### **Improving pain management in the private sector**

Sitaram Bhartia Institute of Science and Research, Delhi is a 70-bedded multispecialty private hospital in South Delhi with a monthly delivery load of 75 to 90. When they started the QI project, only 20% of babies receiving intravenous sampling were given 25% oral dextrose as analgesia prior to the procedure. The team tested a couple of simple changes, like preparing a 'dextrose tray' in advance and ensuring availability of 25% dextrose at point of use. This allowed the team to ensure that 100% of babies were receiving appropriate pain control. To make the changes part of the system, the hospital issued a new protocol of giving 25% dextrose to all babies before intravenous sampling.



Participants from the QI network met to share lessons and experiences. *Photo credit: Ankur Sooden, URC.*

## **Building institutional capacity to support QI**

During their QI project, KSCH staff recognized an additional challenge for using QI methods. Under the current system, hospitals do not have structures in place to support QI. For example, hospitals do not have systems to train more people in QI and provide hands-on support in helping people learn how to use QI skills. They also lack management structures to keep track of what QI work is happening around the hospital and to spread learning. The KSCH team was concerned that this could impair the ability of clinicians to sustain and spread improvements.

To address this, the leadership of KSCH – coordinated by Professor Datta and Professor Kumar, head of the department of paediatrics – formed a 'Quality Improvement Cell', which was approved by the Director of Lady Hardinge Medical College. This QI Cell has a mandate to support other departments in the hospital to use QI approaches and institutionalize the use of improvement methods in the hospital. The other objective of this cell is to create a pool of local resources for mentoring and coaching activities for new teams in the hospital and other areas in the country as well. The first activity undertaken by the QI Cell was to train 60 KSCH staff from four other departments on QI approaches in the month of May 2017. To the best of our knowledge, KSCH is the first public facility in India to form a QI Cell to institutionalize the use of QI methods.

## **Conclusion**

QI is an evidence-based approach that can be used by front-line workers to deliver better care without additional resources. QI teams in India have been successful in using these approaches to save lives, but there is limited capacity in the country to spread the use of these methods. KSCH has demonstrated an ability to not only use QI approaches in their own facility but also to spread QI through their existing networks. A continued focus on building the QI skills of individual champions and strengthening institutions to act as QI resources will help India reduce newborn mortality. KSCH is well placed act as such a resource centre.

## References:

<sup>1</sup> National Health Mission Components: RMNCH+A. nhm.gov.in. <http://nhm.gov.in/nrhm-components/rmnch-a/maternal-health/background.html>. Updated February 3, 2015. Accessed August 7, 2017.

<sup>2</sup> SRS Statistical Report 2012. www.censusindia.gov.in. [http://www.censusindia.gov.in/vital\\_statistics/SRS\\_Reports\\_2012.html](http://www.censusindia.gov.in/vital_statistics/SRS_Reports_2012.html). Accessed August 7, 2017.

<sup>3</sup> *India Newborn Action Plan (INAP)*. New Delhi, India: Government of India, Ministry of Health and Family Welfare, Child Health Division; 2014. [https://www.newbornwhocc.org/INAP\\_Final.pdf](https://www.newbornwhocc.org/INAP_Final.pdf). Accessed August 7, 2017.

<sup>4</sup> Livesley N. What we learned while improving care for 180,000 babies annually in India. USAID ASSIST Project website. <https://www.usaidassist.org/blog/what-we-learned-while-improving-care-180000-babies-annually-india>. Published May 15, 2017. Accessed August 7, 2017.

<sup>5</sup> Deorari A, Mehta R, and Livesley N. Point of Care Quality Improvement: Improving the Quality of Care for Mothers and Newborns in Health Facilities. New Delhi, India: World Health Organization, Regional Office for South-East Asia, 2017. <https://www.usaidassist.org/resources/POCQI-manuals>. Published February 23, 2017. Accessed August 7, 2017.

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