Sixty Seconds to Survival: A Quality Improvement Success Story

Nalgonda District Hospital demonstrates success through quality improvement

The UNICEF report on child survival below the age of five in India is upsetting because a large portion of this mortality is preventable. Over one million babies in India could have been saved in 2015 if basic sanitation and healthcare facilities had been provided in a timely manner. Thirty nine percent of these deceased babies in India died from complications during birth alone. The report talks about care by a skilled birth attendant, emergency obstetric care, immediate newborn care, including breastfeeding support, newborn resuscitation, and "kangaroo mother" care. However, in the end, healthcare workers need simple solutions that can reverse high mortalities into higher neonatal survivals.

All parents dream of a better future for their newborn children. Unfortunately, many realize that the first sixty seconds after the birth of a baby in the labor room has a substantial influence on the realization of these dreams only after the damage is done. For babies who have a delayed cry after birth, the first golden minute of resuscitation after delivery makes all the difference between a healthy newborn or a case of birth asphyxia. Birth asphyxia can lead to long term disabilities that include seizures, cerebral palsy, and neurodevelopmental delays in the child. The debates around possible solutions are endless, but the hospitals working under the Safe Care, Saving Lives program are showing how empowered facilities can devise novel yet simple ways of addressing this "do" gap in their facilities, the gap between knowing what to do and actually doing it.

Identifying the constraints

In the district hospital in Nalgonda, Andhra Pradesh, Dr. Yadaiah, Head of Department, and his team observed and analyzed the pattern of cases getting admitted in their unit. An alarming thirty one percent of the newborn cases coming from the labor room to Special Newborn Care Unit reported of birth asphyxia. As the first step, Dr. Yadaiah and his team took up the challenge to change the course of birth asphyxia case management in the labor room itself through creative initiatives. Dr. Yadaiah, with Dr. Shobha, the Head of the Obstetrics Unit, identified that steps of essential newborn care were sometimes missed, and together with the Quality Improvement team, decided to ensure that recommended guidelines for essential newborn care are adhered to.

Devising ways to address the problem

The first task of the Quality Improvement Team was to refresh hospital staff on the correct way of taking care of the newborn, as the team assumed that the care was not happening because of the lack of knowledge. Two parameters were defined. The first parameter was to identify high risk deliveries in time. The second parameter was to revisit neonatal resuscitation protocol in the labor room and special newborn care unit. However, in spite of extensive training, the number of birth asphyxia cases did not decrease. After due diligence, the Quality Improvement Team inferred that the issue was not lack of knowledge, as they assumed, but was due to lack of communication. The labor room staff was not able to inform the special newborn care unit in time of a high risk delivery. This ultimately resulted in suboptimal essential care of the newborn, leading to asphyxia.

Ring the bell

The Quality Improvement Team returned to the drawing board. This time, the team evaluated the possible reasons for the communication gap between labor room staff and the special newborn case unit. The team identified two possible reasons. The first reason was poor network connectivity, as the mobile network was not strong enough inside the hospital building. The second reason was the shortage of staff available who could attend the high risk delivery. In a brainstorming session, the team agreed on a novel solution. The team agreed to fix a bell between the special newborn care unit and the labor room. New protocol required the team in the labor room to alert the nurses across the floor in special newborn care unit by ringing the bell as soon as the head of the baby was visible. This ensured that the nurses from the special newborn care unit would rush to the labor room in time.

Testimony to the effort of the Quality Team

This creative solution led to brilliant results. The compliance rate in high risk deliveries jumped up from a mere twenty percent to an impressive eighty five percent. The team also saw a reduction in birth asphyxia cases, a testimony to the Quality Improvement Team's effort. With such positive results in hand, this protocol was introduced in all the shifts of the hospital and a fortnightly periodic assessment was done.

Back to square one

However, this success did not last long. Within four months, the compliance rates dipped from eighty five percent to forty five percent. The Quality Improvement team was determined to identify the issue. The team found that the nurse who led the Quality Improvement activity was shifted from the labor room to another department and the newly appointed nurse had reservations in replicating the labor room registers. This made identifying high risk cases very difficult to track and compliance dropped.

Simple solutions to high risk deliveries

The Quality Improvement Team immediately moved forward and zeroed in on a results oriented approach. They decided to have high risk stamped on every case sheet that was identified as a high risk delivery. In addition, a column in the medical records register recorded the high risk cases. Once again, the cases with higher risk of asphyxia were identified early and when the bell was rung, a nurse trained in neonatal resuscitation protocol was on hand to assist in the labor room during delivery.

Ultimate success recorded with forty nine neonates prevented Asphyxia

The determination to save lives was foremost both in thought and action. With constant focus and effort on the reduction of incidence of birth asphyxia cases, the entire team achieved success. Within three months, compliance levels reached ninety percent in identifying high risk deliveries and one hundred percent in deliveries attended by a nurse trained in neonatal resuscitation protocol. Adherence to these two practices resulted in over a twenty five percent reduction in asphyxia related admissions in the Special Neonatal Care Unit among inborn babies. In absolute terms, the number of asphyxia related admissions decreased from one hundred and ninety five admissions in 2014 to only one hundred and forty six admissions in 2015.

Lessons from Nalgonda

The way that the district hospital in Nalgonda handled this challenge teaches many lessons. Proper management of resources and an existing workforce can handle emergencies by setting up the right processes in place and using simple solutions. Usually, the issues are not the result of individuals but the result of gaps in the system. However, we usually start addressing the potential causes similar to how the facility initially acted by retraining the staff. However, with the evaluation of their own data, it was possible for the facility to identify the root cause and begin implementing corrective action. Most importantly, no department in a hospital works in isolation and collaboration can iron out the differences.

Establishing communication channels can solve the majority of the problems or at least set processes in place. Unfortunately, these issues cannot be addressed by a single prescriptive tool given the diversity of the issues health systems in India have. The Safe Care, Saving Lives program has empowered facilities to address these diverse issues through local, self evolved solutions with proven successes and the potential is immense.

The success is authored by Dr. Yadaiah, Dr. Jhilani, Dr. Shobha, and Sister Jhansi from District Hospital, Nalgonda, and supported by Gayatri Emani and Sujata Rao of the Safe Care, Saving Lives Project.

The Safe Care, Saving Lives Program is funded by the Children's Investment Fund Foundation.