Quality Improvement for Newborn Health: from Local solutions to National Network

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India: Basic Demographics

- Population: 13 billion
- Total Maternal Deaths (2015): 44,000
- Neonatal Mortality Rate: 26/1000 live births
- Still Birth Rate: 22/1000 live births
- 27% of global neonatal mortality.
- 20% of global maternal mortality.

http://www.qualityofcarenetwork.org/country/india
http://unicef.in/Whatwedo/1/Maternal-Health
## Coverage of Key Interventions: Scope for Improvement

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Coverage</th>
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<tbody>
<tr>
<td>Antenatal Care (4 or &gt; visits)</td>
<td>45.5%</td>
</tr>
<tr>
<td>Skilled Attendance at Delivery</td>
<td>81.1%</td>
</tr>
<tr>
<td>Early Initiation of breast feeding</td>
<td>44.6%</td>
</tr>
<tr>
<td>Exclusive Breast Feeding</td>
<td>64.9%</td>
</tr>
<tr>
<td>Post Natal Visit for baby</td>
<td>33.6%</td>
</tr>
<tr>
<td>Post Natal care for mother</td>
<td>39.3%</td>
</tr>
<tr>
<td>National Availability of EmOC</td>
<td>37%</td>
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Resource Constraints

- Density of physician/1000 population: 0.72
- Density of Doctors, Nurses and Midwives in India: 24.4/10,000 population.
- Global Critical Threshold: 23/10,000 population.

WHO Global Atlas of Health Workforce
Adequate Preparedness to improve Quality of Care

- Leadership
- Plans
- Strategies
- Standards
- Data
- Supporting systems

http://www.qualityofcarenetwork.org/country/india
Kalawati Saran Children’s Hospital (KSCH), New Delhi, India

• One of the largest tertiary care hospitals in India catering exclusively to pediatric population.
• Department of Neonatology caters to a load of 15,000 deliveries a year
• Over 2500 NICU admissions /year.
• Runs a super-speciality course of DM Neonatology affiliated to Delhi University
• Collaborative Center and National Center for Excellence for multiple national programs of the Government of India Ministry of Health.
2013-2014: Our initial journey towards ensuring quality in SNCUs
Quality Assurance Centric Bottle Neck Analysis

Roadmap for Improvement of Neonatal Healthcare Facilities in Meghalaya

National Health Mission Government of Meghalaya
Meghalaya: Assessment of Quality of Neonatal Healthcare (2015-2016)

Health Service Delivery: a major bottleneck
Ground Reality: Across MNH Facilities
Do we wait for the ideal condition, resources, manpower and time to improve quality of care?

OR

**WE** fix our Problems ourselves

- Strengthen our systems
- Increase their efficiency
- Make them more equitable
- Make them **TRANSPARENT**

Without Asking for more Resources
Start of our journey in Quality Improvement

- Aug 2015: QI Team from GOSH, London visited KSCH
- Aug 2015: Learning session on basic QI Methodology
- May 2016: WHO Regional Workshop for QI for MNH, New Delhi
- June 2016: Start of QI coaching sessions at KSCH with USAID ASSIST
- July 2016: Start of First QI project on Hypothermia at arrival.
Reduction of neonatal hypothermia at admission: A Quality Improvement Initiative

Department of Neonatology, LHMC, New Delhi
June 2016 - till date
Newborns arriving in the NICU?

- Discharge
- No
- Nursery
- Neonatal Ward
- Is the child sick?
- Yes
- No

- Main LR
- Main OT
- Clean OT
- FP OT
- GYN Casualty
- MAT 1
- MAT 5

800 meters (or half a mile!) away from NICU
The hospital started work to reduce hypothermia in July 2017 by ‘sensitizing’ staff. This doubled the number of normal temperature babies.
Continued the improvement work

**Changes:**

- Installed thermometer in labor rooms to encourage staff to increase ambient temperature
- Keeping a supply of pre-warmed linen to receive the baby
Started analyzing the problem more and making system changes

**Changes**

Keep transport incubator (TI) battery charged:

- Told people to keep it charged
- Put a sign up on TI reminding people to keep it charged
Initial Improvement... but sustainability was challenging
Used system changes to keep battery charged

Changes

• Tape charging leads to TI

• Set up dedicated “charging bays”
Improvement, but batteries were old and no longer holding a charge >15 min
Use new system changes

Changes

Keep transport incubator (TI) battery charged before transit and prior to return

Transport baby with pre-warmed linen

Percentage (%) of babies admitted to the NICU with normothermia
Improving temperature management during transportation

Mean Monthly Outside Temperature in Delhi (°C)

0 10 20 30 40
Temperature (°C)

Jul-16 Aug-16 Sep-16 Oct-16 Nov-16 Dec-16 Jan-17 Feb-17 Mar-17 Apr-17

Percentage (%) of babies admitted to the NICU with normothermia

0% 20% 40% 60% 80% 100%

Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr

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Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr
• 89.7% reduction of moderate hypothermia.
• 55% reduction in deaths/1000 patient days.
Initial Results
KSCH

• Increase in normothermia
• Reduction of all cause mortality

Dissemination of QI Skills

• To likeminded teams led by local champions
• Organization of multiple 2 day QI workshops & TOT session.

Capacity Building

• Networking of teams
• Onsite and offsite coaching support
• Experience sharing under a common platform

Start of the Network (2016-2017)
How we identified the initial teams: Prerequisites

- Had a local champion for neonatal healthcare in place.
- Geographically close to KSCH
- Voluntarily expressed desire to be a part of the process.
- Agreed to self finance their travel and stay.
What factors encouraged the teams to take up QI trainings?

• Novelty
• Sense of Purpose
• Desire to replicate success stories at their facilities.
• Improve clinical outcomes
FINANCES FOR WORKSHOPS

Teams

• Travel
• Stay

USAID-ASSIST/KSCH/IAP/FOGSI

• Venue
• Food
• Stationary
Jan 2017-Aug 2017

National Pool of Teams
National Pool of Trainers
Results
QI Cell KSCH
NQOCN
National Quality Of Care Network (NQOCN) : Objectives

- Capacity Building
- Experience sharing
- Community Participation
- Partnership
Our Network

• 9 states (UP, MP, MS, Haryana, Kerala, TN, Karnataka, Meghalaya, Delhi)

• Nearly 70 teams

• Delivery load of over 140,000 deliveries/year.

• Expression of Interest: Punjab (CMC Ludhiana), State NHM MP.
Drivers?

• “Local Champions” at the national level who were advocating the cause of the newborn for decades.
  • most knew each other
  • had worked together on diverse subjects other than QI
  • had a common belief that they could not wait for the ideal situation to act and had to fix their problems themselves
• **NQOCN** provided them with a “common platform” for action
• Cadres of HCW previously uninvolved in decision making were made a part of the NQOCN teams thereby increasing their self esteem and motivation to perform for the network.

“Flat Hierarchy”, “Voluntary”, “Honorary”, “Not for Profit”, “Self Financing”
What Drives us?

• Passion to improve outcomes,
• Novelty,
• Connectedness
• Willingness to change,
• Empathy,
• Compassion,
• Results
Our initial Results:
Standalone Private Facilities

Reducing hypothermia at Chinmoy Mission Hospital Bangalore

Reduction in average cost of investigation per baby
Manipal Hospital, Karnataka
Standalone Nursing homes:
Deogiri Children’s Hospital (Maharashtra)

Proportion babies getting sucrose analgesia
Increasing duration of KMC per baby in SNCU, Ganesh Das hospital
Increasing the % of babies breastfed within one hour of birth in MCH Tura

46% increase
Increasing duration of KMC per baby in SNCU, MCH Tura

251% increase
Increasing the % of babies getting immediate skin to skin contact and basic newborn care on mothers abdomen in MCH Tura

373% increase
Increasing the % of babies breastfed within one hour of birth in NEIGRHIMS

244% increase
Coaching Support
Coaching Support: Finances

**ASSIST**
- Travel
- Onsite coaching

**Meghalaya NHM**
- Travel
- Onsite coaching

**MP NHM**
- Travel
- Onsite mentoring of SNCU

**Individual facilities**
- Monthly QI meetings
- Local Hospitality

**NQOCN**
- Free Off site mentoring
- Onsite mentoring (if paid by host)
What Now?

**Expand:**
- Geographical (more peripheral)
- Pool of local champions, trainers, coaches, teams and facilities
- Partners

**Sustain:**
- Keeping the interest alive
- Financial plan
- Formal organizational structure.
Learning Lessons

• Informal QI Networks can play an important role in complimenting the formal networks of QoC.

• Majority of Health Care Workers want to improve outcomes but lack the skill and system support to do so.

• Attaching value to work and exposing teams to a practical method to improve clinical processes helps them to work cohesively.
Learning Lessons

• Identify and reconnect with the local champions, provide them the environment to learn and spread this learning.

• Go beyond preferences, comfort zones and brandings to pickup your teams.

• Do not wait for an executive order to act, start your improvement work now!

Key mantra to sustain any network: robust financial plan, perseverance and connectedness.
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