Improved maternal and newborn health in developing countries: the role of quality improvement

Fatuma Manzi, PhD
Ifakara Health Institute, Tanzania

ECSA - 10th Best Practices Forum and 26th Directors Joint Consultative Committee Meeting
Introduction

• Maternal & newborn mortality remain unacceptably high in sub-Saharan Africa
  • Reason: affordable cost-effective evidence based interventions are still not implemented at scale
  • Leading to poor quality of maternal and newborn health services
• Quality improvement (QI) is proposed as one approach to close this “know-do” gap particularly when it is linked to use of locally available high quality health data
  • To assist in finding own solutions to problems in delivering quality care
• Evidence is being generated on feasibility of routine implementation of QI:
  • To improve health worker performance & stimulate demand for care
  • Impact on strengthening health management at district level & increase accountability
Available Interventions and delivery strategies

Supervisory tool
Automated statistical reports online

https://access.matssoft.co.uk

SVD by Month at Kibiti Health Centre

Upgraded facility

Curriculum for Basic Technician Certificate in Health Aide (NTA Level 4)
Technology use for Maternal Newborn & Child Health

Last mile delivery emergency medical products

V-Scan for Early detection of maternal complications at primary health care facilities

Stork system

1. Health facility orders medicine via mobile

2. Nest dispatches a Stork with package

3. Stork can carry up to 1.0 kg in 75 km radius

4. Stork drops package at health facility in 15-45 min

Unmanned Aerial Vehicles

Non-Pneumatic Anti-shock Ga

60% Reduction in Maternal Mortality in 2 years
Experiences of applying quality improvement in the routine district health system for maternal and newborn health (MNH)

Proof of concept is available

- EQUIP – 2011-14
- Collaborative research project funded under EU FP7 - www.equip-project.eu
- In Tanzania (Tandahimba) and Uganda (Mayuge) to improve MNH
- Included primary facilities, communities, district hospitals health management teams

Going forward with scale-up

- QUADS – 2015-19
- Quality Improvement At District-level Scale in Mtwara Region, Tanzania
- Designed for scale-up - a model of QI oversight that can be streamlined and integrated within the health system
Method

- A structured approach
- With a clear aim
- Root cause analysis
- Indicators to follow up
- Collective power of many teams working on similar problems - collaboratives

Source: Institute of Health Care Improvement, USA
Quality Improvement in action for MNCH

- Problem-solving approach
- Engages stakeholders in a bottom-up approach aiming:
  - To identify context-specific problems and
  - Create strategies to address these problems
  - Increase ownership, mainly utilize available resources, share best practices

- Breakthrough collaboratives (IHI)
  - Multiple Plan-Do-Study-Act cycles
  - Health facility staff form QI team as Community volunteers/ health workers
  - Several teams agree a common aim that they can measure over time
  - Improved data use, share results, ideas and experiences in learning sessions
  - Sessions are repeated quarterly, with new issues being added each time
  - Between meetings, try out ideas for change – action period

- Prioritized themes for improvement based on guidelines & strategies
  - Fives Alive, Mai Khanda, Kenyan hospitals, QAP, 7S, 6-sigma
Operationalization of Quality Improvement

Participants (teams)

Selection of priority topic and development of mission and goals by technical team in collaboration with district

Introduction of quality improvement methodologies and change topic with Indicators

Introduction of new change topic with Indicators

Support
Supervision, coaching and mentoring

LS – Learning Session
AP – Action Period

LS 1 → AP1 → LS 2 → AP2 → LS 3 → AP3, etc

Dissemination and policy exchange

LS – Learning Session
AP – Action Period
Steps in implementing QI using routine health system

Learning sessions quarterly
- Review of problem
- Brainstorming for change ideas
- Peer-to-peer learning for rapid spread of solutions
- Team motivation

Monitoring and evaluation

Coaching and mentoring – follow-up after training & thereafter
- Guidance and trouble shouting
- and familiarity

Action Phase (teams implement)

- Evaluation: run-chart plot, reflection & fine-tuning implementation
Report Cards for community level

**Sepsis prevention in Tandahimba District**

- Women in Tandahimba who delivered at home reported that the birth attendant used gloves during the birth.
- 92% of women living in Tandahimba who had a recent birth at home said the birth attendant used gloves.
- Women in Tandahimba who delivered at home reported that their baby’s cord was cut using a clean blade.
- 94% of women living in Tandahimba who had a recent birth at home said their baby’s cord was cut using a clean blade.
- Women in Tandahimba who delivered at home reported that their baby’s cord was tied using a clean cord tie.
- 70% of women living in Tandahimba who had a recent birth at home said their baby’s cord was tied using a clean cord tie.
- Women in Tandahimba who delivered at home reported that they put nothing on the baby’s cord after birth.
- 98% of women living in Tandahimba who had a recent birth at home said they put nothing on their baby’s cord.

Produced on 13 May 2013 by Ifakara Health Institute for the EQUIP project, Mtwara, Tanzania
An example of Report Cards for District and Health Facility QI teams

- Knowledge of pregnancy danger signs

<table>
<thead>
<tr>
<th>Division</th>
<th>Number of women who had a recent live birth (round 4)</th>
<th>% of women who knew at least one pregnancy danger sign</th>
<th>Average number of danger signs known per woman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litehu</td>
<td>31</td>
<td>77</td>
<td>1.6</td>
</tr>
<tr>
<td>Mahuta</td>
<td>37</td>
<td>76</td>
<td>1.9</td>
</tr>
<tr>
<td>Namikupa</td>
<td>42</td>
<td>81</td>
<td>1.7</td>
</tr>
</tbody>
</table>
Anotated Run-chart: Evidence of tested change

Idea to improve birth preparedness in the community

Aim: > 75% all pregnant women with birth preparedness plans

Proportion of pregnant women with birth preparedness plans

Proportion women with BPPs

QI starts: sensitization

Birth preparedness check list

Home visits

% women with BPP

Median

Months:
- Jul'11
- Aug'11
- Sept'11
- Oct'11
- Nov'11
- Dec'11
- Jan'12
- Feb'12
- Mar'12
- Apr'12
- May'12
- Jun'12
- Jul'12
- Aug'12
- Sep'12
- Oct'12
- Nov'12
Quality Improvement: Proportion of women who have delivered in facility and come back for PNC within the first week after delivery

- QI begun: 4 HFss
- QI scale up:

Proportion (%) all women that have delivered and have come back for PNC within the 1st one week.

Medians
Lesson Learned

• We have established that routine implementation of quality improvement is feasible
  • And provide interface of the mainstream health system-health facility and community

• It does not create additional or parallel system
  • The existing health system administrative structures can be used to institutionalize QI to address many health issues

• It strengthen data quality, created platform for sharing and informing improvement initiatives
  • Uptake of evidenced based & cost effective interventions

• The experience contributes positively to national quality improvement frameworks
“But I have discovered the secret that after climbing a great hill, one only finds that there are many more hills to climb.” – Nelson Mandela
Challenges

• Systemic bottlenecks impair implementation of quality improvement
  • At facility level - the system readiness is poor
    - Key supplies are missing – drugs, life saving tools
    - The system is so slow to respond on HRH

• QI entails behaviour changes that take long time to normalize
  • Going as a team you reach far although not fast
  • Feedback and sharing of best practices is empowering
Opportunities to Informing policy and practices

• Scale-up Implementation in 4 districts
  • Regional health management is taking the lead,
  • Scientists are providing technical backstopping and evaluation

• Understanding long term effect - changes in community recognition, decision making & care seeking for MNH complications
  • Worked with URC part of TRAction
  • Findings are available, 3rd delay is dominant – services are poor/ unavailable

• Harmonization and institutionalization of QI in Tanzania
  • Already shared the findings with MoHCDGEC
  • We are part of the QI technical working group

• National Quality Improvement Forum (www.nqif.or.tz)
  • An avenue for all stakeholders to share achievements, challenges & best practices

• HPRO – working with APHRC and ECSA
  • to guide us on knowledge translation and delivery science
Acknowledgement

• Director and staff of IHI
• Investigators and technical advisors KI, LSHTM, SickKids Foundation, IHI
• Local authorities in Tanzania and Uganda
• Communities
• All funders – EU, IDRC, USAID
• HPRO – APHRC and ECSA
Thanks