Analysing the problem and measuring Quality of Care

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Network for Improving Quality of Care for Maternal and Newborn Health: Webinar Objectives

- Tools for understanding processes and systems and how to use them
- How using these tools can help identify possible solutions to reach your aim
- How to choose indicators for process and outcome
- How to use these indicators to track progress of improvement
Bold Aim: Accelerating the Pace of Reducing Maternal and Newborn Mortality
Maternal Newborn Network: What Design will Get Us to Dramatic Goals?

1. Reduce maternal and newborn deaths and stillbirths in participating health facilities by 50% over five years

2. Improve experience of care – enable measureable improvement in user satisfaction with the care received

“Every System is Perfectly Designed to Get the Results it Gets” – Paul Batalden
5 Design Elements of Maternal Newborn Network

- Network Aim (reduce deaths and improve quality of user experience)
- Content Theory (WHO Standards: Clinical Processes and Health System Drivers of Improvement)
- Measurement System
- Implementation Theory (Step-by-Step Country Guidance, using 8 elements of Implementation)
- Learning System
1. 50% reduction in maternal and newborn death
2. Measureable improvement in user satisfaction with the care received

Network Aim

Content Theory

- Reliable Evidence-based care
- Data to ensure early, appropriate action to improve care
- Effective Referral Systems
- Engage women, families & communities in their care
- Appropriately skilled and motivated healthcare workers
- Appropriate resources
1. 50% reduction in maternal and newborn death
2. Measureable improvement in user satisfaction with the care received

Network Aim

Reliable Evidence-based care

Data to ensure early, appropriate action to improve care
Effective Referral Systems
Engage women, families & communities in their care
Appropriately skilled and motivated healthcare workers
Appropriate resources

Content Theory

Measurement System
A 25 year first time pregnant woman is brought to a district hospital by bicycle at midday. She has been in labour for 12 hours.

Labour ward is busy - she waits in line for 2 hours and is then admitted to labour ward - cervix is 8cm dilated, fetal heart rate is detected, slight meconium is seen. She is put on a partograph.

By late afternoon she has made slow progress, now 9cm, and heavy meconium is showing.
At 8pm baby is born at ~ 2000g with moderate asphyxia

The Ambubag cannot be located, and baby is given O2, wrapped with a cloth and kept in the labour ward for observation.

Baby is struggling with breathing and transferred to nursery: requires O2 (via electric concentrator), cared for in cot in nursery.

Power outage in early evening, Initial backup generator is fired up, but runs out of fuel after 2 hours.

Staff dispatched to town to get more fuel.

Baby gets cold, hypoxic, develops respiratory distress and dies before power comes back on.
Factors that are involved in Baby’s death

In the chat box, list the clinical and health systems factors that contributed to this outcome
How Do we Organize Content to Inform Change Ideas?

STANDARDS FOR IMPROVING QUALITY OF MATERNAL AND NEWBORN CARE IN HEALTH FACILITIES

1. WHO Standard #1

2. WHO Standards #2 - 8

Network Aim (reduce deaths and improve quality of user experience)

Content Theory (Clinical Processes, Health System Drivers of Improvement)

Measurement System

Implementation Theory (Country Guidance, 8 elements of Implementation)

Learning System
Two Frameworks for Organizing Change Ideas:

1. Process Map for Clinical Processes

2. Health System Drivers of Improvement

- Network Aim (reduce deaths and improve quality of user experience)
- Content Theory (Clinical Processes, Health System Drivers of Improvement)
- Measurement System
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1. 50% reduction in maternal and newborn death
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Process Mapping

Reliable Evidence-based care

Pregnant mother starts Labour process/arrives at Labour ward

Step 1
Step 2
Step 3
Mother and Baby leave facility
2 Frameworks for Organizing Change Ideas: #1

Process Map

Framework #1: Process Map.
- Follows the patient journey through a sequence of process steps
- Each step include a bundle of activities that include screening, decision making, action
- The performance of each step can be tracked by existing or new measures
- The performance of each step can be improved by local ideas or ideas from outside facilities working on the same step
- A common framework across a district (or country) helps to share learning on change ideas
Standard 1: Every woman and newborn receives evidence-based routine care and management of complications during labour, childbirth and the early postnatal period,

1.1a: Women are routinely assessed on admission, during labour and childbirth and are provided with timely and appropriate care
1.1b: Newborns receive routine care immediately after birth
1.1c: Mothers and newborns receive routine postnatal care.
1.2: Women with pre-eclampsia or eclampsia receive appropriate interventions
1.3: Women with postpartum haemorrhage receive appropriate interventions
1.4: Women with delay in labour progress, or prolonged or obstructed labour receive appropriate interventions.
1.5: Newborns not breathing spontaneously after additional stimulation are resuscitated with bag-and-mask within one minute after birth.
1.6a: Women in preterm labour receive appropriate interventions for both the woman and the baby.
1.6b: Preterm and small babies receive appropriate care, including thermal care and optimal feeding.
Process Map for Organizing Change Ideas around Evidence-based Care:

1.1a: Women are routinely assessed on admission, during labour and childbirth and are provided with timely and appropriate care.
1.1b: Newborns receive routine care immediately after birth.
1.1c: Mothers and newborns receive routine postnatal care.

1.2: Women with pre-eclampsia or eclampsia receive appropriate interventions.

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1.4: Women with delay in labour progress, or prolonged or obstructed labour receive appropriate interventions.

1.5: Newborns not breathing spontaneously after additional stimulation are resuscitated with bag-and-mask within one minute after birth.

1.6a: Women in preterm labour receive appropriate interventions for both the woman and the baby.
1.6b: Preterm and small babies receive appropriate care, including thermal care and optimal feeding.

1.7a: Women with or at risk of infections are promptly identified and managed.
1.7b: Newborns with suspected infection or risk factors for infection are promptly identified and managed.

1.8: All care with universal precautions for preventing hospital-acquired infections.

1.9: No woman or newborn is subjected to unnecessary or harmful practices during labour, childbirth and the early postnatal period.
Health System Drivers of reliable evidence-based care

1. 50% reduction in maternal and newborn death
2. Measurable improvement in user satisfaction with the care received

Data to ensure early, appropriate action to improve care
Effective Referral Systems
Engage women, families & communities in their care
Appropriately skilled and motivated healthcare workers
Appropriate resources

Reliable Evidence-based care
2.1: Every woman and newborn has a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period.

2.2: Every health facility has a mechanism for data collection, analysis and feedback as part of its activities for monitoring and improving performance around the time of childbirth.

2.3: Every health facility should have a mechanism for data collection, analysis and feedback as part of its activities for monitoring and improving performance around the time of childbirth.

3.1: Assess for referral and make decision to refer if needed.

3.2: Referral follows a pre-established plan without delay.

3.3: Appropriate referral information exchanged.

Standard 4: Communication with women and their families is effective and responds to their needs and preferences.

Standard 5: Women and newborns receive care with respect and preservation of their dignity.

Standard 6: Every woman and her family are provided with emotional support.

7.1: Access at all times to skilled birth attendant and support staff for routine care and management of complications.

7.2: The skilled birth attendants and support staff have appropriate competence and skills.

7.3: Managerial and clinical leadership that supports continuous quality improvement.

8.1: Safe and effective water, energy, sanitation, hand hygiene and waste disposal facilities.

8.2: Areas for labour, childbirth and postnatal care enable privacy of care.

8.3: An adequate stock of medicines, supplies and equipment is available for routine care and management of complications.
1. 50% reduction in maternal and newborn death
2. Measureable improvement in user satisfaction with the care received

Reliable Evidence-based care

Effective Referral Systems
Engage women, families & communities in their care
Appropriately skilled and motivated healthcare workers
Appropriate resources

Data to ensure early, appropriate action to improve care

Measurement System

3 levels of Measurement:
1. Outcomes
2. Clinical Processes
3. Health System Inputs and Processes
Measurement System: Informs us on our Progress and What to Focus on

Outcomes: Facility based Maternal mortality (/100,000 births) and Newborn mortality (/1000 live births), and Stillbirths (/1000 births)

Clinical Process measures

Admission Treatment
- Admit Assess
- Admission Routine care
  - Measure – e.g. % admitted mothers fully screened

Intrapartum Treatment/emergency care
- Intrapartum Assess
- Intrapartum Routine care
  - Measure – e.g. % % mothers with Eclampsia treated with MgSO4

Early Postpartum: treatment/emergency care
- Intrapartum Assess
- Early Postpartum: Routine Care
  - Measure – e.g. % mothers receiving AMTSL bundle

Late Postpartum: treatment/emergency care
- Postpartum Assess
- Late Postpartum: Routine Care
  - Measure – e.g. % babies <2000g admitted for KMC
Measurement System: Informs us on our Progress and What to Focus on

Outcomes: Facility based Maternal mortality (/100,000 births) and Newborn mortality (/1000 live births), and Stillbirths (/1000 births)

Clinical Process measures

Admission Treatment

Intrapartum Treatment/ emergency care

Early Postpartum: treatment /emergency care

Late Postpartum: treatment/ emergency care

Admit Assess

Intrapartum Assess

Intrapartum Assess

Postpartum Assess

Admission Routine care

Intrapartum Routine care

Early Postpartum: Routine Care

Late Postpartum: Routine Care

Measure – e.g. % mothers fully screened

Measure – e.g. % mothers with Eclampsia treated with MgSO4

Measure – e.g. % mothers with obstructed labour referred for CS

Measure – e.g. % mothers receiving AMTSL bundle

Linked Measure – e.g. % mothers with PPH

Measure – e.g. % babies <2000g admitted for KMC

Linked Measure – e.g. % babies admitted to KMC that survive
Measurement System: Informs us on our Progress and What to Focus on

Clinical Process measures

- Admission
- Intrapartum
- Early Postpartum
- Late Postpartum

Admission Treatment

Intrapartum Treatment / emergency care

Early Postpartum: treatment /emergency care

Late Postpartum: treatment / emergency care

Admit Assess

Intrapartum Assess

Early Postpartum Assess

Late Postpartum Assess

Admission Routine care

Intrapartum Routine care

Early Postpartum: Routine Care

Late Postpartum: Routine Care
Deciding on What to Work on first....

Clinical Process measures

- Significant gap in performance on a key process or outcome
- Clear linkage of process to outcome
- Not too complex
- Processes are amenable to change

Example: high incidence of postpartum hemorrhage and recent deaths of mothers from PPH.
Generating Change Ideas for targeted improvement

1. PROBLEM
2. SYSTEM ANALYSIS
3. GREAT IDEAS
4. PLAN
5. IMPLEMENT
6. ACT
7. DO
8. STUDY
9. SUCCEED/SUSTAIN

DO
STUDY
ACT
DO
Cause and Effect System Analysis through a health System Lens: the “Fishbone”

Problem: High rates of PPH and maternal deaths from hemorrhage

- Leadership supports continuous QI
- Effective Referral Systems
- Resources available to prevent and treat PPH
- Workforce has skills to undertake the work
- Patient and Family engagement
- Available data to inform decision making

Resources available to prevent and treat PPH

Available data to inform decision making

Leadership supports continuous QI

Patient and Family engagement

Effective Referral Systems
What Changes Can We Make That Will Lead to Improvement?

Change Concept: proven approaches to change that has been found to be useful in developing specific ideas for changes that lead to improvement.

Concept
An opportunity to create a new connection

Gap in performance

Specific idea A
Specific idea B
Moving from Concepts to Ideas

Conceptual, Vague, Strategic

Specific Ideas, Actionable

- Improve PPH outcomes
- Ensure supplies available
- Ensure oxytocin at front line
- Oxytocin in delivery pack
- Oxytocin used every time within one minute of birth
## Nine Groupings of General Concept Changes for Improvement

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Change Concepts in the Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminate Waste</td>
<td></td>
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<tr>
<td>Improve Work Flow</td>
<td></td>
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<tr>
<td>Optimize Inventory</td>
<td></td>
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<td>Change the Work Environment</td>
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<td>Producer / Customer Interface</td>
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<td>Focus on Time</td>
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<td>Focus on Variation</td>
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<tr>
<td>Mistake Proofing</td>
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<tr>
<td>Focus on a Product / Service</td>
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Source: *The Improvement Guide*: page 295
Facility
- Frontline QI teams
- Learn within facility, community
- 4 components
  • Data analysis
  • Idea generation
  • Implement, Test
  • Monitor

District / Regional
- Learn across facilities, communities within a district
- Network learning

National
- Learn across districts for national scale-up

Linking to Broader Learning Agenda of Network
<table>
<thead>
<tr>
<th>Monitoring component</th>
<th>Description of the component</th>
<th>Facility manager and QI team</th>
<th>District managers</th>
<th>National MOH leadership</th>
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</thead>
<tbody>
<tr>
<td>Quality improvement (QI) measures (facility teams)</td>
<td>To support <strong>rapid improvements in quality of care</strong> led by facility-based QI teams supported by district/regional (or other sub-national administrative managerial unit) managers</td>
<td>HIGH data collection and use</td>
<td>Moderate data collection and use</td>
<td>Moderate data use</td>
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<tr>
<td>District / regional performance monitoring measure</td>
<td>To support district/regional <strong>managerial and leadership functions</strong> in improving and sustaining quality of care (QoC) in facilities</td>
<td>Moderate data collection and use</td>
<td>HIGH data collection and use</td>
<td>Moderate data use</td>
</tr>
<tr>
<td>Implementation milestones</td>
<td>To <strong>track implementation steps</strong> and progress against strategic objectives (leadership, action, learning and accountability), in line with global implementation guidance</td>
<td>Moderate data collection and use</td>
<td>Moderate data collection and use</td>
<td>HIGH data collection and use</td>
</tr>
<tr>
<td>Common core measures</td>
<td>To provide a <strong>common set of standardized indicators</strong> for use by all stakeholders at every level of the health system and to track performance across countries</td>
<td>HIGH data collection and use</td>
<td>HIGH data use</td>
<td>HIGH data use</td>
</tr>
</tbody>
</table>

* Note: Components are not mutually exclusive. Some indicators may be useful in more than one (1) component.
Potential Network Resources for Monitoring

- **A web-based repository of monitoring tools and guidance**: This will include indicator sets, validated data-collection tools, analysis methods, manuals and capacity-building materials.

- **Technical assistance**: When requested by countries, the Network can facilitate technical assistance to help with the design and implementation of a country-level monitoring framework.

- **A web-based dashboard and tools to track performance**: The Network will develop a web-based dashboard to showcase implementation status and progress towards the collective goals across countries.

- **Links to related initiatives**: The Network will help to connect countries with relevant M&E and health information system initiatives, such as the Health Data Collaborative (HDC) and Primary Health Care Performance Initiative (PHCPI).