RISE Plus: An Intervention to Address Quality Gaps in Maternal and Newborn Health in Post Ebola Liberia

By:
Dr. Sarah Anyango
Consultant Obstetrician & Gynecologist/Maternal Health Lead, Partners in Health Liberia

Contributors: Anatole Manzi, Joia Mukherjee, Cory McMahon, Natalie Price, Sophia Abbasi, Abdissa Kabeto, Viola Karanja, Minnie Horace, Daniel Maweu, Louise Gaye, Garmai Marshall, Siana Jackson Mentoe, Sonnie Kollie, Emily Dally
Overview:

• Introduction

• Background of Maternal and Newborn Health Care in Liberia

• RISE Plus: implemented intervention to address quality gaps

• Implementation Results

• Primary Outcomes

• Challenges/Limitations

• Key Lessons Learned
Country Overview:

• Two Civil Wars, 1989-1996, 1999-2003
  • 95% of healthcare facilities destroyed, rural areas most affected, (Johnson et. al, 2003)
  • Total doctors dropped from 400 to less than 30 (UNDP, 2006)

• Ebola outbreak 2014-2016
  • Estimated 5,000 deaths
  • An estimated number of between 7,500-12,000 orphans related to Ebola
  • Many health providers died

Sources:
Johnson et al. Association of Combatant Status and Sexual Violence with Health and Mental Health Outcomes in Post-conflict Liberia JAMA 2003
Liberia 2006 Human Development report

Photo caption: Liberian Women Calling for Peace and an End to the Civil War source: https://www.un.org/africarenewal/magazine/april-2010/even-peace-liberias-2010s-women-struggle
Country Overview:

- Post Ebola, Liberia faces a situation of:
  - High poverty
  - High teenage pregnancy rates and
  - Low uptake of family planning
- Chronic human resource shortage in health sector
- These factors combine to produce unacceptable MMR in the world
Background of Maternal and Newborn Health Care in Post Ebola Liberia:

- National population: 4.6 million
- Maternal mortality Ratio:
  - 1072/100,000 live births
- Neonatal mortality Rate:
  - 26/1000 live births
- Contraceptive utilization rate is at 20%
- 31% married women have FP unmet need

Source:
County Context:

- Maryland County has a population of **167,340**
- There are 4 health districts and 25 health facilities (22 MOH & 3 private health centers)
- 1 referral hospital and 1 health center - PIH–supported

<table>
<thead>
<tr>
<th>Health Workforce</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Practitioners</td>
<td>2</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>18</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>84</td>
</tr>
<tr>
<td>Midwives</td>
<td>33</td>
</tr>
</tbody>
</table>
Re-Emerging Initiative for System Enhancement (RISE Plus) involves:

### PIH’s APPROACH TO HEALTH SYSTEMS STRENGTHENING: THE 5 S's

**STAFF:**
Well-trained, qualified staff in sufficient quantity to respond to need

**STUFF:**
Ensuring the tools and resources needed for care delivery and administration

**SPACE:**
Safe, appropriate spaces with capacity to serve need

**SYSTEMS:**
Leadership and governance, information, financing

**SOCIAL SUPPORT:**
Providing basic necessities and resources needed to ensure effective care
Systems Improvement

- Use of data for quality improvement (Safe Childbirth Checklist)
- Protocols for Integrated Antenatal Care
- Functional Facilities, Services Offered 24 hours/7 days a week
- Functioning Referral Systems (Communication, Ambulance)
- Policies in place - free delivery care at point of service
- Adequate recording and reporting system
Staff at All Levels to Respond to Need:

- Employed Skilled, Motivated staffs at all levels
- OB/GY - manage together with the team
  - Severe pregnancy complications
- Training Residents
  - From LCPS, mentoring midwives, MOH doctors (on job training + drills)

Photo Caption: Dr. Sarah demonstrating insertion of IUCD to a group of midwives
Stuff: Medical Devices & Essential Supplies

Portable ultrasound & colposcopy machine in the Obstetric/gynecology clinic at JJ Dossen M. Hospital

Buffer store in the JJ Dossen Hospital Operating theatre
Space: Facilities with Capacity to Serve Need

Pleebo Health Center

- The facility is opened 24 hours and has an emergency room (4 beds), a labor and delivery suite (3 bed maternity ward and 2 delivery beds)
- **Average:** 80 deliveries/month
- PIH currently constructing 19-bed Maternal & Child Health Unit

**Ongoing MCH expansion**
Space: Facilities with Capacity to Serve Need

JJ Dossen Hospital

• JJD Dossen Hospital is the county referral hospital in Maryland county
• It is a 95 bed hospital with 2 surgical suites
  • ER: 6 beds
  • Medical/Surgical Ward: 29
  • OB/GYN Ward: 19
  • Pediatrics Ward: 23
  • Isolation Ward: 15
  • PACU: 3
JJ Dossen Memorial Hospital
Obstetric unit – 2 bed delivery room

Before

After
JJ Dossen Memorial Hospital
Operating Theatre

Before

After
Social Support: Essential Basics to Ensure Effective Care

- Support of safe blood transfusion services.
- Financial aid for needy patients admitted in the OB ward for long periods.
- Baby kit for all premature infants admitted in the hospital.
- Community KMC provides food for the mothers.
- Three meals a day for admitted patients

Daniel handing over a baby kit to a mother with a premature infant at the Obstetric ward

Blood donation drive organized by MOH & PIH
Safe Childbirth Checklist: Association Between Baseline and Intervention Data
Baseline & Implementation Results (1)

% of observations where blood pressure was checked: 90% (SCC baseline survey data n=16), 90% (Implementation data n=199)

% of observations where the provider washed hands with soap or hand sanitizer: 100% (SCC baseline survey data n=16), 90% (Implementation data n=199)

% of observations where the woman and/or companion were informed about danger signs: 70% (SCC baseline survey data n=16), 90% (Implementation data n=199)

% of observations where the provider assessed the need to start partograph: 90% (SCC baseline survey data n=16), 100% (Implementation data n=199)

% of observations where fetal heart rate was checked: 80% (SCC baseline survey data n=16), 70% (Implementation data n=199)

*p<0.001
Baseline & Implementation Results (2)

**JUST BEFORE, DURING SECOND & THIRD STAGE**

- % of observations where blood pressure was checked
- % of observations where the provider washed hands with soap or hand sanitizer
- % of observations where oxytocin (10 units) was available in syringe
- % of observations where baby's respiration was checked
- % of observations where an assistant was identified and ready to help at birth if needed

*SCC baseline survey data (n=16) Implimentation data (n=199)*

*p<0.001*
Baseline & Implementation Results (3)

SOON AFTERBIRTH

- % of observations where the provider assessed the needs of antibiotics
- % of observations where blood pressure was checked
- % of observations where baby's weight was checked
- % of observations where skin-to-skin contact was initiated
- % of observations where the woman and/or companion were informed of danger signs

* SCC baseline survey data (n=16)  ** Implementation data (n=199)

*p<0.001
Baseline & Implementation Results (4)

BEFORE DISCHARGE

- % of observations where the provider checked for the abnormal bleeding
- % of observations where the temperature of the baby was assessed
- % of observations where the woman was offered different family planning options
- % of observations where the woman counselled on danger signs for mother and baby

* p<0.001

- SCC baseline survey data (n=16)
- Implementation data (n=199)
Primary Outcomes

• Improved in use of Partograph to prevent prolonged/obstructed labor.

• Improved emergency preparedness and response in the obstetric ward.

• Improved stock management to minimize stock-outs in the OB ward.

• High utilization of reversible long-term FP methods.

• All neonates receive essential newborn care.
Challenges

• Inadequate human resources

• Inadequate space/infrastructure

• Inadequate equipments, both diagnostic & treatment

• Inadequate supplies of life-saving commodities

• Poor communication affecting accessibility of remote clinics.

• Poor health seeking behaviors

PIH Ambulance stuck in a road during an emergency response
Key Lessons Learned

• Addressing quality gaps in MNH care is multifactorial

• Multidisciplinary/team approach is paramount to MNH care quality

• Real time feedback to the nurse/midwife and on job training

• MOH/Hospital leadership involvement & commitment, is crucial to MNH quality improvement

• International support can greatly help

• Sustainability requires making best use of existing systems
Success Stories

A case of APH successfully managed following a timely referral by a midwife from a remote clinic

A case of high risk mother successfully managed for severe pre-eclampsia/acute kidney injury following a timely referral by a midwife from a remote clinic
Acknowledgements
References


5. USAID & MCSP. Restoration of health services project Liberia: Integration of Immunization and family planning services. Cited: www.mcsprogram.org , 2018

Q&A session
Thank you!