Simple Steps: Big Difference – the EWS (Implementation in Masaka Hospital - Uganda)

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Declaration of interests

None
Presentation Outline

- Introduction
  Uganda & Masaka Regional Referral Hospital
- Why the EWS Chart Implementation?
- Implementation
- Performance
  Successes
  Challenges
- Lessons Learnt & Future plans
Introduction: Uganda

http://ewb-umn.org/images/Africa-Uganda-map.jpg

http://breshears.net/wp-content/uploads/2014/05/uganda.gif
### Introduction: Uganda

#### Uganda: Some Key WHO MNCH Statistics

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>STATISTIC</th>
<th>YEAR of STATISTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Thousands)</td>
<td>37,579</td>
<td>2013</td>
</tr>
<tr>
<td>Total Fertility Rate (Per Woman)</td>
<td>5.9</td>
<td>2013</td>
</tr>
<tr>
<td>Neonatal Causes Of U5 Mortality Rate</td>
<td>29 %</td>
<td>2013</td>
</tr>
<tr>
<td>Maternal Mortality Ratio</td>
<td>580/100,000 LBs</td>
<td>2013</td>
</tr>
<tr>
<td>Contraceptive Prevalence Rate</td>
<td>30 %</td>
<td>2013</td>
</tr>
<tr>
<td>Antenatal Care (4+ Visit)</td>
<td>48 %</td>
<td>2013</td>
</tr>
<tr>
<td>Skilled Attendance At Birth</td>
<td>58 %</td>
<td>2013</td>
</tr>
<tr>
<td>Probability Of Dying From Maternal Causes</td>
<td>29 %</td>
<td>2013</td>
</tr>
</tbody>
</table>

Adolescents/Teenagers and younger women face a higher risk of complications and death as a result of pregnancy than other women.
Introduction: Uganda

Uganda’s MDG Results At A Glance: 2015

Goal 4: Reduce child mortality

• Target 4.A: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate: Missed Narrowly

Goal 5: Improve maternal health

• Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio: Not Achieved
Introduction: Masaka Regional Referral Hospital (MRRH)

- Located in south-central Uganda, approximately 122 kilometers southwest of Kampala in Masaka municipality.
- Established in 1927
- Elevated to regional referral status in 1996.
- 330 bed capacity with 90.3% bed occupancy
- Referral facility for over 12 districts with a population of over 2.2 million
- Also acts as the district referral hospital and HC VI for the municipality
- Infrastructural capacity stretched
Introduction: the OBGYN Dept. MWRH

- 70 beds—many are extra and improvised due to high patient low/turn-out
- Department responsible for over 34% of all hospital attendances, almost 50% of all admissions and 74.7% of all major operations
GOAL:
To provide safe, sustainable, efficient, quality and responsive RH services for the Greater Masaka community contributing to reduction of Maternal & neonatal mortality & morbidity in Uganda.

VISION:
Through innovation and patient-centered care, become a national-class provider and skills training center of specialized Obstetrics & gynecological services.
Introduction: the OBGYN Dept. MRRH Mission and Values.

OUR MISSION:

• Provide secondary and in future tertiary services OBS/GYN services of the highest quality and best value.

• Design and implement contemporary models of integrated RH healthcare.

• Contribute to RH knowledge development through research and evidence-based clinical practice.

• Prioritize RH disease prevention through health education.

OUR VALUES:

• Integrity & Professionalism
• Accountability
• Community & Client Empowerment
• Team Work
• Striving to Maintain Excellence In Clinical Care and skills
Introduction: the OBGYN Dept. MRRH

Structure & Services

DEPARTMENT OF OBS/GYN

LABOUR SUITE & ADMISSIONS
- Admissions
- Deliveries
- Post delivery care
- PAC Services
- LTFP Methods

ANTENATAL & GYNAECOLOGY WARD
- IP Antenatal care
- IP Gynae Care
- Elective Surgery

POST NATAL/POST OPERATIVE
- IP Post-Op Care
- Post delivery care

MATERNAL & NEONATAL CH UNIT
- Immunization
- F. Planning
- Antenatal Care
- EMTCT HIV
- GOPD

SPECIAL CARE NEONATAL UNIT

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**Introduction: the OBGYN Dept. MRRH Staffing**

<table>
<thead>
<tr>
<th>CURRENT</th>
<th>DESIRED/RECOMMENDED</th>
<th>DEFICIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Consultant</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Consultant</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Medical Officer Special Grade</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medical Officer</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Senior Nursing Officers</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Nursing officers</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Enrolled Midwives</td>
<td>42</td>
<td>24</td>
</tr>
<tr>
<td>Laboratory technicians</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

**Figures based on workload and WIT Study 2010**

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**Introduction: the OBGYN Dept. MRRH**

**Performance statistics: 2014-2015**

<table>
<thead>
<tr>
<th>CURRENT</th>
<th>NUMBER</th>
<th>RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>12,466</td>
<td>34% of all hospital admissions</td>
</tr>
<tr>
<td>Total Deliveries</td>
<td>9,740</td>
<td>108.2% of expected deliveries</td>
</tr>
<tr>
<td>Maternal Deaths</td>
<td>31</td>
<td>323/100,000 Live Births</td>
</tr>
<tr>
<td>Caesarean Sections</td>
<td>2475</td>
<td>28.2% C/S Rate</td>
</tr>
<tr>
<td>Normal Deliveries</td>
<td>7,265</td>
<td>76.7% of Total Deliveries</td>
</tr>
<tr>
<td>Vacuum extractions(Assisted VDs)</td>
<td>23</td>
<td>0.24% of Total Deliveries</td>
</tr>
<tr>
<td>Ectopic Pregnancies</td>
<td>77</td>
<td>0.8% of Total Deliveries</td>
</tr>
<tr>
<td>Abortions/Miscarriages</td>
<td>544</td>
<td>-</td>
</tr>
<tr>
<td>Referrals In</td>
<td>992</td>
<td>99.2% of expected</td>
</tr>
</tbody>
</table>

**Figures based on departmental records July 2014-May 2015**

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### Introduction: the OBGYN Dept. MRRH Morbidity & Mortality Rates

<table>
<thead>
<tr>
<th>INDEX/CONDITION</th>
<th>MOBIDITY NUMBER</th>
<th>MORTALITY NUMBER</th>
<th>CASE FATALITY RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAEMORRHAGE (PPH/DIC/APH)</td>
<td>137</td>
<td>16</td>
<td>11.7%</td>
</tr>
<tr>
<td>RUPTURED UTERUS</td>
<td>51</td>
<td>3</td>
<td>5.9%</td>
</tr>
<tr>
<td>PET/PIHT</td>
<td>38</td>
<td>1</td>
<td>2.6%</td>
</tr>
<tr>
<td>SEPSIS</td>
<td>107</td>
<td>4</td>
<td>3.7%</td>
</tr>
<tr>
<td>HIV RELATED</td>
<td>12</td>
<td>6</td>
<td>5.36%</td>
</tr>
<tr>
<td>ABORTIONS</td>
<td>54</td>
<td>2</td>
<td>0.36%</td>
</tr>
<tr>
<td>Others (cardiac arrest, embolism, anaesth. Deaths)</td>
<td>34</td>
<td>2</td>
<td>5.8% of MDs</td>
</tr>
</tbody>
</table>

**Figures based on departmental records July 2014-May 2015**
Why the EWS Chart Implementation?

Maternal Mortality Reviews:

• Revealed that more than half of deaths where preventable and intervention was late due to poor monitoring and delay to recognized the problem.

• Most deaths where within 48 hrs of post delivery either due to PPH or Post caesarean section internal bleeding

• “mother suddenly changed condition and passed away, may her soul rest in peace”
Why the EWS Chart Implementation?

A Review of Monitoring Tools:

• Where too many, varied and often outdated
• Where cumbersome to fill in accurately
• Did not indicate the gravity of illness of the patient in totality
• Did not guide the midwives on what course of action to take
Why the EWS Chart Implementation?

Ease and Urgency of Implementation:

- Required fewer resources: pen, paper and cheaper equipment to use/monitor
- Could easily be taught and understood by staff
- Reduced burden on paper work-integrated parameters
- Was easier to monitor and supervise its use
Why the EWS Chart Implementation?

It was one of the Strategic Priorities in 2015/16:

• Transform urgent/emergency care- ABCD strategy
• Transform planned care – Elective Surgery
• Transform safe delivery- increased partogram use
• Maintain safe, high quality and effective care
• Implement a Sustainable Early Warning Score System- this will be our major innovation this financial year
• Develop a sustainable Birth plan for ALL our ANC Mothers
• Procure/plan for acquisition of more specialised equipment for emergency/critical care
• Increased monitoring and supervision from “above”
Why the EWS Chart Implementation?

The is EBM/Research to show that EWS save lives:

• S. Singh, A. McGlennan, A. England and R. Simons:
  A validation study of the CEMACH recommended modified early obstetric warning system (MEOWS)
  Anaesthesia 2012, 67, 12–18
• Laurence E. Shields, MD; Suzanne Wiesner, RN, MBA; et al
  Use of Maternal Early Warning Trigger tool reduces maternal morbidity.
  American Journal of Obstetrics & Gynecology, 2013
  A national survey of obstetric early warning systems in the United Kingdom: five years on
  Anaesthesia 2014, 69, 687–692
• C. Carle, P. Alexander, M. Columb, and J. Joha
  Design and internal validation of an obstetric early warning score: secondary analysis of the Intensive
  Care National Audit and Research Centre Case Mix Programme database
  Anaesthesia 2013, 68, 354–367
• Alexander M. Friedman
  Maternal Early Warning Systems
Implementation of EWS: Training, CMEs & M&E

Excellence In: Obstetrics
Skills Training: 9 Staff trained 2015-17

Hospital CMEs: ABCD, Resuscitation, & EWS Ward And Practical Demonstrations

M&E by Various teams from RCOG UK Faculty
Implementation of EWS:
Started on Post Operative & Postnatal Ward

Reasons:
• High incident of complications and deaths
• Committed and trained staff (2 master trainers) willing to teach other staff
• Implementation started on antenatal and gynaecological ward after more trained staff.
Implementation of EWS:
Started on Post Operative & Postnatal Ward

Reasons-
High incident of post operative complications
- PPH,
- Sepsis
- Internal bleeding post operative
- Severe PEF and Eclampsia
- Shock – APH, Uterine Rupture

Very sick post-delivery referrals
Implementation of EWS:

Successes

- Successfully established the EWS as a sole system of monitoring very sick obstetric patients and in those we anticipated complications.
- Established a midwife led triage system to complement the EWS to manage patients.
Implementation of EWS: Successes

- The has been a reduction of **40%** mortality in immediate (first 24 hrs) post-operative cases due to PPH, Shock and Internal bleeding.
- There also appears to be a reduction in severe post-delivery/operative morbidity rates as staff appear to be more vigilant. (this is still under study with a team from MU and AOGU)
Implementation of EWS:

Successes

• Shared skills and knowledge with staff who did not attend the training.
• Encouraged and fostered team work in the management of patients in the department.
• Standardized the care of patients in the department.
• Reduced complications and disability following pregnancy/delivery.
• Efficient and effective use of resources allocated to the department for the care of patients.
• Contributed to reduction of maternal and neonatal morbidity and mortality.
Implementation of EWS: Challenges

• Equipment at times is not available esp. BP machines
• A degree of resistance to change by some staff
• Uncompleted and un-scored charts still do exist
• Early detection may not necessarily translate into immediate action because of occasionally limited drugs, sundries and other vital equipment and skills
Implementation of EWS: Challenges

- High patient turn up may make monitoring difficult
- Low staffing levels and high attrition rates - burnout effect
- Issues of sustainability especially of acquired skills and committed staff/midwives
Implementation of EWS: Lessons Learnt & Future plans

- EWS is a reliable instrument that can help improve obstetric care outcomes.
- However, issues of response skills, equipment, infrastructure, and availability of human resources may affect its functionality and sustainability.
- There is a need to address all these issues to achieve better outcomes.

Future: 450 bed Complex
Thank You

ACKNOWLEDGEMENTS:
• MOH Uganda
• Administration - Masaka Regional Referral Hospital
• RCOG-UK Essential obstetric skills
• All staff MRRH Department of Obstetrics & Gynaecology

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