Misoprostol for Postpartum Hemorrhage: Innovating for Impact

Thursday, 15 December 2016
10:00 am EST

Hosted By
Misoprostol for Postpartum Hemorrhage:

Innovating for Impact
Why Misoprostol for PPH?

- PPH is leading cause of maternal death globally
- Conventional uterotonic for PPH prevention and treatment are largely unavailable or not feasible
- Misoprostol is safe and effective: easier to use, available, low cost, require few skills
Misoprostol for PPH: Main Challenges

POLICY
- Supportive policies (EML, STGs) not in place, not evidence based
- Supportive policies not translated into improved availability of misoprostol in health system

PRODUCT
- Quality assured products not available or guaranteed

PROCUREMENT
- Misoprostol not routinely procured or available in public sector
Innovating for Impact

What are new ways of addressing these challenges and barriers?

- Task-sharing PPH treatment
- Partnerships
- M-health applications
- Empowering women through self-administration
CONTINUUM OF CARE FOR THE PREVENTION OF POSTPARTUM HEMORRHAGE

Bonsaaso, Ghana
15 December, 2016
PRESENTATION OUTLINE

- Study Setting
- Study Rationale
- Continuum of Care for PPH
- Project Objectives
- Implementation
- Results
- Acceptability
- Lessons Learned
- Successes
- Scale up Milestones
- Scale up Challenges
- Recommendation for Scale up
- Conclusion
WHO: MacArthur, Millennium Promise Earth Institute & University of Illinois

WHAT: Pilot the “Continuum of Care for the Prevention of Postpartum Hemorrhage”

WHERE: Bonsaaso Millennium Village > Amansie West district > Ashanti

HOW: through 7 Primary Health Centers serving 30,000

Follow-on grant for scale up in Amansie West and 3 districts in Millennium Villages Project SADA region
STUDY RATIONALE

- PPH is the leading cause of maternal mortality and morbidity in Ghana

- Special challenges related to PPH prevention
  - ~70% of women in the Bonsaaso Cluster delivered at home in 2006*
  - Births attended by minimally trained providers or family members
  - No availability of uterotonics in most rural communities to prevent PPH
  - Visual underestimation of blood loss
  - Communication and transportation issues
CONTINUUM OF CARE FOR PPH

- An **INNOVATION** which allowed lower level staff and clients to use the medication for PPH prevention
- Approach was designed to incorporate multiple strategies for **PREVENTION** and **MANAGEMENT** of PPH at home deliveries
  - Reliable method for blood loss assessment for early and accurate **DIAGNOSIS** when bleeding continues
  - **PREVENTION OF PPH** with misoprostol
  - Infrastructure/mobilization to facilitate **COMMUNICATION** with & **TRANSFER** to a higher level health facility
CC-PPH PROJECT OBJECTIVES

- Introduce 2 simple, *inexpensive technologies* to reduce PPH through prevention and early diagnosis
  - Blood collection drape for timely & accurate diagnosis of PPH
  - Oral misoprostol for prevention of PPH

- To evaluate if these interventions are acceptable, practical, feasible & safe to implement across Ghana and other Millennium Villages
ORAL MISOPROSTOL FOR PREVENTION OF PPH
OBJECTIVES

- To introduce community-based distribution of misoprostol

- By placing much emphasis on:
  - Promotion of PHC deliveries
  - Presence of CHEW at home deliveries
  - Collaboration with TBAs
IMPLEMENTATION PREPARATION

- Procured misoprostol

- Developed tracking protocol to monitor community distribution
  - Requirement for research

- Conducted community sensitization

- Conducted refresher training on misoprostol with emphasis on distribution, safety & reporting
FLOW OF MISOPROSTOL

Ghana Health Services

District Pharmacist

MVP Pharmacy Technologist

Primary Heath Center Midwife

Client
THE MODEL — ADVANCE DISTRIBUTION

COMMUNITY SENSITIZATION

HOME OUTREACH

ANTENATAL CARE

MISOPROSTOL AT HOME
RESULTS

- 104 women used misoprostol
- 10 women (<10%) used misoprostol outside pilot sites
- 93/94 (99%) of women who delivered at home in cluster used misoprostol correctly
- 1 woman (1%) used miso incorrectly but only placenta was delivered.
ACCEPTABILITY

- 99% would use misoprostol at next delivery
- 99% would recommend misoprostol to family and friends
LESSONS OF CC-PPH PROJECT

- Misoprostol can be safely kept at home during the antenatal period

- Women are able to use dose correctly & safely

- Midwives able to counsel & distribute misoprostol during ANC visits

- Acceptable & feasible to distribute misoprostol within existing healthcare structure
SUCCESSES OF CC-PPH PROJECT

- Impacted increase in skilled delivery attendance from 2006 to October 2011
  - 29% to 75%

- Community awareness about benefits of misoprostol and safe motherhood-increased ANC attendance
SCALE UP MILESTONES

- Ghana is well poised to expand community-based misoprostol services to women in other rural communities

- Drug guarantor and retrieval requirements eliminated since pilot

- Drug added as National Health Insurance essential drug
CHALLENGES FOR SCALE UP

- **Resources for training and drug procurement are limited**

- **Pilot service delivery environment is not representative**
RECOMMENDATION FOR COUNTRY-WIDE SCALE UP

- Involve CHO/CHPS facilities in the distribution of miso when midwives are not available
CONCLUSION

Community-based distribution of misoprostol is safe, feasible & acceptable
ACKNOWLEDGEMENTS

- MILLENNIUM PROMISE (MP) GLOBAL AND GHANA TEAMS
- MACAUTHUR FOUNDATION
- PUBLIC HEALTH INSTITUTE (PHI)
- GHANA HEALTH SERVICE (GHS)
- MINISTRY OF HEALTH (MOH), GHANA
- ASHANTI REGIONAL HEALTH DIRECTORATE
- AMANSIE WEST DISTRICT
- BONSAASO COMMUNITY
- MISO BENEFICIARIES
THANK YOU!!!
Uterotonics and beyond – lessoned learned and new research on comprehensive strategies for PPH management in low resource settings

Holly Anger
Gynuity Health Projects
December 15, 2016
Current Realities of PPH

- At least one-third of deliveries worldwide still occur outside of facilities*

- Too much focus on universal prophylaxis at community level, not enough on comprehensive management:
  - Evaluations of prophylaxis programs show major limitations and problems with sustainability
  - 3–16% of women will have PPH after prophylaxis

- PPH management options remain largely restricted to higher levels of institutional care

- A simple, simple technology like misoprostol enables task-sharing of PPH treatment outside of facilities
Thinking beyond prophylaxis: Misoprostol for secondary prevention

- Treatment with 800 mcg SL misoprostol to women with early signs of possible PPH (e.g. 350-500 ml blood loss)

- Two cluster-randomized non-inferiority trials compared this approach to universal prophylaxis
  - No difference in clinical outcomes
  - Secondary prevention (5 -11% treated) vs. primary prevention (100% treated)

- Advantages of secondary prevention include cost, less side effects, lower burden on supply chain
Task-sharing first-line treatment

- If providers are expected to know when to refer, they also know when it's time to act
  - Reliance on referral = missed opportunity for timely intervention!

- Potential of Misoprostol for PPH treatment is clear:
  - IV oxytocin-the gold standard remains largely unavailable (and unlikely) at lower levels
  - Use of ergometrine at lower levels not ideal
  - Ease of use enables task-sharing of PPH management

- When to use this safe, simple intervention?
  - Not too late.....but why not too soon?
  - Tailoring triggers to context (distance to facility, availability of additional care)
Experience with task-sharing PPH management at lower levels

- Misoprostol as first aid
- Misoprostol as first aid after prophylaxis with misoprostol

Experience shows community providers can be trained to safely offer misoprostol as first aid and manage side effects.

Nurse-midwives in Egypt

TBAs in Pakistan
Community health workers in Afghanistan
How to trigger treatment in task-sharing models?

- Not necessary to measure cc’s of blood loss

Mat used to trigger secondary prevention in Egypt

350 mL 500 mL

Two cloths to help diagnose PPH (~500ml)

Marked bedpan ~500ml to trigger diagnosis

- When there is no birth attendant, can the woman or her family determine when to give treatment?
  - Evidence on this “Family First Aid” model forthcoming
  - Non-bleeding triggers like shock index (ratio of pulse and systolic blood pressure) may further aid in this
Take-home messages for programs:

- Think beyond universal prophylaxis – it is not 100% effective and few examples of effective, sustainable national programs
- When PPH occurs, “referral” rarely happens and is inadequate as a primary PPH management strategy
  - Task-sharing can enable administration of treatment to women who otherwise would have no access
- PPH as “first aid” should be available wherever women deliver – all levels of birth attendants can safely offer PPH first aid
- Precision and blood measurement are not necessary in diagnosing PPH - simple triggers will suffice
- PPH is rare at the community level, but systems need to be equipped to adequately treat women when it does happen
What happens when uterotonicics fail?

- Most PPH controlled with medical management, though some will require additional interventions, including:
  - Blood transfusion
  - Surgical intervention (compression sutures, arterial ligation, hysterectomy)

- In many low resource settings, such interventions are not immediately available or feasible outside tertiary centers
  - Problems with blood supply, unavailability of necessary personnel (surgeon, anesthesiologist/anesthetist, etc.)

- Where interventions are feasible, delays often encountered in overburdened facilities
PPH Management: Beyond uterotonics

- Promising technologies that may play a key role at lower levels
  - Uterine Balloon Tamponade (UBT)
  - Tranexamic acid
  - NASG

- Considerations:
  - Is it safe and effective?
  - Who can offer and what is the training burden?
  - Where can it be offered? How low can we go?
  - What are alternatives? What is likelihood of additional care?
  - Cost/benefit per use?
Tranexamic acid for PPH treatment

- Included in WHO guidelines for PPH treatment “if oxytocin and other uterotonics fail to stop the bleeding or if the bleeding may be partly due to trauma”

- Published evidence is on IV TXA, no reports using oral formulation for PPH treatment
  - Oral formulation → less resource intensive → can be used at lower / community level (enables task-sharing)

- In progress – Individual randomized double-blind placebo-controlled trial to compare:
  - 1950 mg oral TXA + 800 mcg misoprostol
  - Oral placebo + 800 mcg misoprostol
Uterine Balloon Tamponade (UBT)

- Included in FIGO and WHO guidelines for PPH management
- Low cost versions such as the condom balloon tamponade could play important role in low resource settings
  - Could enable task-sharing of second-line treatment for PPH
- Recent research suggests important tool in low resource settings – may help avert need for hysterectomy
  - Quality of research to date is relatively poor
Evaluating UBT for PPH in 3 countries

- **Countries**: Egypt, Senegal, and Uganda
- **Sites**: 18 secondary/district level hospitals (6 per country)
- **Aim**: Assess effectiveness and safety of introducing UBT
- **Intervention**: Training on and introduction of UBT use for management of PPH
  - **Training**: In collaboration with Massachusetts General Hospital and local partners, half-day training, train the trainers model
  - **Condom catheter balloon kits**: using locally available materials
- **Design**: Prospective, cluster-randomized, stepped wedge trial
  - **Outcomes**: rate of invasive procedures for PPH (including hysterectomy), maternal mortality due to PPH, rate of blood transfusion, postpartum infection, pain experienced
Looking Ahead: Challenges

- Research on promising new technologies at various stages

- Studies largely assess a single intervention, how do we translate into systems?

- Quality of care: technology only as good as system allows it to be

- Lag in uptake of evidence into policy/practice
Conclusion:

- Need to shift beyond singular focus on “universal prophylaxis” to PPH management in ALL settings where women deliver
- Use of simple technologies and task-sharing can expand access to PPH treatment in community settings
- New evidence should drive updates and implementation of task-sharing guidelines and norms
- Comprehensive task-sharing approaches that go beyond prevention and first-line interventions can enhance the quality and reach of care
- Need for more implementation research on how best to roll out programs that go beyond single point interventions
Preventing Maternal Deaths in Rural Tanzania

Misoprostol Webinar
December 15, 2016

Dr. Gail Webber
Bruyere Research Institute
University of Ottawa
(in collaboration with Dr. Bwire Chirangi, our Tanzanian research team, and our partners)
Map of Tanzania
Maternal Mortality: Context

MMR for Tanzania 454/100,000 (2010)

= Almost 1 woman dies hourly in childbirth

In this region, two of the most common causes of Maternal Mortality are postpartum hemorrhage (21%) and sepsis (10%)

Many home births as women have challenges accessing health facility (multiple barriers to care)

Historically over 60% of women deliver outside of health facility (home, TBA’s home or on the way to health facility).
Saving Mothers Project

- Funded by HDIF, UK Aid: 2015 to 2017
- Bunda and Tarime Districts, Mara Region, Tanzania
- Investigators: Chirangi and Webber
- Other partners: Canadian Physicians for Aid and Relief, AMREF and Medic Mobile
- **Research Purpose:** Demonstrate the feasibility and effectiveness of distributing delivery kits with misoprostol to women for self-administration at 34 to 36 weeks.
- CHWs register pregnant women on m-health applications using mobile phones, remind women to go for antenatal visits, warn about danger signs, report key indicators for data collection
- Birth kits are distributed by nurses at antenatal visits or by CHWs at 36 weeks
Preliminary Results

- Women and health care providers are very happy with the kits
- Provision of birth kits is an incentive to go to health facility for antenatal care and delivery as free supplies available
- Antenatal visits and Facility birth rates are increasing
Challenges

- In one district the head reproductive nurse restricted distribution of birth kits only to facility.
- CHWs are volunteers so that their commitment to project is limited at times.
- Continuing the project after our funding is complete is not ensured - we are continuing to work with policy makers on this.
“EACH WOMAN Health” Project

“Enhancing all Community Health Workers on Maternal and Newborn Health”: 2015 to 2019

Funded by IDRC/CIHR/Global Affairs Canada

Investigators: Chirangi and Webber

Partners: CPAR and Medic Mobile
Objectives

Reduce maternal deaths through improving women’s access to health care facilities

Location: Rorya District, Mara Region

Multiple interventions

Address the 3 Delays:
- **Decision** to get care
- **Transport** to health facility
- Receiving **Care** at health facility
3 Delays

Factors affecting access

Gender and Socio-cultural Barriers
- No transport available, or no funds for transport
- Real or perceived lack of supplies/workers at health facility, or cost of care
- Negative attitudes of HCPs to women

Interventions
- Village meetings led by CHWs
- Voucher for free transport by local motorcycle taxi
- M-health registration, education, birth kits with misoprostol
- Workshops with Health Care Providers

DECISION

TRANSPORT

CARE
Thank you
SAVING MOTHERS’ LIFE THROUGH ADVANCE DISTRIBUTION OF MISOPROSTOL FOR SELF ADMINISTRATION IN AFGHANISTAN

December 2016
Outline

- Background
- Achievements
- Challenges
- Next Steps
Current Situation (Afghanistan)

- Maternal Mortality Ratio (MMR) estimated 327/100,000 live births
- Every two hours one mother dies of PPH (AMS)
- The main cause of the maternal mortality is hemorrhage

Source: Afghanistan Mortality Survey, 2010
Background

Piloted in 3 provinces, 6 districts in 2006

Demonstrated the safety, acceptability, feasibility, and program effectiveness (SAFE) of community-based distribution of misoprostol by CHWs

Expanded to 5 provinces, 20 districts in 2010 - 2012

- Demonstrated that the quality of the initiative can be maintained during expansion phase
- Monitored adverse events as the service delivery is expanded
Results of PPH prevention expansion in Afghanistan (2010 to 2012)

- Number of women educated on birth planning
- Number of women who were given the drug
- Number of women who delivered at a health facility
- Number of women who delivered at home assisted by (SBA)
- Number of women delivered at home not assisted by a SBA
- Number of woman who had PPH
- Number of women who took three tablets of misoprost
Achievements

Based on the evidence generated; MoPH decided to initiate the National Scale up of Community-Based Prevention of PPH in 2015

• Developed

• Adopted
Achievements

• Advanced Distribution of Misoprostol for Self-Administration (ADMSA) will be integrated into SEHAT contracts effective January 2017

• Prevention and management of postpartum hemorrhage symposium conducted
  – MoPH released a position paper and committed to:
    “Every mother giving birth in Afghanistan will be offered a uterotonic for prevention of postpartum hemorrhage”
Achievements

- In coordination with MoPH & SEHAT NGO selected sites of intervention
Achievements

• Conducted awareness workshops on Community-Based Prevention of PPH for 90 national and sub-national health managers

• Conducted high impact interventions (HII) workshop
Achievements

- Oriented 50 provincial Health managers through four batches of Community-Based Prevention of PPH (CBPPPH) orientation workshops in four covered provinces

- Trained 93 CBPPPH trainers
Achievements

• Trained 623 female CHWs on Community-Based Prevention of PPH to provide counseling to pregnant women and distribute misoprostol
Progress

**Misoprostol Distribution and Consumption Chart (May-October 2016)**

- **# of pregnant women who received misoprostol:** 432
- **# of home deliveries in which the mother took misoprostol:** 252

Legend:
- Green bar: # of pregnant women who received misoprostol
- Blue bar: # of home deliveries in which the mother took misoprostol
Progress

• Conducted joint MoPH, HEMAYAT monitoring and supervision visits form advanced distribution of Misoprostol to pregnant women
Institutionalization

1. Assigning MNH technical working under Reproductive Health Directorate, MoPH to lead the ADMSA scale up at national level.

2. Integration of ADMSA into BPHS and CHW curriculum through MNH technical working group.

3. Inclusion of misoprostol into essential medicine list and CHWs kits through MNH technical working group and ANPHA.

4. Mobilizing UN Agencies and other organization to contribute in procurement of Misoprostol tablets for implementation of ADMSA in Afghanistan.
## Challenges

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<th>Challenges</th>
<th>Actions taken</th>
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<td>Unavailability of Misoprostol supply</td>
<td>- 4020 Misoprostol 200mcg tablets received from MSF</td>
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<td>- 150000 Misoprostol 200mcg tablets procured from India using Jhpiego core fund</td>
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<td>- Advocacy to get misoprostol into the routine drug supply</td>
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<td>SEHAT NGOs did not have sufficient budget for cascading the CBPPPPH trainings for female CHW in SEHAT N</td>
<td>- Temporary financial and technical support provided for replication trainings</td>
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<td>- CBPPPPH intervention integrated into SEHAT contracts</td>
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<td>Insecurity</td>
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Expand the intervention to 5 new provinces including Kandahar, Dykundi, Herat, Panjshir, Nimroz

Integrate the intervention into Basic packages of health services (BPHS)

Include Community Based Prevention of PPH indicators into HMIS

Include Misoprostol into essential drug list

By end of 2017, 15500 pregnant women will receive Misoprostol for self administration
Thank You
THANK YOU!

For more information on misoprostol for PPH, relevant journal articles, news stories, project updates, and upcoming events.

http://knowledge-gateway.org/misoprostol/