

Introduction of Misoprostol for Prevention of Postpartum Hemorrhage at the Community Level in Two Kenyan Districts

Final Report in Brief

Persistent high maternal mortality rates are a key concern for many countries in Africa, including Kenya which has a maternal mortality ratio of 488 maternal deaths per 100,000 live births. Postpartum hemorrhage (PPH), or excessive bleeding after childbirth, is among the leading causes of maternal death in Kenya, and globally. Over half (56%) of deliveries in Kenya take place at home, many without a skilled attendant, meaning current interventions that can prevent or treat PPH are out of reach for these women. Misoprostol tablets are safe, effective and affordable, and have been proven to reduce postpartum bleeding. Misoprostol is recommended jointly by FIGO/ICM as the only available technology to control life-threatening PPH during home births without a skilled attendant. Since almost all Kenyan women (92%) utilize antenatal care (ANC) services during pregnancy, reaching pregnant women with misoprostol tablets at ANC visits could be a key strategy for increasing protection from PPH in the most vulnerable populations.¹ In addition, equipping Kenya's cadre of Community Midwives with misoprostol can help fill the gap of uterotonic coverage for women unable to reach a facility to deliver.

In 2009, the Division of Reproductive Health within the Ministry of Public Health and Sanitation (MOPHS) of Kenya, in collaboration with the Kenya Obstetrical and Gynaecological Society (KOGS) and Venture Strategies Innovations (VSI), initiated a pilot project to demonstrate that

distribution of misoprostol through ANC and at delivery with Community Midwives (CMs), complemented by an education campaign, are appropriate strategies for increasing protection against PPH in the context of Kenya's health system. The pilot project took place in two districts, Kitui and Maragua, whose

populations together total just under one million. The goal of the project was to reduce maternal mortality and morbidity by increasing access to uterotonic drugs for the prevention of PPH, and to provide empirical evidence to inform policy in Kenya on the use of misoprostol for PPH at the community level.

“Use MISO after birth to protect the mother's life”

The project included a community awareness campaign on birth preparedness, PPH and the use of misoprostol for PPH prevention. Posters and pamphlets containing these messages were displayed in ANC facilities and distributed by Community Health Workers (CHWs).



CHWs also communicated these key safe motherhood messages through conducting group awareness-raising meetings and one-on-one education sessions with women.

Distribution of misoprostol at the community level

The project also included community-level distribution of misoprostol. ANC providers distributed misoprostol to pregnant women attending ANC at all ANC facilities in Kitui and Maragua districts after screening the women for eligibility and educating them on the proper use of misoprostol. Women were not eligible to receive misoprostol if they had bronchial asthma or other chronic disease or if the providers anticipated a complicated delivery. In Maragua district, CMs could also provide misoprostol to women at the time of delivery.

FINAL RESULTS

Enrollment in the project began in mid-December 2009 and continued through June 2010. KOGS and VSI trained a total of 519 ANC providers and 27 Community Midwives in the project. ANC providers and CMs collected service delivery data on 3,844 women across the two districts, either during ANC or at delivery with a CM. Providers conducted postpartum follow-up on women who returned for a postnatal visit; the Postnatal Follow-up Form was completed for 2,812 women by the end of October 2010. Seventy-eight women delivered with CMs and are included in the sample of postpartum data.

Community health workers essential in communicating safe delivery messages

Over 3,000 CHWs were involved in this project, and their involvement allowed messages about birth preparedness, the risks of PPH, and PPH prevention with misoprostol to be spread to the communities. CHWs conducted over 3,700 community sensitization meetings about misoprostol, reaching approximately 23,500 people across Kitui and Maragua districts. In addition, CHWs conducted over 4,000 individual education sessions with women.

High coverage of misoprostol distribution to eligible women

The overwhelming majority (98%) of women enrolled in the project during ANC took misoprostol home with them. Most of the women who did not take the tablets home from ANC were ineligible to receive misoprostol.

Provider perspectives

"My ANC visits have jumped since the project started."

- Community Midwife, Maragua district

"I experience oxytocin stock outs from the pharmacies I procure from, so I feel safer with having Miso on hand."

- Community Midwife, Maragua district

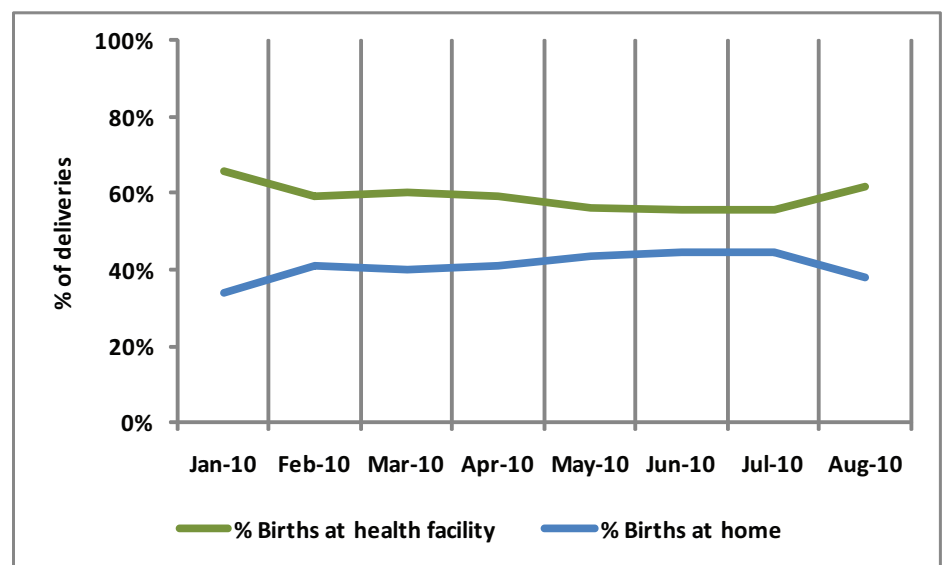
Women continued to deliver in health facilities

Overall, 60% of women who completed the Postnatal Follow-up Form delivered in a health facility. Figure 1 shows that there was no significant change in the proportion of women delivering at a health facility due to the introduction of misoprostol distribution for home deliveries.

More births protected from PPH

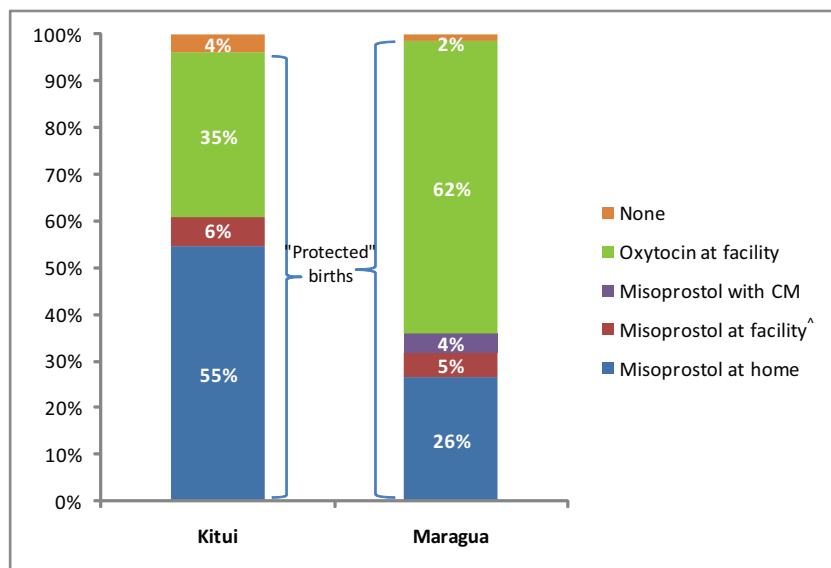
In both Kitui and Maragua districts, uterotonic coverage was high. Of the women who delivered at home in

Figure 1: Location of delivery by month[^] (n=2,766)



[^]December 2009, September 2010, and October 2010 are not included in this graph due to the small number of deliveries during these months.
Source: Postnatal Follow-up Form

Figure 2: Coverage of births protected from PPH¹ (n=2,890)



¹Any uterotonic given for PPH prevention

[^]Includes four women who also received oxytocin

Source: Postnatal Follow-up Form and Community Midwife Delivery Form

both districts, 95% used misoprostol at delivery. This is a critical point, as these deliveries would otherwise not have received any uterotonic coverage against PPH. The fact that home deliveries were higher in Kitui is reflected in Figure 2, which shows that misoprostol taken at home protected more births in Kitui than in Maragua (55% vs. 26%, respectively). The majority of women delivering in health facilities across both districts received oxytocin (89%); however, an

additional 10% received either misoprostol or both misoprostol and oxytocin at delivery. Overall, misoprostol use protected over 60% of births in Kitui and 35% of births in Maragua against PPH.

Women used misoprostol correctly at home births

Women used misoprostol at home deliveries correctly 97% of the time: correct dose (100%), route (100%) and timing (97%)(Table 1).

Few postpartum symptoms among misoprostol users

The majority of women (90%) who took misoprostol for PPH prevention did not experience any symptoms (Figure 3). The most commonly reported symptom was shivering (6%). Other postpartum symptoms, such as nausea, diarrhea, vomiting and increase in body temperature, were reported by fewer than 1% of women who used misoprostol. Only 1% of misoprostol users experienced more than one symptom. Fewer than 1% of women indicated that experience of postpartum symptoms would prevent them from taking misoprostol in the future.

Fewer additional interventions needed

Of the 1,084 women who delivered at home and took misoprostol, fewer than 1% perceived excessive bleeding, which resolved without need for additional interventions or referral.

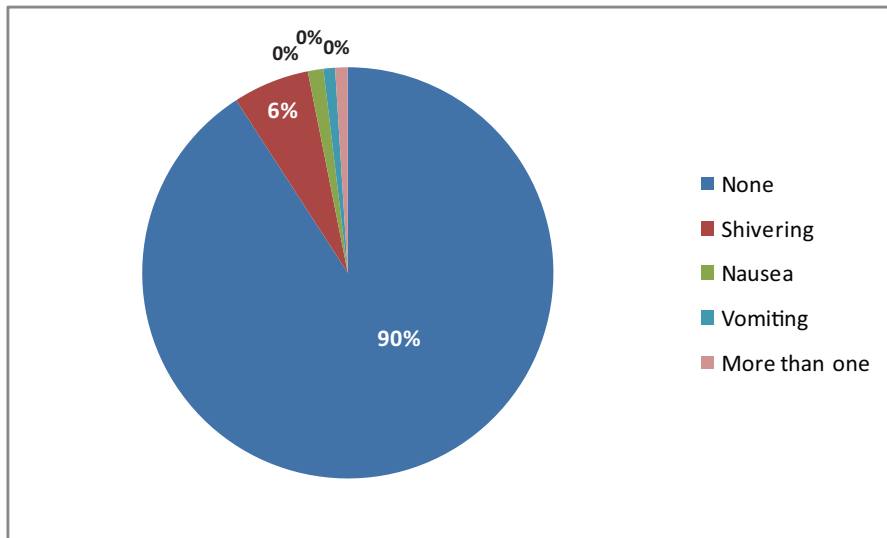
Table 1: Correct Use of Misoprostol at Home Births[^]

| | Kitui n=626 | Maragua n=458 | Total n=1,084 |
|---|--------------------|--------------------|----------------------|
| Dose | | | |
| Three tablets (Correct dose) | 625 (99.8%) | 458 (100%) | 1,083 (99.9%) |
| Two tablets | 1 (0.2%) | 0 | 1 (0.1%) |
| Route | | | |
| Oral (Correct route) | 626 (100%) | 458 (100%) | 1,084 (100%) |
| Timing | | | |
| Immediately after delivery, before placenta is delivered (Correct timing) | 599 (95.7%) | 449 (98.0%) | 1,048 (96.7%) |
| After placenta is delivered | 27 (4.3%) | 9 (2.0%) | 36 (3.3%) |
| Correct use of misoprostol (correct dose, route and timing) | 598 (95.5%) | 449 (98.0%) | 1,047 (96.6%) |

[^]Includes deliveries en route to the health facility

Source: Postnatal Follow-up Form

Figure 3: Reported experience of postpartum symptoms among misoprostol users¹ (n=1,323)



¹Women experiencing diarrhea (n=2), increase in body temperature (n=2), and other unspecified symptoms (n=6) were fewer than 1% of those using misoprostol and not shown.
Source: Postnatal Follow-up Form and Community Midwife Delivery Form

CONCLUSIONS

Findings from this project demonstrate that the direct distribution of misoprostol to women through ANC visits, as well as through Community Midwives at delivery, has the potential to increase the number of women who receive protection from PPH using a uterotonic drug at the time of delivery. Misoprostol for home births is a safe and effective intervention. ANC providers have the skills to integrate misoprostol distribution into regular ANC visits. Furthermore, CHWs are invaluable in increasing knowledge of health interventions.

Recommendations

All ANC providers in Kenya should be trained to distribute misoprostol to

pregnant women during routine ANC visits. Districts should be supported in their efforts to train ANC providers and develop sustainable models for Community Midwives to provide essential care to women and families, including misoprostol for PPH prevention. All facilities where deliveries take place should be consistently stocked with oxytocin and misoprostol to increase the likelihood that all women will receive a uterotonic drug at delivery.

We recommend to policymakers and key stakeholders that distribution of misoprostol for PPH prevention through ANC visits, as well as through Community Midwives for home deliveries, be scaled up throughout Kenya.

Acknowledgements

The partners are grateful for the community-level support for and participation in this pilot project. It could not have been completed without the expert staff and colleagues at the MOPHS, including Dr. Josephine Kibaru, former Head of the Department of Family Health, Dr. Isaac Bashir, Head of the Division of Reproductive Health (DRH), and Dr. Shiprah Kuria, current acting Head of the DRH. In addition, the project was successful due to the contributions of the District Health Management Teams, ANC providers, Community Midwives and Community Health Workers. PSI also deserves recognition for contributing to the community awareness component of this project with its youth drama groups in Maragua district.



Project participant from Maragua district

¹Kenya National Bureau of Statistics (KNBS) and ICF Macro. Kenya Demographic and Health. Survey 2008-09. Calverton, Maryland: KNBS and ICF Macro, 2010.