



Distribution of Misoprostol at Antenatal Care Visits for the Prevention of Postpartum Hemorrhage in Ghana

Preliminary Brief

In Ghana, maternal deaths occur at a rate of 350 per 100,000 live births, and approximately 24% of these deaths are due to hemorrhage.^{1,2} As part of its safe motherhood strategy, Ghana Health Service is committed to ensuring all women receive coverage with a uterotonic drug at the time of delivery to prevent postpartum hemorrhage (PPH). For facility deliveries, oxytocin is the uterotonic of choice. Misoprostol is a safe, affordable and effective alternative uterotonic that can be used to prevent PPH where oxytocin is not feasible or available. It is jointly recommended by the International Federation of Gynecology and Obstetrics and the International Confederation of Midwives as the only available technology to protect against PPH during home deliveries without a skilled attendant. While 42% of women deliver at home in Ghana, 95% of women attend at least one antenatal care (ANC) visit with a health care professional during pregnancy.³ Therefore, ANC represents a key opportunity to reach women with misoprostol and reduce maternal death due to PPH.

In mid-2009, Ghana Health Service (GHS), with support from the US-based nongovernmental organization Venture Strategies Innovations (VSI), initiated a pilot project to demonstrate that distribution of misoprostol to pregnant women at ANC visits, complemented by a community awareness campaign, is an effective strategy for increasing women's protection against PPH in Ghana, particularly for those who are unable to deliver at a health

facility. The pilot project took place in four districts, Birim South, Komenda-Edina-Eguafo-Abirem (KEEA), Upper Manya Krobo and Sene (Figure 1), and aimed to reach as many women as possible with a uterotonic drug at delivery to prevent unnecessary maternal mortality related to excessive bleeding after delivery.

PROJECT COMPONENTS

Community awareness campaign

The pilot project included a community awareness campaign on birth preparedness, the importance of delivering in a facility, and PPH prevention. The community awareness campaign emphasized key messages using print materials such as flipcharts, pamphlets and posters with pictorial instructions, as well as interpersonal communications conducted by traditional birth attendants (TBAs) and Community Health Volunteers (CHVs) oriented on the pilot project. CHVs shared the key messages with their communities and TBAs held meetings with community leaders and women's groups as well as one-on-one information sessions with pregnant women.

Distribution of misoprostol at ANC visits

All women attending ANC in Ghana are routinely educated on birth

Figure 1: Pilot project districts

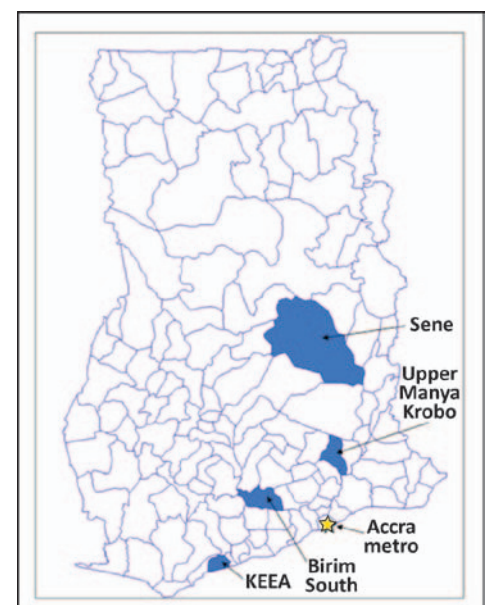


Table 1: Misoprostol distribution data collected

	Birim South	KEEA	Sene	Upper Manya Krobo	Total
Women who were enrolled in the project during an ANC visit	1,359	1,408	1,755	823	5,345
Women who took misoprostol home	1,357 (99.9%)	1,389 (98.7%)	1,747 (99.5%)	821 (99.8%)	5,314 (99.4%)
Women who had a postnatal follow-up visit	907 (66.7%)	1,319 (93.7%)	1,098 (62.6%)	291 (35.4%)	3,615 (67.6%)

preparedness and PPH prevention. These messages were reinforced during the pilot project. Women were eligible to receive misoprostol after 12 weeks gestation. ANC providers enrolled eligible women in the project, obtained informed consent, and educated them about the use of misoprostol *before* distributing the tablets. ANC providers encouraged women to deliver at a facility, but also provided pictorial instructions on how to use misoprostol correctly at home, in case women could not make it to a health facility for delivery. Women were also instructed to return unused tablets to the facility.

It is important to note that during the course of the pilot, the original batches of misoprostol were recalled due to quality issues and replaced with another brand of misoprostol tablets. This recall took place in July and August 2011, and all tablets were replaced by September 1, 2011. Data was analyzed for Phase 1 (April-August 2011) and Phase 2 (September 2011-January 2012) to account for the drug recall process during the course of the pilot.

[†] Ward assistants are people with minimal education who were given health care training and on-the-job training to assist in clinical care.

RESULTS

During the project time period (April 2011 through January 2012), 11,328 women were registered as “new ANC registrants” in the pilot project districts, as reported by the District Health Management Teams. Figure 2 illustrates the proportion of new ANC registrants enrolled in the project over the course of the pilot project. Enrollment was lowest during the months of recall while tablets were being replaced and staff informed about recall procedures. After the completion of the recall, enrollment gradually increased during Phase 2, reaching 64% of new ANC registrants in December 2011.

Among all women enrolled, 5,314 (99%) took misoprostol home

(Table 1). Follow-up data was gathered on the delivery experiences of 68% of enrolled women at postnatal care visits.

Misoprostol distribution at ANC greatly increases uterotonic coverage

Overall, 93% of women in the follow-up group who delivered at home were protected from postpartum hemorrhage with misoprostol after delivery. These births would not have received any protection from PPH had misoprostol not been available as an alternative uterotonic drug (Figure 3). The majority of women who delivered in a health facility received oxytocin (82%). However, it is notable that in Sene District, misoprostol provided uterotonic protection for 30% of facility deliveries, especially where some deliveries were attended by ward assistants.[†]

Women report using misoprostol correctly

Of the 1,355 women in the follow-up group who delivered at

Figure 2: Proportion of new ANC registrants enrolled in the project

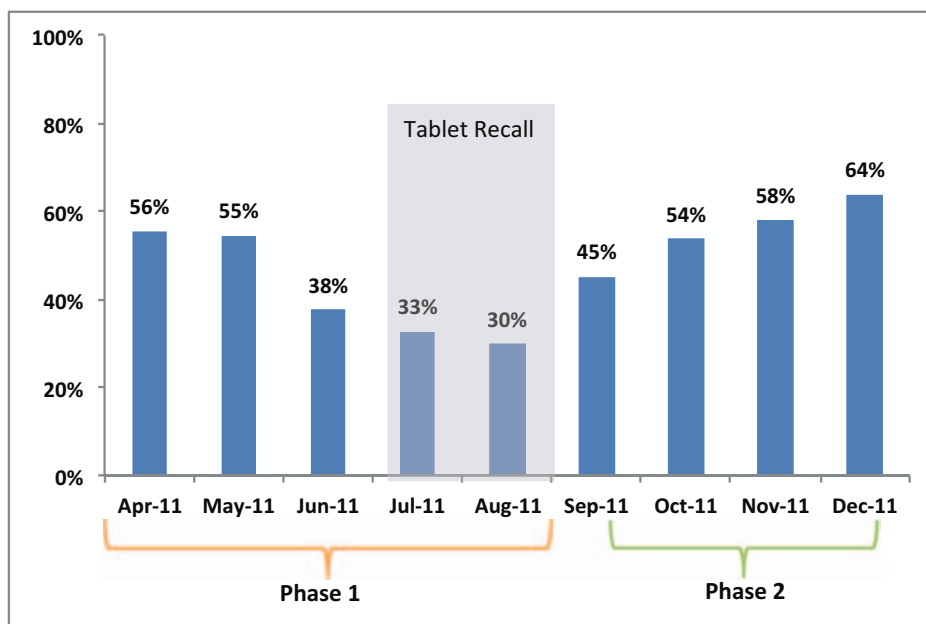
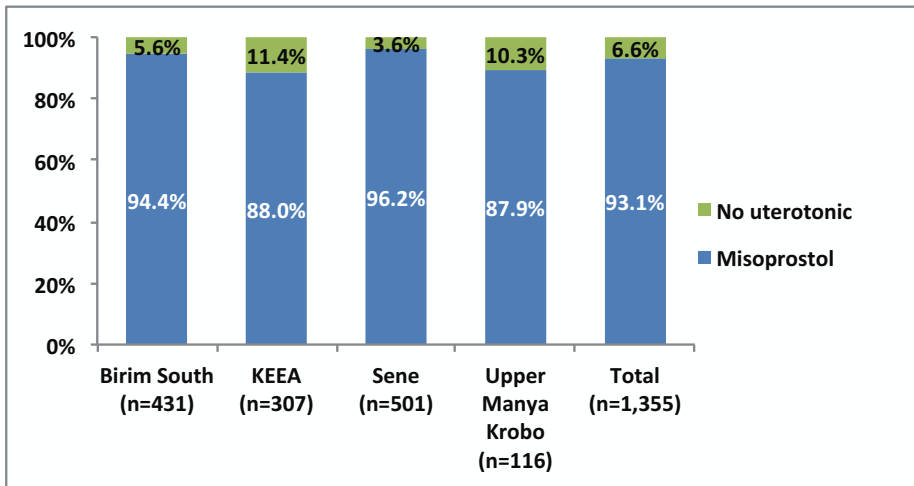


Figure 3: Uterotonic coverage at home deliveries for PPH prevention



home, 1,261 women swallowed isoprostol. Of these women, 99% reported using misoprostol correctly (Figure 4). All women took the correct number of tablets (three) and used the correct route (oral).

Women return unused misoprostol to facilities

Of the women who took misoprostol home from ANC and did not use it at a home delivery (n=89), the vast majority (83%) returned the misoprostol to a facility, as they had been instructed to do by the ANC provider who initially gave them the tablets. The proportion returning misoprostol was also high among facility deliveries, with 92% of the 1,945 women who delivered at a facility and did not use misoprostol returning the drug.

Misoprostol distribution at the lowest level facilities (CHPS compounds) is critical to reaching women where they are

Community-based Health Planning and Services (CHPS) compounds were the source of misoprostol distribution for 23% of enrolled women in this pilot. This was most significant in Birim South, where

about half of all distribution (52%) occurred at CHPS compounds.

Community Health Volunteers and TBAs are essential for community awareness efforts

Over 300 TBAs and 200 CHVs were oriented to this pilot project and sensitized to educate women about the use of misoprostol and safe delivery. TBAs and CHVs both reported during supervisory visits that women and community members responded positively to their messages, and that women appreciated having messages about safe motherhood brought to them by fellow members of their community.

CONCLUSIONS

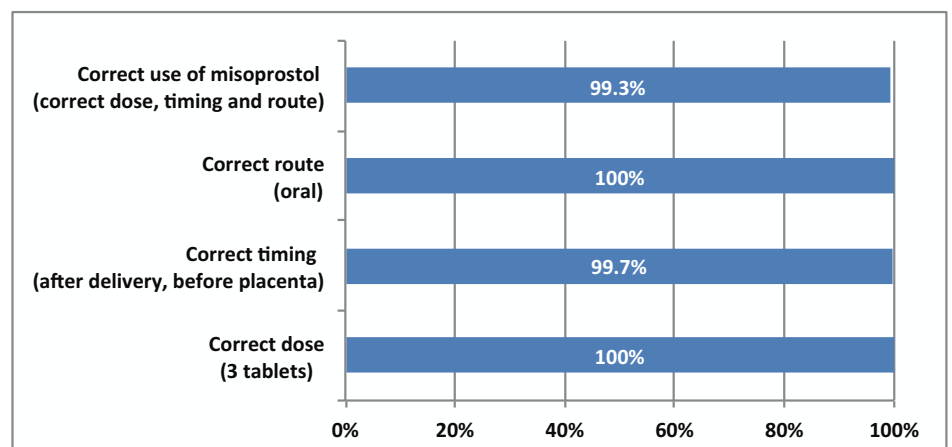
This pilot project provides evidence

for the feasibility, safety and program-effectiveness of distribution of misoprostol through ANC visits for prevention of postpartum hemorrhage at home deliveries. Furthermore, along with ANC providers at the facilities, TBAs and CHVs are essential for community awareness efforts about birth preparedness, prevention of PPH and the use of misoprostol. However, given that enrollment in the pilot ranged from 56% of new ANC registrants in April 2011 to 64% in December 2011, in order to achieve the full impact of this intervention, efforts must be made to better incorporate misoprostol distribution into the already existing ANC activities that health providers undertake.

Recommendations

The main recommendation based on the results is a nationwide scale-up of distribution of misoprostol through ANC in all districts in Ghana as a strategy for increasing the number of women who receive a uterotonic at the time of delivery, and thereby contributing to a reduction in the burden of PPH and maternal mortality in Ghana for years to come.

Figure 4: Correct use of misoprostol at home deliveries



Provider perspective

“Many of the women who come (to ANC) are from far away and they cannot go to the health center to deliver. Maybe if they try, they will deliver in the car. If there is no car to go, they cannot walk. The misoprostol is helping them a lot, and it is also helping us (providers) because there are fewer complications (referrals).”

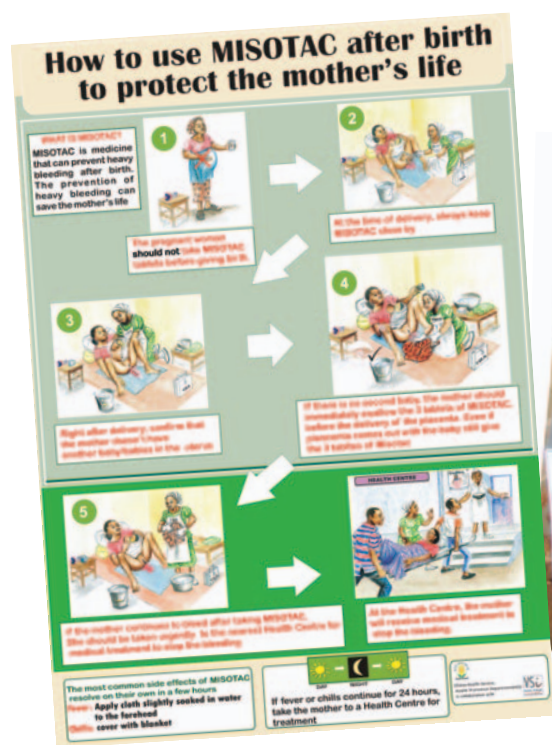
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In the scale-up phase, it is recommended that all ANC providers, including the lower cadres, be trained to distribute misoprostol to pregnant women during routine ANC to alleviate the workload of midwives and contribute to all women receiving this important intervention even in areas where the patient burden is high. TBAs should continue to be informed on the correct use of misoprostol for PPH prevention so

that they can aid women in taking misoprostol at the home deliveries that they attend. In addition, to ensure that all women, particularly those who are unable to deliver in a health facility, have access to a uterotonic drug to reduce PPH-related maternal mortality, efforts to expand the availability of misoprostol should be undertaken, including registration with Ghana Food and Drugs Board and distribution to all facilities.

Acknowledgements

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Community awareness poster and project participants

¹ World Health Organization (WHO). Trends in maternal mortality: 1990 to 2008 estimates developed by WHO, UNICEF, UNFPA and The World Bank. Geneva: WHO, 2010. Accessed online 20 January 2012 at http://whqlibdoc.who.int/publications/2010/9789241500265_eng.pdf

² Ghana Statistical Service (GSS), Ghana Health Service (GHS) and Macro International. Ghana maternal health survey 2007. Calverton, Maryland, USA: GSS, GHS, and Macro International, 2009.

³ GSS, GHS and ICF Macro. Ghana demographic and health survey 2008. Accra, Ghana: GSS, GHS, and ICF Macro, 2009.