



**Translating Research into Policy and Practice:
The Case of Misoprostol
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Presented by Dr. Stacie E. Geller, G. William Arends Professor of Obstetrics and Gynecology and Director of the Center for Research on Women and Gender at the University of Illinois at Chicago College of Medicine

Overview: The purpose of this presentation is to help you understand the research behind Postpartum Hemorrhaging (PPH), the global disparities of maternal deaths analyzed, the efficacy of Misoprostol in preventing PPH, and the importance of policy advocacy to affect global change. In 2008, there were an estimated 358,000 maternal deaths occurring during childbirth, 99% of these deaths occurring in developing countries. Such global disparities are reflected in the limited access to skilled birth attendants, restricted access to medications, rudimentary delivery facilities, and complications surrounding reliable transportation and communication in developing countries. Postpartum Hemorrhaging (PPH) is the leading cause of maternal mortality worldwide, accounting for 30-50% of all maternal deaths in Africa and Asia alone. While the drug Oxytocin is used to prevent PPH in developed countries, developing countries do not have the resources to preserve and administer this drug.

Dr. Geller's Research: Is Misoprostol a safe and efficacious alternative to Oxytocin that will lead to prevention of PPH in community home-birth settings? Is Misoprostol feasible and acceptable to implement in a community based setting?

Scientific Research in India: Dr. Geller, along with a team of researchers traveled to communities in India to study Misoprostol for prevention of PPH in home-birth settings. In a RCT placebo double blind trial using oral Misoprostol, Dr. Geller measured postpartum blood loss in a randomized sample of 1,620 women. The results showed that only 6.5% of women given Misoprostol experienced Postpartum Hemorrhage blood loss exceeding 500 ml, compared to the 12% of women who had blood loss greater than 500 ml in the placebo group. Such results not only confirmed the success of Misoprostol in preventing PPH, but also highlighted some secondary outcomes. The percentages of the Misoprostol group who required transfers, the use of uterotonics, blood transfusions, and surgical interventions were all significantly lower than the subjects who did not receive Misoprostol.

Once substantive research had been accrued by Dr. Geller and colleagues, her next steps targeted policy changes in India. She worked with the Indian Ministry of Health to approve the use of Misoprostol for PPH prevention by Auxillary Nurse Midwives (ANMs). Dr. Geller was a primary advocate credited for Misoprostol's addition to the WHO's list of essential medications for the prevention of PPH in 2011, an accreditation which has a lasting global impact.

Implementing Misoprostol in India: Indian health professionals regretted the excessive distribution of Misoprostol as a preventative drug, when only a certain percentage (around 25%) of women would actually require its uses. Dr. Geller then conducted a hybrid strategy of Misoprostol use to combat these hesitations, which, in turn, would medicate fewer women, save costs, and address the questionability of administering a treatment dose of Misoprostol so quickly after a preventative dose. In this study, one group of subjects was given Primary Prevention dosages of Misoprostol and a second group was given Secondary Prevention dosages of Misoprostol. This study has an expected completion timeline of November 2013.

Scientific Research in Ghana: Birthing conditions in Ghana closely resemble those in India, and Dr. Geller decided to expand her research to communities there. This time Dr. Geller approached her research problem more holistically; she incorporated a multi-faceted strategy intended to create community awareness, reliable self-assessments of blood loss, community preparedness for complications, and opportunities to train pregnant women in self-administering doses of Misoprostol. Dr. Geller engaged with health stakeholders at all levels, conducted community sensitization and trainings, monitored the safe use of Misoprostol, and empowered women to take control of their health. Furthermore Dr. Gellar's success strengthened the networks of health providers, decreased maternal mortality and morbidity (due to PPH), and established a model for all of Ghana and other developing countries.

Creating Real Change: Dr. Geller stresses the importance of political will in enacting policy changes from scientific research. Government engagement is critical in reducing maternal deaths, and a scientist's work is not over once research is published. Advocating for women's sexual and reproductive rights, their access to equal treatment, and their right to effective medicine should inspire all researchers to utilize their knowledge to facilitate global change.