

Maternal Hemorrhage: Continuing Challenges and Strategies that Can Save Lives

Discussion Brief by Sajithya Perera, MD; Reviewed by Robyn Churchill, CNM, MSN, and Isabelle Celentano

Postpartum hemorrhage (PPH) is the most common obstetric complication and the leading cause of maternal mortality worldwide.¹ Mortality from PPH is disproportionately concentrated in Africa and Asia, where it accounts for 30% of all maternal deaths. Deaths from PPH are largely preventable with timely diagnosis and appropriate medical care, yet many developing nations face significant challenges to delivering the care that could be life saving to millions of women.²

Through this Expert Panel, frontline providers from around the world shared personal reflections, challenges, patient stories and experiences dealing with maternal hemorrhage. The conversation focused predominantly on Nigeria, which comprises 2% of the world's population but disproportionately has 10% of the global burden of maternal deaths.³ The panel also discussed important prevention and management strategies, particularly the use of misoprostol to manage PPH and the active management of the 3rd stage of labor.⁴ Finally, the discussion provided useful resources, tools, and technologies that providers and programs can use to improve care delivery to women around the world.

Key Points

Continuing Challenges:

- Human factors that affect care delivery as well as the patient-provider relationship can all have negative effects on maternal health, such as:
 - A lack of human resources and trained providers
 - Adequate theoretical knowledge among health care professionals of managing complications including PPH, but a lack of confidence with carrying out actual treatment and stabilization procedures, such as bimanual compression and application of nonpneumatic anti-shock garments
 - Gender inequality, which may deter women from seeking early care for complications due to the backlash they may receive at home
 - Poor quality of care in health facilities leading to patient mistrust in the health system—this can prevent women from seeking medical care even when it is available
- Program inefficiencies can lead to failure to decrease maternal mortality, for example:
 - Cost, availability, and a lack of timely delivery of needed medications like misoprostol, all of which are related to supply chain inefficiencies
 - The example of Nigeria was discussed:
 - Nigeria has one of the highest rates of maternal mortality related to pregnancy and childbirth in the world. In response to this, Nigeria became the first country to make generic misoprostol available for the control of PPH.³
- Inadequate local systems may contribute to maternal deaths from PPH, including:
 - Nonexistent electronic medical record systems
 - Inadequate facilities and equipment for healthy delivery
 - Poor referral systems
 - Difficulty attaining timely care due to poor transportation infrastructures, such as deteriorating roadways

Tools and Strategies to Tackle the Problem:

- Invest in people and human resources capacity.
 - Investment in ongoing training for local professionals and community health workers to identify risk factors and provide life-saving measures, such as misoprostol administration, can help reduce maternal mortality due to PPH.
 - Health care professionals need continued mentoring on skills and regular emergency drills, such as the innovative training mechanisms developed and implemented by [Pronto International](#)
 - The public should be educated regarding these issues, particularly on the importance of antenatal care and seeking medical attention for warning signs, like vaginal bleeding.
 - Community healthcare workers represent a potential vehicle for the delivery of this essential knowledge.
 - Community approaches to education have been shown to decrease neonatal mortality⁵; similar methods could be implemented to decrease maternal mortality during childbirth.
 - Home birth attendants and midwives should be included in the overall conversation on reducing maternal mortality; this will improve patient trust in providers, especially in rural communities.
 - These professionals should be educated on stabilization strategies, such as the use of tamponade balloons, and integrated into the referral system to allow women experiencing complications to reach a higher level of care.
 - Recruiting the involvement of men in tackling women's health issues is an important step to overcome barriers in gender inequality, especially in traditionally patriarchal societies.
 - By including men in processes related to pregnancy and childbirth, they will not feel disempowered by being excluded.
 - For example, [Sonke Gender Justice](#) of South Africa is a successful example of the role men and boys can play in promoting gender equality and women's empowerment.
- Strengthen and support programs aimed at improving women's health during and outside of delivery.
 - Culturally relevant antenatal care should be a standard part care during pregnancy and should incorporate routine screening for important risk factors, such as coagulopathies.
 - Facilities should be adequately stocked with supplies in order to deal with emergencies, including making available cross-matched blood.
 - Scaling up availability and utilization of misoprostol, oxytocin, and as found more recently, Carbetocin⁶ for the control of PPH has significant potential to decrease maternal mortality rates, and requires a full supply-chain management approach.
 - Generating local solutions can decrease maternal mortality in a cost effective way.
 - For example, educating providers on alternative stabilization approaches such as the use of nonpneumatic anti-shock garments and condom balloon tamponades to achieve hemostasis can be useful in areas where uterine balloons are too costly.
- Build-up the system and infrastructures to support women's health and health care.
 - Electronic medical record systems should be developed to communicate vital patient history to both patients and providers.
 - For example, [VecnaCares](#) creates health IT solutions, including mobile EHR systems, suitable for low-infrastructure facilities
 - Active involvement in crafting funding programs that address women's issues at the local, institutional and country level is needed to make the desired large-scale reduction in maternal mortality worldwide.

Key Resources

- [Global Library of Women's Medicine–Safer Motherhood Resources](#)
- [K4Health–Postpartum Hemorrhage: Prevention and Management Toolkit](#)
- [Safe Motherhood Program–Peer Reviewed Scientific Publications](#)
- [USAID Maternal and Child Health Integrated Program–Prevention of Postpartum Hemorrhage](#)

References

1. Cody A, Goltz S. *Scaling Up Misoprostol for Postpartum Hemorrhage: Moving from Evidence to Action*: Family Care International; 2012. Available at: http://cdn2.sph.harvard.edu/wp-content/uploads/sites/32/2014/05/ScalingUp_Cody_Rep_2012.pdf.
2. Fawole B, Awolude OA, Adeniji AO, Onafowokan O. WHO recommendations for the prevention of postpartum haemorrhage: RHL guideline. *The WHO Reproductive Health Library*. Geneva: World Health Organization. Last Revised May 1, 2010. Available at: http://apps.who.int/rhl/archives/guideline_pphprevention_fawoleb/en/index.html.
3. Jadesimi A, Okonofua F. Tackling the unacceptable: Nigeria approves misoprostol for postpartum haemorrhage. *Journal of Family Planning and Reproductive Health Care*. 2006;32(4):213-214. Available at: <http://bixby.berkeley.edu/publication/tackling-the-unacceptable-nigeria-approves-misoprostol-for-postpartum-haemorrhage/>.
4. Stanton C, Armbruster D, Knight R, et al. Use of active management of the third stage of labour in seven developing countries. *Bull World Health Organ*. 2009;87:207–215. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2654655/pdf/08-052597.pdf>.
5. Colbourn T, Nambiar B, Bondo A, et al. Effects of quality improvement in health facilities and community mobilization through women's groups on maternal, neonatal and perinatal mortality in three districts of Malawi: MaiKhanda, a cluster randomized controlled effectiveness trial. *Int Health*. 2013;5(3):180-195. Available at: <http://inthehealth.oxfordjournals.org/content/5/3/180.long>.
6. Rosales-Ortiz S, Pérez Aguado R, Hernandez RS, et al. Carbetocin versus oxytocin for prevention of postpartum haemorrhage: a randomised controlled trial. *The Lancet*. 2014;383(S51). doi: [http://dx.doi.org/10.1016/S0140-6736\(14\)60314-7](http://dx.doi.org/10.1016/S0140-6736(14)60314-7).