



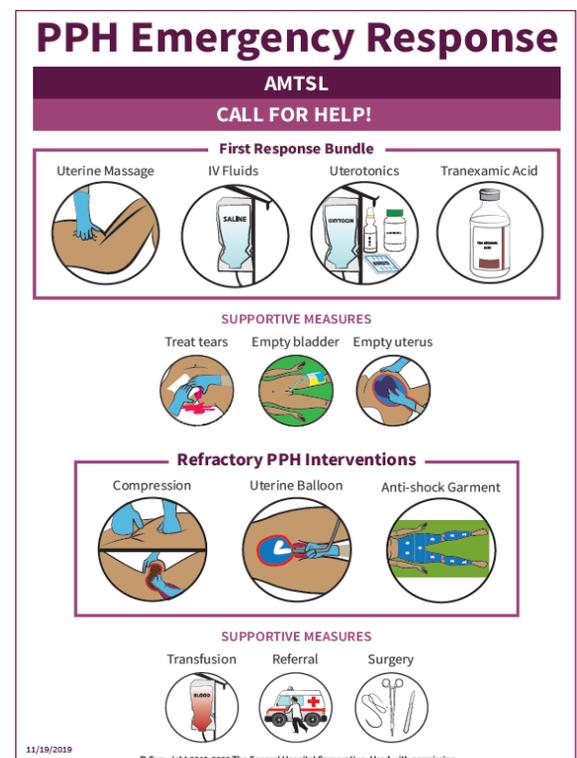
PPH Emergency Care Using a Bundle Approach (PPH EmC)

Each year, approximately 2.8 million women lose their lives or become injured from pregnancy related causes worldwide. Despite global efforts, postpartum hemorrhage (PPH) remains the leading cause of maternal mortality and morbidity in low- and middle-income countries (LMICs). While the causes of maternal mortality are multi-factorial, lack of adherence to evidence-based guidelines and delays in care are common reasons for poor maternal health outcomes. In recent years, care bundles have been used to deliver high quality clinical care by promoting compliance with select best practices and process improvements. Care bundles are associated with improved adherence to clinical guidelines and better patient outcomes.

Building on 10 years of innovative work to reduce PPH-related death and disability, the Massachusetts General Hospital Global Health Innovation Lab (MGH GHI) has collaborated with senior OBGYNs and maternal health champions around the world to co-create a comprehensive initiative to deliver quality PPH emergency care using a bundle approach. Postpartum Hemorrhage Emergency Care Using a Bundle Approach (PPH EmC) is a different way of conceptualizing PPH emergency response that integrates crucial clinical and systems-based interventions for rapid, effective PPH emergency care. Funded by the Bill and Melinda Gates Foundation, the PPH EmC program has been developed in an iterative process to strengthen systems of emergency obstetric care delivery. Based on the World Health Organization (WHO) guidelines for PPH management, PPH EmC clinical interventions are evidence-based and cost-effective, consisting of non-surgical methods that are relatively simple to learn and perform. PPH EmC also highlights health system strengthening strategies to reduce delays and improve adherence to best practices. This approach is suitable for facility-based cadres at all levels of a healthcare system (from the primary health center level to tertiary care) and can be adjusted as needed to contextualize to any facility level and country setting. (The training materials have been piloted in select facilities of Migori County, Kenya and Maharashtra and Madhya Pradesh, India.) Over the next year, PPH EmC will be introduced in other regions of Kenya, Uttar Pradesh, Bangladesh and select Latin American countries.

The objective of PPH EmC is to improve the quality of PPH emergency care at facilities that perform deliveries. While the goal is to strengthen the PPH emergency response in order to reduce maternal morbidity and mortality, integral to the approach is the understanding that strengthening a clinical response requires more than training providers on clinical skills. It requires continued practice of the emergency response as a team, availability and accessibility of necessary supplies, effective communication between providers, patients and families, communication across healthcare networks, leadership and commitment to quality improvement. Therefore, the PPH EmC program addresses both clinical and non-clinical elements, each essential to improving PPH emergency care.

The PPH Emergency Care Using a Bundle Approach training program is highly interactive and designed to be completed over three days. The training design incorporates simulation as a central teaching tool to reinforce core concepts and skills. Additional training methods include interactive didactic sessions, small group work, case studies, and activities that help participants thoughtfully engage with the material. Practical toolkits are presented during the training to help



participants think about how to improve PPH emergency care in their facilities and across healthcare networks. Other materials in the package include a trainer's manual that details how to deliver the training, slide presentations, videos, checklists, pocket cards, handouts and resource guides.

The first day of training focuses on the critical non-surgical clinical components of emergency response to PPH. The goal is to control the bleeding as soon as possible and minimize blood loss and the need for advanced care (e.g., surgery, blood transfusions, ICU). Day 1 training is geared toward healthcare providers directly managing PPH cases in their health facilities.

The second and third days of training focus on non-clinical health system strengthening components that support a PPH emergency response and strengthen program implementation. These sessions are targeted toward individuals who lead and oversee implementation of programs at the facility and healthcare network levels – whether they are clinicians, facility champions, managers, quality officers, government-level supervisors, or facilitators/coaches. Participants joining the non-clinical training (Days 2-3) would benefit from attending Day 1 training on the PPH Emergency Response to be fully oriented to the clinical approach. The non-clinical modules help improve adherence to recommended clinical interventions and enhance sustainable program implementation. The PPH EmC non-clinical modules are:

Teamwork and Communication. Teamwork and communication are essential elements of quality patient care. The training on teamwork and communication emphasizes three key processes:

- Establishing an effective institutional emergency response through creating an Obstetric Rapid Response Team (ORRT)
- Using specific communication techniques
- Conducting regular drills and simulations

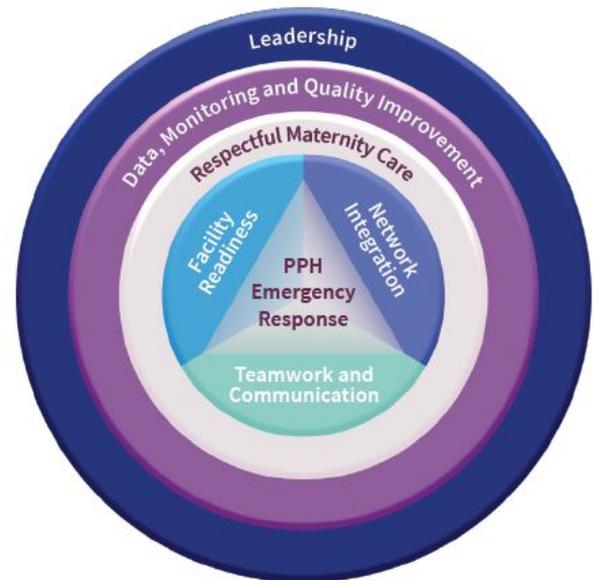
Facility Readiness. Facility readiness is defined as achieving and maintaining a state of preparedness in the facility to provide quality PPH emergency care 24/7. The goal of this module is for participants to recognize the importance of facility readiness for rapid, effective PPH emergency response, not only in terms of supplies and commodities, but also other components such as team readiness, availability of clinical/ancillary services and skilled providers, and postpartum monitoring protocols. Participants learn to use tools to improve readiness in their own facilities.

Network Integration. The network integration module emphasizes communication, shared learning and coordination of care across healthcare networks. This module focuses on team building, improving bi-directional communication, and strengthening referral processes of women with PPH who are transferred between facilities.

Data, Monitoring and Quality Improvement. This module outlines a systematic approach and select tools for the continued improvement of emergency obstetric care. Data accuracy, measuring compliance, reporting and quality improvement feedback loops are especially emphasized.

Leadership. The leadership module helps participants reflect on ways to strengthen their leadership and change management skills to successfully implement the PPH EmC program.

The PPH EmC training has been designed to be completed in a minimum of three days to reduce healthcare providers' time away from clinical duties. However, in systems where longer trainings are possible, there may be a benefit to



considering a longer (four to five days) training program to allow more time for practicing skills and simulations and discussion of the non-clinical components. Notably, the non-clinical modules were created such that each could be delivered individually, in a modular fashion, over time as needed.

An important aspect of implementing the PPH EmC program is leveraging and enhancing local leadership, mentorship and quality improvement frameworks for sustainability. This is done through post-training technical assistance to in-country program leaders and facilitators who in turn mentor local facility champions to support PPH EmC implementation and problem solve challenges they may face when introducing the program within their facilities and healthcare networks. Emphasis is also placed on monitoring and evaluation and targeted data-driven troubleshooting with local leaders for program improvement and growth. Additionally, MGH GHI conducts periodic in-country or virtual follow-up workshops with key stakeholders and partners to review progress, discuss lessons learned and incorporate feedback to strengthen implementation over time. Furthermore, PPH EmC highlights the importance of health system integration and engaging local stakeholders in national policy dialogue to support sustainability.