



Implementing PRONTO simulation, communication, and teamwork intervention for postpartum hemorrhage prevention in Malawi

Who we are

Advancing Postpartum Hemorrhage Care (APPHC) is a collaboration between the HEARD Project and Breakthrough RESEARCH. APPHC was established in 2019 to generate and test solutions that address key implementation barriers around provider behavior change for postpartum hemorrhage (PPH) prevention and treatment. Since 2019, APPHC has implemented several important interventions in Malawi focused on the management of obstetric complications. One specifically focused on a mentorship approach to improve provider knowledge and confidence and team responses to obstetric emergencies.

PARTNERS

- HEARD Project (led by URC)
- Breakthrough RESEARCH (led by Population Council)
- Organized Network of Services for Everyone's (ONSE) Health Activity (led by MSH)
- Malawi Ministry of Health and Population (MoH)
- The University of Malawi
- Kamuzu College of Nurse (KCN)
- University of California, San Francisco (USCF)
- PRONTO International



USAID'S HEALTH EVALUATION AND APPLIED RESEARCH DEVELOPMENT (HEARD) PROJECT



Project Overview

Despite significant progress, the leading cause of maternal death worldwide is postpartum hemorrhage.¹ Maternal mortality in Malawi is an estimated 349 per 100,000 live births with 20-25% due to postpartum hemorrhage (PPH).¹ Inadequate human resources are a significant contributor to this burden, caused by insufficient staffing numbers, improper distribution to rural areas, frequent transfers, and an aging workforce. To address the considerable burden of PPH and maternal mortality in Malawi, APPHC Partners implemented a simulation-based intervention for providers, developed by PRONTO International, using an innovative, evidence-based approach to improve the management of maternal and newborn emergencies.

Implementation Components

1. Simulation training for mentors
2. Refresher virtual learning course
3. Mentor facilitated simulations
4. Virtual coaching with mentors
5. Implementation Support

The goal of this simulation intervention was to support frontline health providers through building their capacity and confidence in managing obstetric conditions and complications, helping them reflect on their work, manage stress, and feel respected in their roles in order to improve the quality of care, particularly of the prevention and treatment of PPH.

This project was implemented in seven facilities in Zomba district, which were purposively selected to meet quantity requirements for providers and deliveries (included secondary and tertiary care facilities). The global COVID-19 pandemic introduced unexpected challenges to the APPHC effort, and as such the implementation of the intervention was redesigned by PRONTO International with dedicated training to delivering care in the context of COVID-19. The five components of this intervention are described below.

1. Simulation Facilitator Course

Description

A PRONTO Simulation Facilitator Course was conducted on March 9-13th, 2020 with a chosen team of 14 mentors (7 mentor pairs) who will then implement the simulations at their respective facilities. Other participants in this course included official representatives from the MOH, ONSE, KCN and 6 PRONTO Master Trainers (28 total). Course knowledge was assessed through pre- and post-tests along with master

FACILITATION COURSE COMPONENTS

- Teamwork activities
- Skill activity sessions
- Conducting knowledge reviews
- Observed facilitation practice
- Post-facilitation debriefs with master trainer feedback
- Teaching on use of PRONTO supplies
- Didactic teaching sessions on PRONTO curriculum (normal birth, postpartum hemorrhage, respectful maternity care, and neonatal resuscitation)

trainer observations during skills and teamwork activities. The training structure was disrupted by COVID-19, requiring master trainers to leave mid-way to avoid travel restrictions. To adjust to their absence, course attendees were divided into four groups that were balanced on skill level and composition of mentors and other stakeholders. When asked whether CCPF should be used for emergencies or not, all but one hotline worker agreed that it should be. However, most proponents of using CCPF for emergencies justified their response because CCPF could help a woman identify that she is experiencing a health emergency and know that she should seek care immediately. If the woman is already aware she needs to seek care urgently, it is possible that calling CCPF would be more of a disruption than helpful as she travels to the hospital.

Results

Overall, course attendees embraced the simulation training, as demonstrated by their eagerness to embrace PRONTO content despite the absence of the master trainers. All attendees were knowledgeable, well prepared and quick to understand communication and simulation concepts. In-country leadership was present and enthusiastically participant of the education experience, supporting mentors without hesitation. For example, the leadership was eager to give mentors roles, such as debriefing and running simulations, which allowed them opportunities to sharpen their skills before conducting simulations in facilities.

2. Refresher virtual learning course

Description

Due to the COVID-19 pandemic, all simulation activities were paused from April through September of 2020. Prior to the resumption of mentorship and simulation activities, the original 14 mentors registered and completed a virtual course

on PRONTO’s learning platform, PRONTOLearn. This refresher series was intended to re-educate mentors’ knowledge of the simulation activities and supplies, as well as bolster their facilitation confidence and skills before running their first simulation. The digital course included a pre-test to assess existing knowledge, followed by seven instructional topic modules and correlating tests. This virtual learning course allowed an opportunity to assess knowledge retention and the impact of the digital course on mentor simulation facilitator knowledge, with the intention to improve simulation fidelity.

Results

Mentors completed the virtual courses across a 1–2-week period, spending an average of 7.5 hours on the learning management site. With additional support provided by the PRONTO team to keep each mentor on track through completion, and longer completion times due to network issues and various additional interruptions, 92% of mentors were able to complete the virtual assessments before running their first simulation session. Comparing the mentor’s pre-test scores to their post-course results by topic section, Figure 1 shows that mentors increased their knowledge in all seven module categories.

3. Mentor facilitated simulations

Description

In Fall of 2020, the paired mentors implemented the simulation sessions in seven facilities across the district of Zomba. Prior to implementation, PRONTO added two COVID-19 simulation scenarios to reinforce safe provider patient interactions and to minimize the spread of the coronavirus. To take safety measures for COVID-19, mentors and participants were provided with facemasks and hand sanitizer prior to initiating a simulation session.

Results

Each of the four simulation and debrief sessions were videotaped and analyzed to assess fidelity and inform instructional elements of coaching calls. Mentors completed a “logbook” entry after every simulation, capturing important details of the session including what simulation and activity were conducted, time spent, observations of what well and what needs attention, and the use of PPE. Participants also completed a 10-minute paper-based survey following the simulation that asked about their perception of the activities.

PRONTO SIMULATION MODULES

1. Normal Birth of a Vigorous Baby
2. Normal Birth of a Vigorous Baby and Immediate Postpartum Hemorrhage
3. Severe Postpartum Hemorrhage Due to Atony (Delayed Postpartum – No Birth)
4. COVID-19 Positive Patient with a Spontaneous Vaginal Birth of a Non-Vigorous Baby

FIGURE 2 PARTICIPANT PERCEPTIONS OF PRONTO SIMULATION SESSIONS

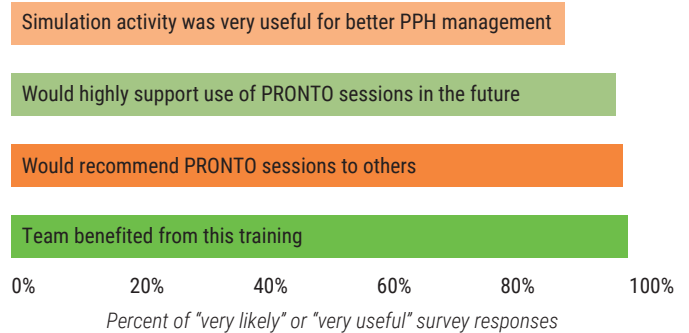
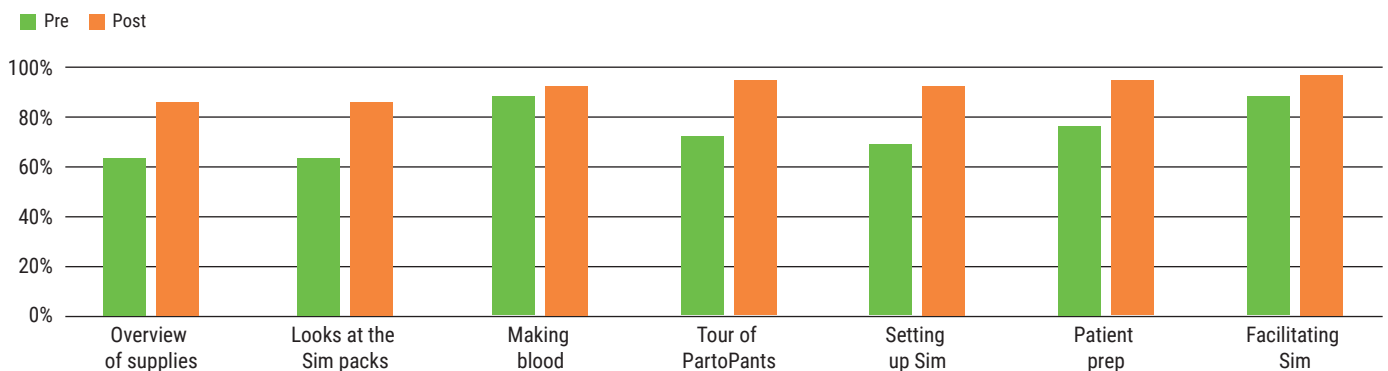


FIGURE 1 AVERAGE PRE & POST QUIZ SCORES FOR PRONTO VIRTUAL LEARNING COURSE



The PRONTO simulations were welcome by participations, who were enthusiastic, willing to participate and excited to receive additional knowledge and skills to manage PPH complications. Survey responses from participants in Figure 2 demonstrate show participants had strong positive perceptions of the PRONTO simulations.

According to logbook entries, all four intended simulations were completed at each facility, spending approximately 1-2 hours facilitating each session, including debrief and related communication or team building activities. There were an average of 4 participants and 14 observers at each session, which were most frequently held in a labor room. Over half of the participants were nurse-midwife technicians, with an average of 4 years of experience.

4. Virtual coaching with mentors

Description

As part of PRONTO's rapid cycle learning process, mentors participated in group coaching calls with PRONTO staff between each simulation session. Data bundles were provided to mentors for the coaching calls. In addition, a WhatsApp group was developed as an alternative support mechanism, so that mentor pairs could share ideas and challenges, as well as direct questions to PRONTO staff, who regularly monitored the chat throughout the simulation implementation.

Results

A total of three coaching calls were conducted through Zoom (or WhatsApp during issues of connectivity) in between each of the four simulations, lasting 1.5 hours following the simulation session. Over the implementation period, mentors engaged in their own improvement cycles as they gained experience as simulators and facilitators. Some recurring improvement areas discussed during these calls were time management, advanced preparation and encouraging participation by speaking less than participants. Mentors reported that the coaching calls and mentor reports were useful and desired their continuation. The combination of mentor-pair specific feedback reports and group coaching calls were independently useful and complimentary. Mentors reported

COACHING CALL TOPICS

- Relevant learnings from virtual learning course
- Simulation challenges & successes
- Performance feedback from video recordings
- Orient to next PRONTO SimPack™ in the progression

interest in running simulations on additional material such as preeclampsia/eclampsia.

5. Implementation Support

Description

A team of supporters were necessary for the effective implementation of the intervention, including the MOH, KCN, ONCE, and especially a fulltime intervention coordinator to oversee implementation tasks. The intervention coordinator was responsible for making sure each activity was planned, communicated, and completed (as designed or with modifications), based on the situation and resources available.

Results

The success of this project's implementation was heavily reliant on the intervention coordinator. The quality of those coordinating with mentors has an enormous impact on their feeling supported and successful. The importance of such detailed day-to-day coordination cannot be understated in a project of this nature and the COVID-19 disruption made the intervention coordinator's role even more critical. Along with implementation coordination and communication management, the intervention coordinator assisted the regular collection of data through various instruments during the intervention, including session video recording, post-simulation surveys and additional data monitoring. This provided key insights into the implementation and acceptability of the intervention, as well as challenges for sustainability and scalability.

In Summary

This mentorship and simulation intervention, while disrupted by COVID-19, generated important learnings and exciting potential. The mentors demonstrated self-motivation and dedication to the simulation and facilitation process and expressed a desire to continue running simulation in their facilities. Their passion and commitment during COVID-19 challenges are an encouraging testament to the sustainability of the program in Zomba and other districts in Malawi. Key takeaways from this project are listed in the box.

Implementation Challenges

There were several important challenges that APPHC faced in the implementation of the PRONTO simulation sessions shown in Figure 3. Particularly, the issues of facility administration engagement and incentivizing participation must be considered for the success of future implementation efforts.

Key Takeaways

- Simulation sessions were well attended and received positive feedback from providers
- Providers overwhelmingly expressed interest in additional simulation sessions
- An improved provider incentivization strategy is needed to motivate future providers, including an improved continuous professional development point system
- Accessing self-study / asynchronous materials to review on a digital platform is a viable option to complement in-person learning sessions
- The IC was an incredibly important role for the successful implementation of this project particularly because of the COVID-19 disruption
- The quality of the IC has a significant impact on providers feeling supported and successful

Sustainability & Scalability

We believe that, with consideration of the challenges above, a sustainable simulation and team communication program in Malawi is possible and can be a powerful tool for provider management of maternal and neonatal emergencies and provision of respectful maternity care.

Throughout this intervention, the power of peer-to-peer support in encouraging mentors, providing lessons learned, and answering questions became clear. We believe that

establishing local champions and promoting new master trainers that carry forward this sense of teamwork will be important for sustainability. In the long-term, it will be important to find ways to continue to support the mentors to continue running simulations in current and new facilities. Ultimately, having support for skilled mentors to train more simulation facilitators will be key to scaling this work to new facilities and providers. It is important to note for the sustainability of this project that, while the majority of the simulation supplies are reusable, there are a set of consumables that will need to be replaced at regular intervals.

More information and the full implementation report can be found at www.respectfulcareresources.com/apphc.

“There was one incidence at Nasawa where a woman came in with PPH right soon after finishing the PPH simulation session. The providers demonstrated newly learned management skills having just practiced the scenario. The team observed the woman being well managed and she was referred to high-level facility for continuation of care

—Quote from PRONTO mentor

¹Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization; 2019.

FIGURE 3 PRONTO SIMULATION IMPLEMENTATION CHALLENGES IN MALAWI

Connectivity & Internet	<ul style="list-style-type: none"> ● Delays in data bundles impacted access & completion to virtual learning ● Technological support needed to support mentors through virtual learning
Incentivizing Participation	<ul style="list-style-type: none"> ● Without compensation, mentors/staff were less motivated to attend simulations ● To increase motivation, an allowance of MK4000 per session to cover lunch and transportation, and survey time. ● Continuous professional development points have potential as a non-monetary incentive, however they are currently only given for one simulation per clinical area covered, so providers are not incentivized to attend multiple sessions, greatly effecting future sustainability
Facility administration support	<ul style="list-style-type: none"> ● Having an implementation coordinator to manage logistics and communication, with adequate transportation and resources, is incredibly useful for the success of the simulations ● Facilities greatly emphasized the importance of administration support on their ability to adequately carry out PRONTO simulations, including emphasizing its importance to their providers
COVID-19	<ul style="list-style-type: none"> ● Required changes and flexibility to training course & PRONTO staff support of mentors ● Paused all simulations from March-October

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USAID's Health Evaluation and Applied Research Development (HEARD) project leverages a global partnership of more than 30 institutions to generate, synthesize, and use evidence to improve the implementation of policies and programs related to USAID priority areas, and crucial for improving health and development in low and middle-income countries.



Breakthrough RESEARCH catalyzes SBC by conducting state-of-the-art research and evaluation and promoting evidence-based solutions to improve health and development programs around the world. Breakthrough RESEARCH is a consortium led by the Population Council in partnership with Avenir Health, ideas42, Institute for Reproductive Health at Georgetown University, Population Reference Bureau, and Tulane University.