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The Continuum of Care: Addressing Postpartum Hemorrhage in India and Nigeria project is a five-year effort funded by the John D. and Catherine T. MacArthur Foundation and implemented by Pathfinder International in collaboration with Dr. Suellen Miller (UCSF), and Dr. Stacie Geller (UIC). The CCA-PPH model has been introduced in Bangladesh, India, Peru, and Tanzania.

Nigeria's Clinical and Community Action to Address Postpartum Hemorrhage: Technical Update

Background

According to the World Health Organization, the numbers of women dying in pregnancy and childbirth in Nigeria are among the highest in the world (World Health Organization 2010). Recent estimates show that the maternal mortality ratio in Nigeria ranges from approximately 545 deaths (National Population Commission and ICF Macro 2008) to 840 deaths per 100,000 live births (World Health Organization 2010). Postpartum hemorrhage (PPH) is a leading cause of maternal mortality, accounting for nearly one quarter of maternal deaths worldwide (World Health Organization 2006). In Nigeria, low use of antenatal care (ANC) and delivery services contribute to PPH. As of 2008, 45 percent of Nigerian women attended the recommended minimum of four ANC visits, 62 percent of births occurred at home, and only 39 percent of births were

attended by a skilled health worker (National Population Commission and ICF Macro 2008). For women who do seek care, service quality is affected by a lack of trained providers, a lack of essential supplies and equipment, and other factors. For these reasons, increasing use of quality emergency obstetric care (EmOC) services is a key strategy to reduce maternal morbidity and mortality in Nigeria.

Project description

In November 2007, the MacArthur Foundation awarded Pathfinder International a grant of USD 10.7 million to implement a project to prevent and manage PPH in India and Nigeria. The goal of the *Continuum of Care: Addressing Postpartum Hemorrhage* project is to prevent PPH and reduce morbidity and mortality from PPH. To address the four delays that are known to lead to maternal mortality, the project's

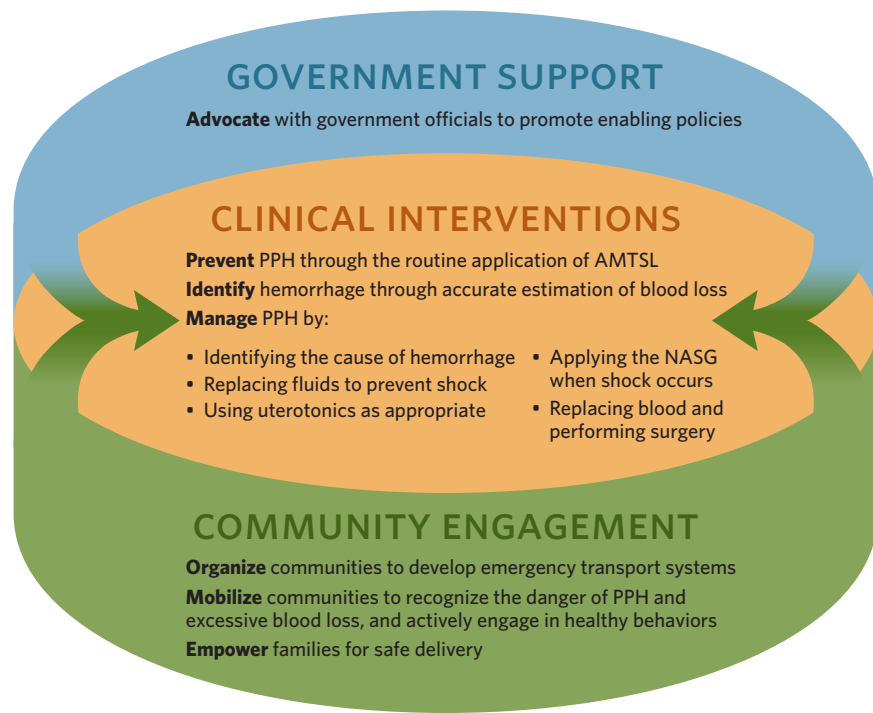


FIGURE 1: PATHFINDER INTERNATIONAL'S COMMUNITY AND CLINICAL ACTION TO ADDRESS POSTPARTUM HEMORRHAGE APPROACH

objectives are as follows: (1) Increase awareness among community members and providers of the danger signs of PPH and the ability of project technologies to prevent and manage PPH; (2) Improve capacity of community members to make timely decisions to seek medical care for PPH; (3) Increase ability of community members to identify and reach facilities for PPH treatment; and (4) Improve capacity of health care providers to provide high-quality, timely, and appropriate care to women with PPH. In support of these objectives, Pathfinder's *Community and Clinical Action to Address Postpartum Hemorrhage* (CCA-PPH) approach incorporates prevention, recognition, and treatment of PPH, including standard methods for estimating blood loss, the non-pneumatic anti-shock garment (NASG), community-level engagement, and advocacy regarding the need for a continuum of care (see Figure 1).

Over four years, Pathfinder has implemented activities in 60 facilities and 42 communities in seven states of Nigeria (Kano, Katsina, Oyo, Lagos, Nasarawa, Ebonyi, and Yobe). Specific project activities focused on facility readiness, provider trainings, supportive supervision, availability of essential supplies and medicines (oxytocin, misoprostol, blood) and the NASG, advocacy to gain stakeholder buy-in and leverage resources for scale-up, community sensitization on danger signs

and birth preparedness, and establishment of community emergency transport systems. The project monitoring and evaluation framework, indicators, and data collection systems have been designed to establish a 'chain of evidence' for the project's achievements.

Performance

Pathfinder has seen notable success in implementing CCA-PPH in Nigeria. At the structural level, the project worked closely with the Ministry of Health (MOH) to institutionalize the approach while successfully leveraging additional resources to address persistent barriers to care (e.g., establishment of a solar-powered blood bank and procurement of misoprostol and family planning commodities). Systems improvements such as protocols for management of obstetric complications and referral, job aids, and standard tools to estimate blood loss have supported providers to diagnose and treat PPH and PPH-related shock, and refer to higher levels of care as needed. Pathfinder's efforts have also led to a stronger culture of data use in project facilities to improve quality of care, as evidenced by adoption of maternal death audits. These successes have been achieved in the face of significant challenges including high staff turnover rates, a persistent shortage of essential PPH and pre-eclampsia supplies, and a lack of functional blood banks to ensure safe blood supply.

At the service delivery level, Pathfinder has strengthened providers' capacity to prevent and manage PPH and shock. Since November 2007, the project has trained 206 master trainers and 2,253 service providers in the continuum of care. The project has looked at providers' practice of Active Management of the Third Stage of Labor (AMTSL) as a key measure for PPH prevention. Among 319 deliveries observed at the nine focal facilities in 2011, 100 percent of women were given an appropriate uterotonic in the correct dose within one minute of delivery (the most important component of AMTSL). Providers have also shown improved capacity in management of PPH to prevent shock. In the nine focal facilities, the proportion of women with obstetric hemorrhage who were treated with uterotonics increased from 49 percent in 2010 to 86 percent in 2011. This achievement is due in part to regular supportive supervision by the project to reinforce provider knowledge and skills. It also reflects

the project's work to ensure availability of oxytocin in maternity wards. In addition, the project has seen an increase in the proportion of obstetric hemorrhage cases receiving IV fluids from 56 percent in 2010 to 68 percent in 2011. Finally, Pathfinder has distributed 498 NASGs to project facilities, which have been used 2,213 times. At the nine focal facilities, the proportion of women in shock who received the NASG increased from 59 percent in 2009 to 88 percent in 2011. This is a testament to the improved ability of providers to recognize the signs of shock and apply the NASG, a critical tool in managing shock as women may wait hours or days for necessary care.

At the community level, Pathfinder and local partners have raised awareness regarding danger signs, birth preparedness, and availability of care; helped increase community blood donations; and supported communities to establish emergency transport systems to ensure women can access care. Since November 2009, the project has trained 880 traditional birth attendants on identification of danger signs and effective referral; 7,621 people have attended 157 community events; and 438 women have been referred for care via emergency transport systems.

Lesson Learned

The CCA-PPH approach is adaptable to address diverse implementation contexts

Implementation in Nigeria has shown that the CCA-PPH approach is capable of accommodating diverse structural barriers to improved maternal health outcomes. The continuum of care approach has been used to address causes of maternal mortality beyond PPH, including pre-eclampsia and eclampsia, and the approach's advocacy component has helped to establish a blood bank and increase blood donations via partnership with the National Blood Transfusion Service.

CCA-PPH training should be institutionalized to ensure availability of providers

Chronic staff turnover, staffing shortages, and providers' service delivery burden have posed challenges to the program's ability to enlist and train sufficient providers to ensure constant availability of CCA-PPH-trained providers. Institutionalizing the CCA-PPH approach in both pre- and in-service training can help to ensure all providers have up-to-date skills to implement the approach.

Case Study: Mrs. K.M.

Mrs. K.M. is a 32-year-old farmer who was pregnant for the tenth time. She had never had prenatal care or delivered in a hospital. She and her four children live in a remote village, and her husband works in the state capital as a construction laborer. Mrs. K.M. delivered a stillbirth at home in the early hours of the morning after laboring for more than 17 hours. She started bleeding profusely immediately after delivery. As her husband was away, there were delays in getting his permission via phone to take Mrs. K.M. to the hospital. Even after he gave permission, more time passed while her relations found funds to pay her hospital bills. She was transported in a commercial bus owned by a neighbor who agreed to take her on the condition that her husband pay on his return.

When Mrs. K.M. arrived at the hospital about five hours after delivery, she was unconscious with neither palpable pulse nor recordable blood pressure.

Hospital staff trained by Pathfinder's CCA-PPH project immediately applied the NASG, set up IV infusions with oxytocin, and inserted a urinary catheter. Within 30 minutes of arrival, Mrs. K.M.'s bleeding had stopped and she was conscious and responsive. She urgently needed a blood transfusion, but the local blood bank did not have blood for her. Pathfinder's state coordinator contacted the zonal office of the National Blood Transfusion Service, which obtained three units of blood for her within two hours.

After the first blood transfusion, Mrs. K.M. regained consciousness and her vital signs were recordable. Six hours and three pints of blood after arriving at the hospital, she was fully awake and had a cup of tea. She remained in the NASG for another 24 hours until her vital signs were fully stable, and was discharged home two days later after receiving three more pints of blood. Together with her husband, she was counseled and given a contraceptive method of their choice.



PHOTO: Pathfinder-Nigeria office

Data collection and use must be emphasized to improve quality of care

Without a solid culture of patient record keeping, data collection, and data use, busy providers initially had little time or inclination to systematically record clinical data. To address this, the project streamlined data collection to focus on a few essential clinical indicators. The project also introduced maternal death reviews, which proved to be a powerful agent in using data for change at both the facility and policy level. The reviews have been institutionalized in selected project facilities and will be continued in future expansion.

Existing resources must be leveraged for improved maternal health outcomes

Many of the barriers to positive maternal health outcomes can be addressed by leveraging the country's existing resources. At the community level, the project collaborated with community members owning vehicles to establish emergency transport systems for women to reach facilities when needed; supported communities to create emergency funds for transport and care; and created structures for community participation in monitoring quality and providing feedback on performance to health facilities. Leveraging of existing resources also extends to scale-up—by using Nigeria's existing Midwives Service Scheme as a platform for scale, an additional 4,000 midwives in primary health centers are now trained in the CCA-PPH approach.

Recommendations

CCA-PPH should be used as a mechanism to scale-up integrated maternal and neonatal health (MNH) interventions

The program's experience implementing the CCA-PPH approach in Nigeria has highlighted the need for scale-up of high impact integrated MNH interventions. As an integrated MNH intervention, the CCA-PPH approach enables the health system to deliver MNH innovations as they are most effective—in mutually reinforcing, comprehensive packages. When brought to scale as a set of well-tested practices, the health system gains broad-ranging benefits for both service delivery and client health outcomes.

Strategic partnerships can advance institutionalization of the approach

Strategic partnerships play a key role in creating an enabling environment for PPH interventions. The government's approval of misoprostol for PPH prevention at the community level is one such example. Should the government approve this policy, women delivering at home would be able to make use of this critical drug to prevent PPH, either via self-administration or with the help of a birth attendant. Further partnerships should be pursued to continue this progress. As use of private hospitals is becoming more common, partnership with the private health sector will be important.

MNH in Nigeria continues to need a sound platform for service delivery

Availability of uterotonics, safe blood and secure blood supply, adequate numbers of trained providers, and the need for patient-centered care are persisting challenges to improved MNH outcomes. As state governments strive to take full ownership of the CCA-PPH projects, they and their implementing partners must address these and other fundamental aspects of quality care provision.

Providers must be supported to use data for decision-making

As the maternal death reviews have shown, patient record keeping, collection, and use of data at the facility level is key to identifying challenges and producing timely solutions. Improved data management in public health facilities is a critical next step in this process. The work of the MOH and partners to strengthen the country's health management information system must continue, so that quality and timely data is able to play its vital role not only in decision making, but in evidence-based advocacy to solidify Nigeria's enabling environment for improved maternal health outcomes.

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