**TECHNICAL BRIEF**

**Improved Monitoring of Maternal Mortality for MDG 5**

**Background**

According to the World Health Organization (WHO), maternal death or maternal mortality is defined as the death of a woman while pregnant or within 42 days from the end of pregnancy, regardless of the duration and the site of pregnancy from any cause related to or heightened by the pregnancy or its management but not from accidental or incidental causes.

Iraq is making progress on reducing maternal mortality (MM), however, they are still not on track to meet Millennium Development Goal (MDG) 5, Improved Maternal Health, by 2015. The UN estimates that, in Iraq, maternal mortality declined from 117/100,000 (Survey) in 1990 to about 63/100,000 in 2010. Given the ambitious target of reducing the maternal mortality rate (MMR) to 29/100,000 by 2015, acceleration of progress is necessary. Utilization of maternal, neonatal, and child health (MNCH) services remains low. The USAID/PHCPI baseline survey found that utilization of antenatal care (ANC) is only 51% with merely 27% of women receiving the WHO recommended four ANC visits. The low utilization of ANC care may be linked to the fact that 77.6% of maternal deaths occur in the hospital. However, the hospital often receives high-risk pregnancies and may be more likely to report on maternal deaths. Ministry of Health (MOH) records list the causes of maternal mortality in order of magnitude as hemorrhage, acute pulmonary embolism, hypertension, abortion complications, irreversible shock, obstructed labor and, amniotic fluid embolism, among others. These are largely preventable causes, which PHCPI has worked to address in collaboration with the MOH.

**Decreased Maternal Mortality through Quality Improvement**

In 2013, USAID/PHCPI conducted a bottleneck assessment of factors impeding the achievement of MDGs 4 and 5 in Iraq. Findings were categorized by 4 types of bottlenecks including: 1) supply, 2) demand, 3) enabling environment, and 4) quality. Some key items identified under the quality category included: a lack of fully equipped and...
prepared PHCCs with labor and delivery rooms, lack of a checklist of minimal but essential services that should be available at PHCCs and a lack of reporting, monitoring and feedback mechanisms.

A comprehensive program was designed to address the three main underlying reasons of maternal mortality: 1) delay at home in seeking care, 2) delay in reaching health facilities, and 3) poor quality of care at health facilities. Using the bottleneck analysis, priorities were identified. PHCPI decided to address the most important causes of maternal mortality first, which fall under quality improvement. The MOH assigned competent professionals to technically guide and manage work in various key aspects of maternal health in Emergency Obstetric Care and Newborn Care (EMONC), Maternal Death Review and Surveillance, Nutrition, TBAs, and Health Promotion.

In order to effectively address the underlying causes of maternal mortality in Iraq, PHCPI has implemented a series of interventions designed to strengthen MNCH at the primary health care (PHC) level through improved guidelines, PHC staff trainings, and better medical equipment.

Some of PHCPI’s activities include:

- The mortality reporting system in Iraq is a very valuable monitoring tool, however, measures need to be taken to improve the accuracy and reliability of the reporting system to assess the impact of the Ministry’s efforts to reduce MM in Iraq. Therefore PHCPI conducted a study on the “Recording and Reporting of Maternal Deaths in Iraq,” which identified causes of MM and allowed PHCPI to provide recommendations for evaluating the effectiveness of quality improvement activities.

- Updated the guideline for “Maternal Death Surveillance and Response (MDSR)” for PHC centers with dissemination to all Directorates of Health (DOHs) and the MOH.

- Three regional workshops conducted with over 83 staff trained on MDSR guidelines for implementation, monitoring, and supervision of MDSR development at different levels of the PHC system.

- Facilitated the standardization and harmonization of the MDSR process at the community, facility, district, and government levels.

**PHCPI Increases Awareness and Response for Maternal Health**

Through the development and implementation of updated guidelines and trainings throughout Iraq, PHCPI has managed to increase awareness, understanding, and use of the MDSR. PHCPI’s collaboration with the MOH on MDSR as led to:

- The avoidance of maternal deaths and improvement of quality of care by obtaining the right kind of information to guide action.

- Maternal deaths as a notifiable event that is reviewed, discussed and leads to corrective actions to address the problems encountered.

- A keen understanding of the underlying factors leading to maternal deaths and the importance of linkage to data collection.

- A commitment from the MOH to act upon findings, which is a key prerequisite for success.

- Progress achieved towards all maternal deaths in health facilities and communities being identified, reported, reviewed and responded to with measures to prevent future deaths.

**Figure 2. Maternal death surveillance and response system: a continuous action cycle at the community, facility, regional, and national level**

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1. Identify Deaths
2. Report Deaths
3. Review Deaths
4. Response Action

**Surveillance & Response**
Each maternal death can provide insight on practical ways of addressing the causes and determinants of maternal mortality. The MDSR can provide information to be used in the development of programs and interventions to improve maternal health, reduce maternal morbidity, and improve the quality of care of women during pregnancy, delivery, and the puerperium period. Through the work of PHCPI, data collected will now lead to information that can, in turn, lead to specific recommendations and actions, as well as to an evaluation of the effectiveness of interventions to achieve MDG 5.

Figure 3. USAID PHCPI Interventions for maternal mortality reduction

**Underlying reasons**
- Delay at home in seeking care
- Delay in reaching health facilities
- Poor quality of care at facilities

**Causes of maternal deaths**
- Bleeding
- High blood pressure
- Infection
- Embolism
- Other unknown causes

**PHCPI interventions**

**Prepregnancy**
- Prenatal counseling
- Education & empowerment of women
- Behavioral change communication
- Essential laboratory services

**Pregnancy**
- Increasing access to quality antenatal care
- Training and equipping
- Traditional birth attendants
- Counseling on nutrition & pregnancy danger signs
- Supporting referral system

**Child Birth**
- Improving MNCH knowledge and skill within 258
- Developing systems for quality improvement, training & supervision of MNCH services at central and local levels
- Training of safe delivery practices
- Practical training on managing obstetric & neonatal emergencies
- Supporting maternal death reviews

**Unknown**
- Research studies on causes of maternal death, outcomes and impact of interventions, delivery and alternative models of reaching the unreached populations through TBAs

**Impact**
- Contribute to reducing the gap to achieve MDG 5