

## MEASURING THE IMPACT OF A MATERNAL SURVIVAL INTERVENTION IN GUATEMALA

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### Summary

The maternal mortality ratio in Guatemala fell from an estimated 219 maternal deaths per 100,000 live births in 1989 to 153 in 2000, but it still remains one of the highest in Latin America. The major causes of maternal mortality in Guatemala such as hemorrhage (53%) are preventable. In the western part of the country, between 69% and 80% of women deliver at home where complications can lead to death if the family and community are not prepared to act. To address the above maternal survival problems, the Guatemalan Ministry of Health and Public Assistance (MOH) with external technical assistance and funding worked to improve essential maternal services and mobilize individuals and communities to respond to obstetric emergencies in an appropriate and timely manner. The Maternal and Neonatal Health (MNH) program carried out two principal technical initiatives: Essential Maternal and Neonatal Care (EMNC) to improve maternal and neonatal care services, and Behavior Change Interventions or BCI to increase the demand for quality maternal and neonatal services at all levels.

This study is designed to evaluate the impact of the MNH Program implemented in Guatemala during the period of 1999 to 2004. Data utilized for this study were collected, using a stratified random sampling approach, by two cross-sectional household surveys of women 15-49 years of age (1008 women in the baseline and 1098 women in the follow-up) in three departments in western Guatemala. A pre-test post-test design allowed for comparison with measures obtained from the baseline survey of 2001 and those from the follow-up survey in 2003. Data from the post-test were also used to test if exposure to program activities was a significant predictor of whether a woman would prepare a plan of what to do in case of a maternal emergency, after controlling for other covariates. For the purpose of this report, we compared only those women who had had a child in the 12 months prior to the survey in both baseline (n=325) and follow-up (n=787).

Results show significant improvements in knowledge, attitudes and practices between women surveyed at baseline and those exposed to program activities in the follow-up. Women in the follow-up had significantly higher knowledge ( $p<.01$ ) than those in the baseline (66% vs. 31% respectively) that severe bleeding during pregnancy is a danger sign that needs to be taken care of in a health care facility. We measured similar increases in knowledge between baseline and follow-up for other pregnancy, delivery and post-partum danger signs. We also found a significant ( $p<.05$ ) increase in the

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proportion of women giving birth in the health care system. More than half (55%) of the women exposed to the intervention in the follow-up delivered at a facility, compared to 30% at baseline and 31% for unexposed women at the follow-up. A significantly higher proportion of women (35%,  $P < .01$ ) exposed to the intervention at the follow-up reported having a plan for transportation in case of an obstetrical emergency compared to only 5% of all women in the baseline.

After controlling for other covariates, women exposed to program activities had significantly higher odds (5.23,  $p < .01$ ) than non-exposed women of having prepared a plan of what to do in case of a maternal emergency.

These encouraging results provide evidence that collaboration among public and private entities can lead to increased knowledge, improved attitudes and behavior change that can subsequently contribute to improved maternal and neonatal survival. However, the program reached only a total of 99 communities representing less than 3% of the total 3,638 communities in the seven intervention departments. Thus, continued support is needed from both the public and private sectors Guatemala for a lasting improvement in maternal and neonatal survival.