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Technical Brief

Timor-Leste Health Improvement Project

Applying Research on the *Three Delays* to Reduce Preventable Maternal Death in Timor-Leste

The United States Agency for International Development (USAID) supports the ***Health Improvement Project, known locally as HADIAK,*** *as part of the overall United States Government package of assistance to Timor-Leste. HADIAK is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), district level (district health services–DHS), sub-district level (community health centers–CHCs), and community level (health posts –HPs and integrated community health services-SISCa) to benefit health workers and communities through mentoring and training. Implementation focuses on the districts of Ermera, Manatuto, and Oecusse.*

INTRODUCTION

Timor-Leste has one of the highest maternal mortality ratios in Southeast Asia, at 557 deaths per 100,000 live births. Approximately 78% of births take place at home, and only 30% of deliveries are performed by a skilled birth provider; nearly half of all births (49%) are attended by an untrained relative or another person. Timor-Leste's population is rural and the country's mountainous terrain and limited transportation infrastructure make accessing health facilities in the event of an obstetric emergency difficult.

Delays in timely medical intervention are the most significant contributors to global maternal mortality and morbidity. The *Three Delays Model* outlined by Thaddeus and Maine (1994) identifies the three phases where delays occur: 1) delay in the decision to seek care; 2) delay in arrival at a health facility; and 3) delay in the provision of adequate care. Myriad factors contribute to all three delays and vary within and between contexts. In Timor-Leste, there is limited information regarding the specific factors—particularly at the individual and community level—that influence delays.

APPROACH

The USAID | Health Improvement Project (HIP) collaborated with the Ministry of Health (MOH) and the National Institute for Health (INS) to design a mixed methods study, *Reducing the Burden of the Three Delays on Maternal Health in Timor-Leste: Results from a Mixed Methods Study on Individual- and Community-Level Factors Contributing to First and Second Delays in Ermera and Manatuto Municipalities and teh Special Administrative Region of Oecusse Ambeno*, to examine birth preparedness and complication readiness factors contributing to the three delays within Timor-Leste.

The primary objectives of the study were to determine:

- Factors contributing to delays in recognizing an obstetric emergency and deciding to seek care among the individual and/or family (first delay);
- Factors contributing to delays in reaching an adequate health care facility (second delay); and
- Availability and mobilization of community resources to address the first two delays.

Planning for the study began in early 2014, with Institutional Review Board (IRB) approval, and included stakeholders from the MOH as well as local leadership, such as *suco* (village) and *aldeia* Chiefs, and other community members that contributed to study design and implementation. The study was carried out in the HIP-supported municipalities of Ermera and Manatuto, and the Special Administrative Region of Oecusse Ambeno from July-August 2014.

The quantitative component of the study included a cross-sectional survey among reproductive age women (15-49) who had been pregnant within the previous two years and their partners/spouses to examine birth preparedness and complication readiness at the household level. In all, 592 couples were surveyed; women and men were surveyed separately using a Women's Questionnaire and Men's Questionnaire. A Household Census was used to determine couples' eligibility to participate and to obtain basic housing/ household characteristics (sanitation facilities, drinking water, household effects, transportation).

The study's qualitative component included three sets of focus group discussions (FDGs) among male and female community leaders and traditional birth attendants (TBAs) to better understand the decision-making processes and resource barriers that contribute to the first two delays. In-depth interviews (IDIs) were conducted with women who had maternal and neonatal "near misses" (experienced an obstetric emergency, but survived), "near miss" spouses, family members involved in deliveries in which obstetric emergencies occurred, and midwives.

STUDY FINDINGS

The study provides data on respondent and household characteristics that may directly or indirectly influence contributing factors to delays, including respondents' educational status, ownership of durable goods and vehicles, and traditional and cultural beliefs.

- **Educational Status**: 30% of men and 41% of women have never attended school. 34% of men and 48% of women assess themselves as illiterate.
- **Ownership of Durable Goods:** 80% own cell phones, 22% own radios, 12% own TVs, 16% own motorcycles, and less than 1% own vehicles.
- **Traditional and Cultural Beliefs:** Discord within families was commonly considered a cause of obstetric complications; the family leader is often consulted for decision-making; common perception that medical treatment would be ineffective if discord within the family was not resolved.

First Delay: Key study findings related to the factors that contribute to delays in seeking care included:

59% of men and 43% of women knew at least 2 key danger signs during labor, one of the critical points during the childbearing stages when obstetric emergencies can occur. Approximately 71% of men and 80% of women thought that a woman can die during the problems they cited during labor. This indicates that they recognized some level of severity associated with the condition. Yet according to the qualitative results, the reason many people are not using facility-based care is due to a high reliance on traditional medicines. The results indicated that many people will turn to traditional forms of medicine and treatment first. 58% of men and 60% of women were aware of the concept of 'birth preparedness'; 33% of men and 17% of women had seen, read, or heard a BP message; and 31% of men and 30% of women were aware of community-provided transport services available to them.

Second Delay: Key study findings related to the factors that contribute to delays in reaching and adequate health care facility included:

Poor communication, transportation, and road conditions, long distances to reach health facilities, and financial constraints were identified as contributing factors to the delay in reaching care. 47% of men and 54% of women agreed that the difficulty of traveling to a health facility was a barrier. Approximate one-third of respondents reported living more than 30 minutes away from the nearest health facility, and 18% of respondents reported living 1-1.5 hours from a facility. Nearest facilities, however, were not necessarily facilities equipped to treat post-partum hemorrhage (PPH), requiring referral to a higher-level facility. Transcripts from the study's qualitative component suggest that people would prefer to use the ambulance or seek locally available traditional remedies rather than seeking expensive transport and care.

Third Delay

While the study was community rather than facility-based, some results from the mixed methods study provided valuable insight from the "user end" perspective regarding what barriers they may encounter. Lack of trained and skilled staff, limited availability of drugs, supplies, and blood for transfusions, and generally poor conditions at health facilities all contribute to delays in a patient receiving care once she has reached a health facility. Timor-Leste lacks a functioning blood donation system or blood bank, so if a woman has PPH, a donor must be located and brought to an equipped facility to have their blood type verified and

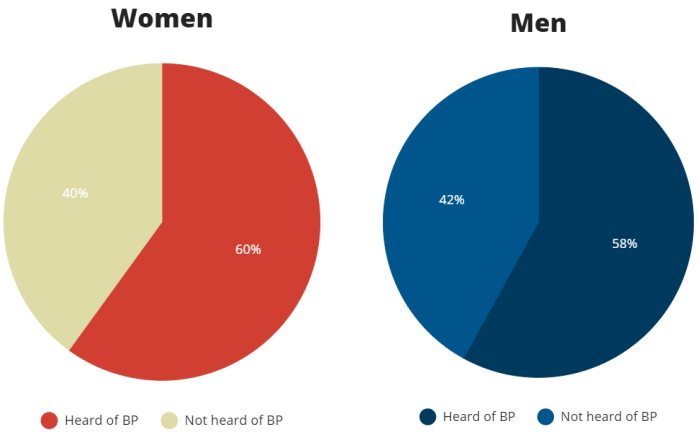
APPLICATION OF STUDY FINDINGS

The study results were presented to the MOH Council of Directors by the Head of the Maternal and Child Health Department, who later presented them in each of the Municipalities and Special Administrative Region where the study was conducted. At workshops held in Oecusse, Ermera and Manatuto, the major findings were discussed by participants including CHCs (manager, doctor and midwife), all HP doctors, Municipality and Administrative Post Administrators, Municipality Public Health Officers, *Suco* leaders, USAID, and partners. The workshop held in Oecusse was attended by the Regional Hospital Administrator and management team, Sub-Regional Administrators, and all other participants mentioned above. The MOH Director General attended the workshop in Ermera.

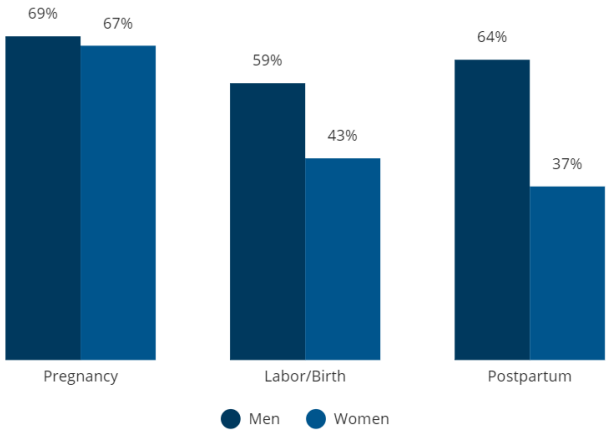
The purpose of the workshops was to present the results of the study and determine how to use them to address the factors causing delays in seeking, reaching, and receiving care. During the workshops, results of the Facility Readiness Assessments and coverage data of all technical programs were also presented. Participants therefore had a rich source of evidence for developing action plans at the CHC, HP, and community level. Seventy-four action plans for 16 CHCs, 59 HPs and 1 referral hospital supporting all *sucos* in the three locations were produced.

The actions determined during the workshops, together with advice from the Council of Directors, form the basis for recommendations resulting from the study. At the national level, the Minister of Health noted that the responsibility for developing strategies that address delays in seeking and reaching care should be shared by all sectors of government since health behaviors and health outcomes are affected by the general social and cultural environment in which they occur.

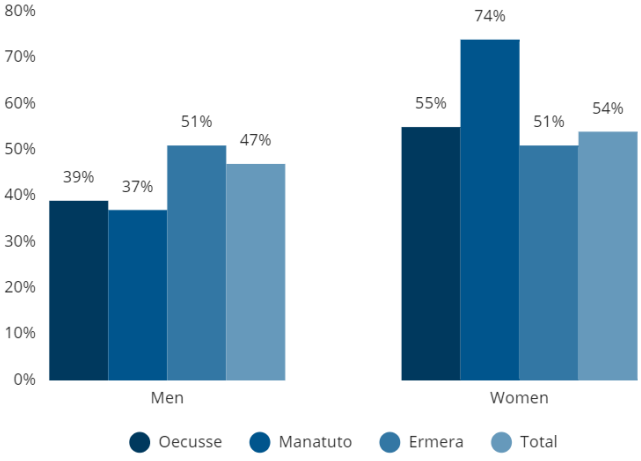
Percentage of Respondents Familiar with Birth Preparedness



Knowledge of Danger Signs



Reported Difficulty Accessing Health Facilities



RESULTS

Oecusse workshop participants prepare an action plan with the Director of the Regional Health Service.

The process of developing Municipality/Region Action Plans was the first step in responding to the study results because municipality leaders worked with Public Health Officers, staff from all health facilities and community leaders, with input from MOH, to consider the implications of the study and decide how to use the findings. The joint planning process itself provided an opportunity to strengthen the collaboration between community leaders and health providers, who had prioritized the need for this in their action plans.

Action plans developed at the municipality/region level were used in the MOH Annual Planning and Budgeting Cycle to develop the 2016 Annual Implementation Plan (AIP). The action plans provided an evidence-based argument for resourcing the activities necessary to address the factors contributing to delays in seeking, reaching, and receiving care. As a result, the AIP in each of the municipalities/region includes activities focused on increasing the demand for services to support safe motherhood and on improving the quality and supply of treatment received at health facilities. These activities will be funded in the 2016 health budget. This is a significant result of the implementation of the Three Delays Study as it provides immediate resourcing and potentially long term sustainability of these activities.

The MOH recognized the importance of the contribution of the study in addressing maternal health and mortality issues and thus decided to implement a maternal health community "three delays" study nationally. This study is one of the priorities on the National Institute of Health 2016 research calendar.

CHALLENGES

The findings of the Three Delays Study have been reviewed at all levels of the health system and by community leaders in the municipalities/region where the study was conducted. The challenge now is to apply these findings at the national, municipality/region, health facility and community level. At the national level, the Minister of Health is seeking inter-sectoral collaboration to address the issues related to the first, second, and third delay, which are affected by levels of education, availability of transport, communication, water and sanitation infrastructure as well as traditional practices and cultural norms. As these issues combined are beyond the scope of the Ministry of Health, the study results provide the impetus for challenging all sectors to work together to improve maternal health.

NEXT STEPS

HIP will support the implementation of the study recommendations by continuing to work with MOH at the national, municipality/region, administrative post, and community level in the delivery of targeted interventions to address the factors contributing to the three delays. New tools, guidelines, and training materials for monitoring and tracking pregnant and post-partum women at the community level, introduction of the non-pneumatic shock garment to manage post-partum hemorrhage, and other facility and community actions to ensure improved essential maternal and neonatal services are currently being implemented by the MOH with the support of HIP. These interventions, which are integrated into the MOH comprehensive package of Primary Health Care and funded in the 2016 Annual Implementation Plans provide a firm foundation for all activities designed to reduce delays in seeking, reaching, and receiving maternal health care.

For More Information:
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