

Health Alliance International Final Report March 2010 – June 2015

Support for Improved Maternal and Newborn Care
in Timor-Leste in Partnership with the
Timor-Leste Ministry of Health

AUSAID AGREEMENT 54456

July 31, 2015



Australian Government

Department of Foreign Affairs and Trade



ACRONYMS

ANC	Antenatal Care
BEmOC	Basic Emergency Obstetric Care
BFF	Birth Friendly Facility
CHC	Community Health Centre
DFAT	Department of Foreign Affairs and Trade
DHMT	District Health Management Team
DHS	District Health Services
DPHO	District Program Health Officer
DPHO-MCH	District Program Health Officer for Maternal and Child Health
EOPO	End-of-Program Outcome
FP	Family Planning
FUAT	Follow-up After Training
HAI	Health Alliance International
HMIS	Health Management Information System
HP	Health Promotion
HQ	Headquarters
IEC	Information, Education, and Communication
INGO	International Non-governmental Organization
IR	Intermediate Results
KPC	Knowledge, Practices and Coverage
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MNC	Maternal and Newborn Care
MNO	Mobile Network Operator
MoH	Ministry of Health
NBC	Newborn Care
PSF	Family Health Promoters (<i>Promotores Saude Familia</i>)
RH	Reproductive Health
SBA	Skilled Birth Attendant
SISCa	Integrated Community Health Services (<i>Servisu Integradu de Saude Comunitaria</i>)
SMS	Short Message Service

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EXECUTIVE SUMMARY

This report summarizes the achievements of Health Alliance International (HAI) in Timor-Leste for Agreement #54456 with the Australian Department of Foreign Affairs and Trade (DFAT) for the period March 2010 through March 2015. An extension period, adding three months, April – June 2015 was added in March 2015. As of March 2015 the total amount of that agreement was AUD [REDACTED] provided in seven separate tranches, and included activities in maternal health, newborn health, and family planning. HAI has worked in close collaboration with the Timor-Leste Ministry of Health (MoH), addressing the MoH's efforts to reduce the "three delays" to maternal care services: delays in recognizing problems requiring care, in reaching care, and in accessing quality services.

Building health systems capacity in Timor-Leste has been a major focus of the grant. HAI has made important contributions during the five year period in supporting the strengthening of reproductive health and maternal/newborn health policy at the national level, consistently contributing to national-level policy-setting. Health systems strengthening activities have focused on 1) support for strengthened national health policies; 2) support for training of midwives and other health staff, both in national in-service trainings and refresher trainings; 3) Supportive Supervision of district midwives; 4) development and implementation of Learning Labs to support follow-up after training (FUAT).

Training has been an important contribution to strengthening the quality of health services. To date HAI has trained 745 midwives and other staff in Essential Newborn Care (ENBC), Basic Emergency Obstetric Care (BEmOC), Safe and Clean Delivery Care (SCDC), or Family Planning (FP), increasing the number of midwives capable of providing family planning (EOPO #4) and ensuring that two district health centers are providing BEmOC services (EOPO #3). Following major changes in MoH structures that oversee national training and standards, HAI has developed a strong relationship with the National Institute for Health (INS) with whom we coordinate all training activities. In 2013-14 HAI developed a new approach to in-service reinforcement of training: Learning Labs. Learning Labs are a part of FUAT, which aims to assure that after a training the new skills gained are reinforced in the clinic setting for several months through both practice sessions and supportive supervision. Learning Labs run monthly over a six month cycle to support health staff in the transfer and retention of information learned after a national clinical training program. Evaluation has shown that midwives who go through the Learning Labs have substantially and consistently higher capacity than comparison midwives in core skills, and were correctly treating newborn illnesses (EOPO #1). The Learning Lab approach has the potential to provide a basis for a national system of in-service education, which has not yet been developed in the country. The ENBC Learning Lab manuals have been approved by the National Institute for Health Sciences (INS) for national use (EOPO #2).

Community engagement to increase demand for health services and promote improved home health behaviors has been another focus of the past five years. HAI has developed a number of Behavior Change Communication (BCC) tools and activities focused on community engagement to increase demand for maternal health services. During the five-year project period HAI's community-based activities have focused on: (i) Development of culturally appropriate BCC materials/tools that include six films, a set of ten photo cards, posters, and radio spots; (ii) Support for the MoH-

sponsored Community Health Workers (PSFs), when it was a newly developed cadre of health volunteers; (iii) Support for health promotion activities carried out at mobile health outreach events (SISCa); and (iv) Community microplanning and related community activities, in which HAI convenes health staff and local community leadership to demonstrate the benefit of working together to solve community problems. Various community events, night film showings, men's advocacy groups and women's groups have involved over 9,820 men and women, providing motivation and support for improved knowledge and new health behaviors. Fourteen communities in Timor-Leste who participated in the microplanning program showed considerable improvements in uptake of maternal health services (EOPO #5).

The Liga Inan program, Timor-Leste's first mHealth project, was designed by HAI and Catalpa International to support improved health knowledge and behaviors among pregnant women and to link them with their midwives via mobile phone connections. The Liga Inan service sends the pregnant woman automated messages about how to keep herself and her baby healthy before, during, and after delivery. The Liga Inan service also assists mothers to contact their midwives if they have questions or problems and prompts midwives to check in with the mother three weeks before the estimated due date. Based on very positive outcomes on key indicators in the USAID-funded pilot district of Manufahi, HAI was funded by DFAT to expand Liga Inan into two additional districts, Liquica and Aileu, between June 2014 and March 2015. All health facilities have been active, enrolling 2,358 women by June 30th, over half of all women expected to be pregnant in both districts in one year (EOPO #6). Women report satisfactory access to and understanding of messages, and early results show an increase in the numbers of antenatal care visits and facility births provided by health staff after the program was launched. A partnership agreement between HAI, Catalpa International, and Timor Telecom, in which Timor Telecom agreed to support the costs of SMS messaging for their clients enrolled in the program, represents a significant step in reducing the costs of the program and improving overall sustainability. HAI, Catalpa, and the MoH are also currently editing a Liga Inan Roadmap, which outlines strategic program directions for the next few years (EOPO #7).

Monitoring and evaluation, which involves generating and using evidence of the effects of interventions, is a critical element of HAI's programs. Affiliated with the University of Washington, HAI conducts high quality research with assistance as needed from university faculty. HAI has three full-time staff dedicated to monitoring and evaluation in the field. Headquarters staff as well as three field staff members have faculty appointments in the Department of Global Health at the University of Washington. HAI has made use of several external consultants to support rigorous evaluation of our efforts. In addition, four graduate students have conducted research on a range of health services issues between 2010-2015, and have shared their reports and insights with the MoH. HAI is well aware of risks that can threaten both project implementation and sustainability. In addition to submitting an extensive list of potential risks and management response, HAI works diligently to mitigate risks, including aligning activities and work plans with the MoH and other key local agencies. We have tried to focus on the roles and experiences of women in Timor-Leste, and design our programs so as to strengthen the capacity and agency of women to safeguard their own health, and that of their children.

INTRODUCTION

Beginning in March 2010 the Australian Government provided Health Alliance International (HAI) funding to improve maternal and newborn care and family planning in partnership with the Timor-Leste Ministry of Health (MoH). The overarching goal of the program is to improve health and reduce mortality and morbidity for mothers and their infants in Timor-Leste thus contributing to Millennium Development Goals (MDGs) Four and Five.

The original Agreement (#54456) was slated to cover the time period of March 2010 through December 2011. Additional funds were added to this same agreement covering the calendar year January through December 2012 with a new approved scope of work. For the funding period January 2013 through March 2015 our scope of work was revised again with the continuation of some activities and testing some new approaches. In March 2014 HAI was asked by DFAT to add an additional scope of work to scale up HAI's Liga Inan mHealth program into two additional districts, this scope of work was added in June 2014. A final cost-extension with associated workplan and budget was added to this original agreement in March 2015 covering the period April – June 2015. Table 1 below summarizes HAI's three Project Cycles and budget throughout the life of the agreement. We are grateful for the ongoing support of the Australian Government in our work to improve the health of women and young children in Timor-Leste and look forward to our continued partnership.

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Coverage Areas	
District Coverage Project Cycle 1	Dili, Liquica, Aileu, Ainaro, Manufahi, Manatuto, Ermera
District Coverage Project Cycles 2-3	Dili, Liquica, Aileu, Ainaro, Manufahi

PROJECT JUSTIFICATION AND RELEVANCE

Timor-Leste continues to face challenges in improving the health status of the population, with some of the worst maternal and child health statistics in the region. Maternal mortality is reported to be 557 per 100,000 live births.¹ Data from the 2009/10 Demographic and Health Survey (DHS) show that while 86% of women attend at least one antenatal care (ANC) visit, only 55% attend the WHO-recommended four visits and only 30% of deliveries are assisted by a skilled attendant. Infant mortality is estimated to be 45/1,000 live births, the risk of neonatal death is 22/1,000 live births, and one in sixteen Timorese children die before reaching the age of five.²

The Timor-Leste MoH focuses on the barriers to improving maternal and newborn care in the context of the Three Delays Model: 1) delays in the decision to seek care, 2) delay in accessing care and, 3) delay in receiving adequate and responsive care. Strategies addressing each delay have been included in HAI's maternal/newborn care project.

Delays in care-seeking. The decision to seek care requires that key household decision-makers understand both the need and the value of medical interventions for maternal or newborn health problems. Contact with midwives during pregnancy is often limited to a few antenatal care visits, which do not allow for the repetition and reinforcement of health messages that will lead to an understanding of the benefits of care. Timorese families, particularly in rural areas outside Dili, are entrenched in patriarchal patterns of belief that inhibit women and young girls from accessing equality within households or communities. As a result they are constrained in their decision making powers, forcing them to make choices based on key decision makers in the household (husbands and mothers-in-law).

The Liga Inan mHealth program interfaces directly with pregnant women and their families to increase awareness about appropriate care seeking behaviors before, during and after delivery. It also facilitates two-way communication between midwives and pregnant women at critical moments, such as three weeks before delivery and if a mother has a concern. In addition, HAI has developed culturally-responsive multimedia Behavior Change Communication (BCC) tools, including films, radio spots, songs, photo cards and posters. These health promotion tools have been, and will continue to be distributed broadly in the health sector, both at the MoH and with other INGOs working in health for demand generation activities in communities.

Delays in accessing care. Many women living in rural Timor-Leste find it challenging to access health facilities for care: they lack motivation to attend services; family decision-makers disagree with going to health providers for care and thwart access; roads are rough and transportation options limited. The *Liga Inan* program adds the option of mobile phone communication to facilitate the process of accessing information and advice from a midwife. For example, through *Liga Inan* mothers receive tips and reminders about the benefits of seeing a midwife for care, a message that can be shared with family members; midwives receive a list of all the mothers in their *Liga Inan* cohort whose due date suggests they will deliver in three weeks, this will trigger a telephone call from midwife to mom to inquire about a birth plan and to facilitate this planning within the family; midwives can alert her cohort when a SISCa event will be close by and encourage them to come see her for care. Furthermore, HAI's Learning Labs work to improve the skills and confidence of district midwives to deliver high quality maternal services. When pregnant clients experience enhanced communication with their local midwife through the *Liga Inan* program complemented when they

¹ National Statistics Directorate (NSD) [Timor-Leste], Ministry of Finance [Timor-Leste], and ICF Macro. 2010. Timor-Leste Demographic and Health Survey 2009-10. Dili, Timor-Leste: NSD [Timor-Leste] and ICF Macro.

² Ibid.

receive mother-centered services from a confident and competent provider, HAI has seen ANC visits and facility deliveries increase.

Delays in receiving quality care. Quality care requires that providers have adequate skills, equipment and confidence to respond to the needs of their patients. Capacity building of the health workforce is a high priority of the MoH, which is also committed to incorporating innovative approaches into their national strategies. Health providers need a system of continuous learning to keep their skills updated and fresh. There have been many national in-service and refresher trainings of providers over the years, however, a systematic follow-up-after-training (FUAT) has been virtually non-existent. Midwives are sent back to health centers and rural health posts following national trainings without the support needed to practice their newly acquired skills. This has resulted in providers who are often ill-prepared to attend to more complex deliveries, care for sick newborns or deliver family planning services. HAI is addressing the need to reinforce and solidify skills acquired during training with the aim of ensuring a higher quality of health services that are mother-centered at the district and sub-district levels which will maximize investments in costly national training initiatives.

SUMMARY OF PROJECT CYCLE 3 KEY ACHIEVEMENTS

Below is a summarized list of key achievements and highlights during the most recent **Project Cycle 3 (2013-2015)**. Please see relevant sections for further detail, outputs, and outcomes on specific achievements.

- Developed, implemented and evaluated Learning Labs as part of a new approach to supporting follow-up after training (FUAT) for MoH midwives. Careful evaluation indicated that Learning Labs are a very useful, low cost method of building skills of midwives and transferring knowledge from the training setting to clinical practice. Essential Newborn Care Learning Lab was developed, implemented, evaluated. Safe and Clean Delivery Care Learning Lab draft is developed and approved for test piloting in two districts in mid-March 2015.
- HAI's Quality Improvement Coordinator has built and maintained sound relationships with the National Institute for Health (INS) which has been integral in the success of HAI's partnership to gain approval and integration of the Learning Lab model into the national training system.
- Conducted an external evaluation of HAI's work with the local NGO, HealthNet, to assess the effectiveness of their efforts in community health education on the topic of family planning. As a result, the HealthNet contract will not be renewed until further strengthening of their services can be assured.
- Conducted an external evaluation of HAI's community-based activities which resulted in implementing key recommendations for improvement.
- Supported significantly to in-service and refresher training for MoH health staff to improve quality of maternal and newborn health services delivered through the government health system in the technical areas of Family Planning, Safe and Clean Delivery, Basic Emergency Obstetric Care, and Essential Newborn Care.
- Scaled up the Liga Inan mHealth program into two additional districts – Liquica and Aileu.
- Presented the Liga Inan program to the Vice Minister, who approved expansion of Liga Inan into two additional districts, Ermera and Manatuto, in 2015 and requested costing information for the project to assess allocating funds in the MoH budget as HAI and Catalpa transition out of support for Liga Inan in Manufahi District.

- Developed Liga Inan health promotion materials including training videos to enhance quality and standardization of Liga Inan training for MoH health staff responsible for registering pregnant women.
- Strengthened HAI's capacity to take on more complex programming and financial grant management including restructuring finance, operations, programming, and technical support teams. This included reviewing lines of responsibility, organizational structure, strengthening job descriptions, and strengthening recruitment, orientation and appraisal systems. Also set up a Health and Safety committee to review and strengthen security planning so as to be more responsive to the safety and security of the HAI team.
- Strengthened internal capacity of the team in management and program implementation by conducting a number of in-house trainings and presentations including in areas relating to organizational management, program management, and technical skills such as: (i) management, leadership, communication and coordination; (ii) grant financial management, (iii) behavior change communication, social marketing and community mobilization, (iv) clinical skills and quality improvement, and (v) HR training for managers on conducting an effective performance review, and (vi) induction into other important topics related to HAI's work such as violence against women, disability, gender, child protection, and de-concentration/decentralization.
- Strengthened technical support to HAI's clinical team to provide stronger support to health system strengthening by recruiting a volunteer Maternal and Child Health Adviser through the Australian Red Cross/AVID program.
- Increased the skills of HAI's clinical team in Safe and Clean Delivery through a two-week training in Indonesian at the national training institute.

Table 2: Achievement of End of Program Outcomes for Project Cycle 3

Results	EOPO Target	Overall progress toward EOPO
EOPO 1 & 2: ENBC Training and FUAT		
Improved management of newborn	Correct action recorded for 70% newborn illnesses identified in Newborn Registers used at ENBC LL pilot sites	Achieved. <i>During the pilot, the correct action was recorded for 74% of forms which contained signs of newborn illnesses.</i>
LL Facilitator's Manual and Participant's Manual for ENBC are approved by INS and MOH	ENBC Learning Lab Facilitator's and Participant's Manuals are approved by MOH and INS	Achieved. <i>INS has approved both Manuals.</i>
EOPO 3: BEmOC training and readiness		
CHC Ainaro and Monaco Maternity Clinic display 4 out of 7 signal functions of BEmOC-ready clinic	CHC Ainaro and at Monaco Maternity Clinic performed at least 4 signal functions of BEmOC-ready clinic in previous 3-6 months	Both sites displayed 6 of the 7 signal functions within the past 6 months, including all 4 of the initially selected signal functions
EOPO 4: Improved capacity to deliver FP services in Timor-Leste		
Midwives who received FP TOT are competent to deliver FP Training	10 Trainers are approved by INS to conduct FP Training according to revised training curriculum	Achieved. <i>Seventeen midwives approved as Trainers and have conducted two rounds of standardization training.</i>
Midwives who receive FP standardized training are	90% of midwives were able to demonstrate delivery of FP methods on a mannequin	Achieved. <i>100% of midwives were considered ready to begin delivering</i>

Results	EOPPO Target	Overall progress toward EOPPO
ready to deliver FP	and one client	<i>family planning services.</i>
EOPPO 5: Improved uptake of health services in suco that receive microplanning intervention		
Increase in uptake of antenatal, delivery, and postpartum health services in suco that received microplanning and community-level activities	80% of suco that received the microplanning and community-level health promotion activities saw an increase of 7% or more in one or more health services	Achieved. 14 out of 15 suco (93%) saw improvements in one or more key health services. On average, improvement occurred in 3 health indicators per suco.
EOPPO 6 & 7: Expansion of the Liga Inan program		
The Liga Inan program is successfully operating in two districts	40% of estimated pregnant women in Liquica District are enrolled in the Liga Inan program	Exceeded. 59% of estimated annual pregnant women have been enrolled in Liquica District.
	15% of estimated pregnant women in Aileu District are enrolled in the Liga Inan program	Exceeded. 38% of estimated annual pregnant women have been enrolled in Aileu District.
	100% of Liga Inan facilities have enrolled at least one woman in the previous month	Almost met. 94% of facilities enrolled women in June, or all but 2 facilities. One facility did not enroll a woman last month, however the facility is staffed by a male doctor who does not often provide maternal health services, and the other facility had a staff turnover since Orientation.
	100% of Liga Inan facilities have sent at least one broadcast ("Inan") message after the LI Orientation	Almost met. All but one facility (97% of facilities) sent a Liga Hau, which was likely due to changes in staffing at the missing site.
Key stakeholders agree to Roadmap for national Liga Inan scale-up	Liga Inan Roadmap is completed and approved by the MoH	In progress. A draft Roadmap was submitted to the MoH and we are awaiting response.

PROJECT DESCRIPTION AND RESULTS

Activities and outputs and outcomes are described for three **Project Cycles: 2010-2011, 2012, and the final period of January 2013-March 2015.** DFAT has proposed a three-month extension, April 1 - June 30, 2015 which yet been finalized and will not be addressed in this report.

Activities, outputs and outcomes were focused on, and reported under two major sections in this report that have been the consistent focus across all three HAI Project Cycles: 1) Building Health System Capacity in Timor-Leste, and 2) Community Engagement to Increase Demand for Health Services. HAI believes strongly in the importance of working synergistically on the "supply" and "demand" side in the health sector to effect positive change in health outcomes. The third section, Monitoring and Evaluation/Operations Research, will discuss HAI's M&E system over the project life cycle and the final section will discuss overall project management.

SECTION 1: Building Health System Capacity in Timor-Leste

HAI's Health Systems Strengthening activities for the project period have focused on (i) support for strengthened national health policies; (ii) support for training of midwives and other health staff, both in national in-service trainings and refresher trainings; (iii) Supportive Supervision of district midwives; (iv) development and implementation of Learning Labs to support follow up after training (FUAT). Clinical technical areas covered include Essential Newborn Care (ENBC); Basic Emergency Obstetric Care (BEmOC); Safe and Clean Delivery Care (SCDC); and Family Planning (FP).

Support an evidence-based policy environment

HAI has made important contributions during the five year period in supporting the strengthening of reproductive health and maternal/newborn health policy at the national level. HAI has consistently contributed to national-level policy-setting workshops and committees. In **Project Cycle 1 (2010-2011)**, HAI was invited by the Minister of Health (Dr. Nelson Martins) to attend monthly feedback sessions with the Minister regarding the health sector. In addition during this same project cycle, HAI facilitated the re-establishment of the Family Planning Working Group and has been an active contributor to this and other national working groups for MCH and BCC. HAI sits on the Overall Aid Advisory Board Committee in the MoH as the only INGO, and has been invited by the MoH to support their annual work planning meetings. HAI staff contributed to both the creation of the National Reproductive, Maternal, Newborn, Child, and Adolescent Health Strategy and the National eHealth Strategy.

HAI is recognized by the MoH for our expertise in M&E. Since 2010, we have participated in the HMIS Think Tank, which later evolved into the M&E Working Group, which reviews changes to the national health information system and health results in Timor-Leste. HAI has consistently advocated for strengthening HMIS indicators in the country, and our M&E Manager provided technical assistance for the development of the MoH M&E Framework and was asked to conduct training sessions during the national M&E Workshops.

HAI headquarters staff co-authored an article in April 2014 with Dr. Rui de Araujo, Timor-Leste's first Minister of Health and the current Prime Minister, describing the beginnings of the health system in Timor-Leste and the role of the INGO community in supporting the development and strengthening of health services during the post-independence period. The report was published in the International Journal of Health Services, a peer-reviewed health policy journal.³

Lessons Learned: *Years of careful attention to building relationships with the MoH at the national and district level and dedicated commitment to partnership and alignment of HAI activities with MoH priorities has resulted in high level engagement and invitation to policy tables.*

³ Mercer, M; Thompson, S; de Araujo, R. *The role of international NGOs in Health System Strengthening: The Case of Timor-Leste*. International Journal of Health Services. Vol 44. No. 2. 2014.

Conduct national trainings for health staff

Over the course of the project cycles, HAI has had experienced midwife national trainers on staff in Safe Motherhood (now known locally as Clean and Safe Delivery Care), Essential Newborn Care and Family Planning. Over the course of the entire project cycle HAI has assisted the MoH and the National Health Institute (INS) in facilitating national in-service and refresher training to midwives and sometimes doctors throughout the country, which has been an important component of HAI's efforts in strengthening the quality of health services. Please see Table 3 for details on in-service and refresher training supported by HAI throughout the five-year Project Cycle.

Table 3: Number of Health Staff Trained by HAI 2010-2015

Activity	Description	District received	2010	2011	2012	2013	2014	2015	Total
Family Planning									
FP Training for MSI	8-day training for MSI midwives in family planning methods	MSI staff		15					15
FP Standardization Training	8-day training for midwives in family planning methods	Dili, Liquica, & Aileu				14			14
FP ToT	6-day Training of Trainers for Family Planning	Dili					19		19
Essential Newborn Care									
ENBC Training	5-day ENBC Training	Dili, Aileu, Same, Bobonaro, Baucau, Oecusse	53			75	20		148
Safe and Clean Delivery Care (SCDC)									
SCDC Training for Doctors	SCDC Training adapted for the first cohort of Cuban-trained Timorese doctors	Assorted		18					18
SCDC Standardization Training	9-day SCDC Standardization Training	Baucau, Liquica, Aileu, & Dili		27			17	13	57
SCDC Refresher Training	3-day SCDC Refresher (incl 1-day LAM refresher from 2011 onward) training for health staff already trained in SCDC	Liquica, Aileu, Dili, Manufahi, Ainaro, Bobonaro	13	115	196		95	31	450
Basic Emergency Obstetric Care (BEmOC)									
BEmOC refreshing	3-day refresher for BEmOC-trained midwives	Dili, Liquica, Aileu, Ainaro, Manufahi				24			24
Total beneficiaries per year			66	175	196	113	151	44	745

Family Planning (FP)

While conducting supportive supervision on family planning in 2010-2012, HAI staff noted that many midwives were not competent or confident to provide family planning services. In **Project Cycle3 (2013-2015)**, HAI worked with partners (INS, MoH, UNFPA, Marie Stopes International and HADIAC)

on the revision of the FP training curriculum and development of a trainer's and participants' guide. A team of UNFPA-supported Indonesian FP master trainers facilitated this process through a three-week visit to Timor-Leste. Following curriculum revisions, the MoH and INS requested partners to support increasing the number of FP national facilitators in order to roll out the new training curriculum to all districts. HAI supported a FP standardization training in November 2013 and a FP Training of Trainers (ToT) in September 2014 (where two HAI midwives were trained). Following the ToT, HAI's newly trained national trainers were able to put their new skills to use in a second FP standardization training supported by partners HADIAK and MSI.

Safe and Clean Delivery Care (SCDC)

HAI has maintained a consistent focus on Safe Motherhood, now more commonly referred to in Timor as Safe and Clean Delivery Care (SCDC), training over our entire project cycle. In **Project Cycle 1 (2010-2011)**, HAI assisted the MoH and INS to conduct SCDC training for the first cohort of 18 newly returned Cuban-trained Timorese doctors; a HAI midwife received SCDC certification in the new SCDC standard and assisted to train 27 midwives to receive their certification, as well as refresh the skills of 115 district midwives.

In **Project Cycle 2 (2012)** HAI continued our focus on improving the skills of health staff in SCDC in collaboration with the MoH and INS. HAI provided SCDC refresher training for 196 midwives. The SCDC refresher training was carried out jointly with a one-day training by HAI M&E staff on Local Area Monitoring (LAM), a system used to monitor key maternal health coverage at the suco (village) level. During 2014 and early 2015, (**Project Cycle 3 (2013–2015)**), HAI conducted six SCDC refresher training in three districts to refresh the skills of 62 midwives and 64 doctors.

Building on HAI's successful Learning Lab model that initially focused on Essential Newborn Care, in early 2015 HAI shifted our support for SCDC training to a Learning Lab model. The first quarter of 2015, HAI staff engaged with the MoH and INS to develop the SCDC Learning Lab Facilitator's Guide. In preparation, HAI sent five HAI midwives for a two-week SCDC training in Indonesia in March 2015 to qualify them to carry out SCDC Learning Labs. These staff then helped to conduct a SCDC Training for 13 health staff in order to demonstrate their new skills. In June 2015, we heard that four of these providers were qualified and one was provisionally qualified pending further coaching, however the formal report from Indonesia to confirm these results. The SCDC Learning Lab was field tested in 2 health facilities in Dili and Liquica in March and finalized and endorsed by INS in late March 2015. A list of facilities have been identified to conduct the expanded Learning Lab for the next program. The Learning Lab model is described in detail below.



*Manufahi midwife demonstrates
Safe and Clean Delivery Skills*

Since INS have no systematic way to train and approve new SCDC Trainers themselves, getting HAI staff approved as SCDC Trainers has been difficult. Trainers are required to demonstrate competency in both SCDC skills and as facilitators by conducting a Standardization Training for other midwives in SCDC. Our staff must be vouched for by the Indonesian Master Trainers themselves—a process that required waiting for both a Standardization Training to be conducted as well as an

international visit from Indonesian Qualifiers. To compound these challenges, we managed to upset some key MoH staff by sending only HAI staff to Indonesia for training. We had invited government staff to attend but no names were put forward. We received formal approval from the interim Director for INS to send our staff, but some Ministry staff felt they had not be consulted sufficiently. It remains a sensitive issue for HAI clinical staff, who are still awaiting formal approval of their Trainer status.

Basic Emergency Obstetric Care (BEmOC)

HAI does not have BEmOC trainers on staff, and in fact, there are no national BEmOC trainers in Timor-Leste. Dr. Amita Pradham Thapa, a Nepali obstetrician who has worked in Timor-Leste at the Dili National Hospital for over 12 years is the only qualified BEmOC trainer in the country. The lack of BEmOC trainers in Timor-Leste has resulted in significant gaps in conducting national trainings for BEmOC. Dr. Amita conducted the first national BEmOC training in Timor-Leste in 2005 and there have been a few additional national level trainings in subsequent years. There is currently no plan for further BEmOC training which is obviously limited by trainer capacity. There is also no policy or resources for follow-up after training. Even if midwives were fortunate enough to participate in a national BEmOC training, with low volume of clients in many health facilities, they frequently lack confidence in their skills. There is a significant risk in Timor-Leste of low health provider capacity to deliver BEmOC without future in-service or refresher training.

In early Project Cycle 1 (2012), a Master of Nursing student from the University of Washington completed an assessment of facility BEmOC readiness (i.e. staffing and equipment) and midwife confidence in treating obstetric cases at 7 of the 11 health facilities in Ainaro and Manufahi districts. Using a tool designed by UNFPA and the MoH and with supplemental interview questions, the assessment determined barriers to providing BEmOC, quality of home delivery care, and early complication management. Some of the barriers identified included the challenge of maintaining skills in a low-birth environment, a lack of follow-up post-BEmOC training, and incomplete equipment for delivering care.⁴

In Project Cycle 3 (2013-2015), HAI supported three 3-day BEmOC refresher trainings conducted by Dr. Thapa for midwives in five districts. Two of these were supported by DFAT and one by USAID. In total, DFAT supported 24 midwives to receive BEmOC refresher training, and an additional 8 trained by USAID. Together with an additional USAID-supported training in Manufahi, HAI-supported BEmOC refresher trainings have ensured that 75% of community health centers in these five districts have a midwife who has at least updated her BEmOC skills in the past two years. Over 80% of participants in these trainings were determined to be competent by Dr. Thapa in BEmOC skills, including an assessment of treatment of postpartum hemorrhage.

In February 2015, we found that the two recognized BEmOC delivery facilities in Ainaro and Manufahi had performed 6 of the 7 signal functions of a BEmOC-ready facility, including the 4 focus signal functions identified in our **End of Program Outcome #3**, indicating that they were maintaining and applying BEmOC skills. Neither site had performed vacuum extraction, instead midwives were referring these cases to a higher level facility. All health staff requested further intensive practice at the Dili National Hospital to improve their confidence. The 3-day BEmOC refresher training is not a replacement for the full national training curriculum, but it is a very cost efficient means to keep BEmOC skills fresh in Timor-Leste in the context of a significant gap in training capacity. The heads of both districts (Ainaro and Manufahi) where the refresher training was conducted have requested that newly trained Timorese doctors attend future refresher trainings.

⁴ Nolan, Annmarie. 2012. Basic Emergency Obstetric and Neonatal Care Assessment: Manufahi and Ainaro Districts. Health Alliance International, Timor-Leste.

Essential Newborn Care (ENBC)

HAI has worked closely in the area of ENBC since beginning operations in Timor-Leste. In 2005-2006, our Technical Advisor, Dr. Ingrid Bucens, a pediatrician and neonatologist, worked closely with the MoH and WHO to establish Timor-Leste's ENBC training curriculum. In late 2014 and early 2015, Dr. Bucens has been under UNICEF contract to revise the ENBC curriculum, which is now in final draft and is currently undergoing final MoH approval.

In **Project Cycle 1 (2010-2011)**, working with the MoH and INS HAI assisted to review and revise the ENBC training materials and was requested by the MoH to co-facilitate ENBC training in Dili, Bobonaro, Baucau, and Oecussi with a total of 53 midwives and nurses trained.

After a stall in further ENBC training in 2012, there was renewed interest and readiness in **Project Cycle 3 (2013 and 2015)**. HAI provided support to five national ENBC trainings held in Dili (2), Aileu (2), and Manufahi (1) districts for 95 midwives, and as a result, 100% of community health centers in these three districts have at least two midwives trained in ENBC.

A massive gap in a systematic follow up after training plan was exposed following this intensive national ENBC training effort when midwives were sent back to their health facilities, often working in professional isolation and lacking confidence in their newly acquired skills. It was at this time that HAI began discussions with the MoH and INS on a follow-up after training (FUAT) model that we call Learning Labs.

Lessons learned: *Close collaboration with the MoH and INS in support of training of MoH health staff is an important contribution to national capacity building. The MoH sets standards and policies, but because of a scarcity of MoH master trainers who have the time and resources to train, HAI can contribute substantially to building the pool of skilled and competent staff.*

Lessons Learned: *Workplans sketched out years ahead can frequently conflict with the shifting priorities of the MoH and INS and requires flexibility of the implementing partner and donor to adjust expectations and make alternate plans. For example, having the option of supporting BEmOC refresher training as opposed to a national in-service training allowed HAI to assure BEmOC skills were kept fresh at target BEmOC facilities while the gap in BEmOC national trainers is addressed.*

Lessons Learned: *There has been considerable attention to the provision of national training for midwives and other relevant health staff in Timor-Leste over the past five years, however, there is a gap in follow up after training (FUAT) with a lack of systematic attention and planning to assuring that participants of national trainings are coached and mentored to translate new skills to practice in their clinical settings.*

Lessons Learned: *While midwives are the focus on HAI's training efforts, the newly returned Timorese doctors are keen to participate in training opportunities to improve their skills.*

Lessons Learned: *There is can be tension when professional trainers from other countries are brought in to train and certify Timorese health staff and these situations need to be managed very diplomatically. Ideally, all partner-supported training efforts will support the capacity of Timorese trainers to be the lead trainers for maternal health clinical skills.*

Learning Labs: Development and evaluation of a FUAT Model

An important innovation in 2013 was the development of a new approach to in-service reinforcement of training: the Learning Labs. Learning Labs (LL) are a part of a follow-up after training (FUAT) approach, which aims to assure that following a training the new skills gained are reinforced in the clinic setting for several months through both practice sessions and supportive supervision. The LL module for ENBC was first developed, implemented and evaluated in 2013-2014.

The Learning Lab Model. A Learning Lab (LL) is a set of 6 sessions, run monthly over 6 months, to support Community Health Center (CHC) staff in the transfer and retention of information learned within three months after staff have undertaken a national clinical training program (i.e. ENBC). Each LL session is conducted by an ENBC Trainer or senior midwife who have been assessed as competent in ENBC skills. Using a competency-based training approach (CBT), the classroom learning is continued in the workplace through the LL to ensure mastery of clinical competencies.

An important characteristic of a LL is that it is based in a clinical setting over a minimum of 2-3 hours. Learning Labs recognize that all Trainees are adult learners (see Box 1) and sessions are organized to include simulation of clinical cases as well as actual cases when they present. Simulation using mannequins and realistic case scenarios is an important approach to learning clinical competencies and offers a practical method at low volume facilities. The Trainer/Facilitator must first: (i) explain the skill or activity (ii) demonstrate the skill on anatomic model; and (iii) observe and guide the Trainee in learning the skill. The Trainer/Facilitator needs to monitor achievement of skill and work with Trainee to address problems in skill acquisition (see Annex 2 for the LL Facilitator Manual).

Box 1: Adult Learning Principles (Sullivan et al. 1998)

Trainees learn best when:

1. They are ready to learn – thus, important for the Trainer/Senior Midwife to nurture a culture for learning. By beginning with the identification of needs together with the Trainees, the Trainer supports the need to learn. Thus, generating the ‘readiness to learn’ in Trainees.
2. Their prior learning and experiences are acknowledged and included in learning of new competencies.
3. They know what they need to learn
4. Different methods of teaching and learning are used i.e. through touch, sound, sight, practice.
5. They are given time to practise in a simulated environment (use of anatomical models).
6. They practise repeatedly.
7. They receive immediate positive, feedback during practise.

Learning Lab Pilot. HAI commenced the LL demonstration project in collaboration with the MoH and INS in May 2013. The MoH and INS approval process to begin the LL demonstration project proved very time consuming for HAI staff. The lines of authority and approval processes that exist between the MoH and INS is not always clear and required very careful diplomacy and negotiations. HAI’s Senior Quality Improvement Manager played a key role and was instrumental in gaining approval for the LL demonstration.

A consultant, a Reproductive Health Technical Advisor (RHTA), worked with HAI’s Quality Improvement and M&E teams to design a case-control LL demonstration project with three intervention and three control sites matched according to facility size and patient load. Midwives in all sites had received ENBC national training or refresher training immediately prior to the commencement of the project. The intervention facilities received the 6 Learning Lab modules over 6 months and the control sites did not.

An evaluation of the ENBC LL found that midwives who had gone through the LL cycle showed substantially and consistently higher performance in post-assessment tests than the group of midwives at the control facilities in the core set of ENBC skills. Most LL midwives achieved full competence in the skills reinforced during the LL: **20 out of 20 of midwives who participated in the 6-month Learning Lab cycle were found to be competent in both newborn resuscitation and newborn examination.** In contrast, only **4 out of 13 midwives were competent in newborn resuscitation and only 1 of 13 midwives competent in newborn examination in the control sites that did not receive Learning Labs** (see Figures 1 and 2 for comparison of scores and Annex 3 for LL Evaluation Report).



Midwives practice Newborn Resuscitation skills

The lack of competencies in the midwives in the control sites were especially concerning because all the midwives in the control group had recently received national training, or refresher training in ENBC. As a follow up to our LL cycle, **HAI assessed competency levels at one intervention and one control site 6 months after the LL cycle was finished and found that competency levels had dropped very slightly in the intervention site and remained unchanged in the control site,**⁵ suggesting that the LL had long-term benefits but also that regular reinforcement of skills through a system of continuous learning is needed to maintain essential competencies. With that in mind, we have revisited the intervention sites every few months to conduct a “one off” follow-up LL when requested by CHC Managers.

Interestingly, although **actual competencies increased among LL midwives, we did not observe a strong rise in self-perceived competency scores between pre- and post-Learning Lab surveys:** only 60% of LL participants rated themselves higher in newborn examination after attending the LL. This could be because LL midwives had an inflated sense of competency and had ranked themselves higher than their actual abilities initially. The LL process required midwives to acknowledge their real skills and they were expected to create action plans to guide self-learning, which the majority of midwives who participated in LL completed monthly. The midwives in the LL group appeared to have a more accurate measure of their competency by the end of the LL cycle. **In contrast, all midwives in the control group, who had not been forced to reflect on their skills, over-rated their skills in ENBC in a self-assessment compared to their post-test results.**

During the LL period, audits of the newborn registers were used to measure whether midwives were accurately diagnosing and treating newborn complications. While the newborn register is a MoH-approved tool, they are not well supported at the national-level: the MoH does not print or distribute the newborn registers and they are never audited during regular supportive supervision. We found that only 36% of deliveries had a completed newborn register and it varied depending on the patient load at each health facility. An audit of completed forms suggested that the correct action was implemented for 74% of newborn illnesses identified, reaching the **End of Program Objective #1** of 70% of newborn illnesses being properly diagnosed and treated. We have recommended that these forms be reviewed, a suggestion supported by Dr. Ingrid Bucens (consultant who just completed revising the ENBC training curriculum in Timor-Leste), and that the MoH more firmly support use in the future.

⁵ Kerrison, Jenny. Evaluation of the Essential Newborn Care Learning Lab Demonstration Project. Health Alliance International, Timor-Leste: August 2014.

In July 2014, the LL demonstration project results were presented to a receptive and enthusiastic audience of INS and MoH staff. **In August 2014, the LL guidelines developed by HAI for ENBC were submitted by the MoH and INS as a government in-service training method and endorsed as an INS approved FUAT in June 2015, achieving our End of Program Outcome #2.** Based on the success of the ENBC LL model and the encouragement of INS, HAI is finalizing LL for SCDC to be piloted in 2015-2016.

Learning Lab Expansion. After the success of the ENBC Learning Lab pilot, 14 additional sites were chosen to receive the 6-month cycle of LL, including some of the control sites from the pilot. These sites all received 6 LL from September 2014-April 2015, except for CHC Liquica, which dropped out due to there being only one remaining midwife available to participate and a heavy workload that interfered with scheduling the Learning Labs. In addition, HAI staff were unable to schedule and implement Learning Labs during the months of December and January due to conflicting health staff schedules—health staff were busy with reporting at the end of the year and often still on leave through much of January. All 52 participants were assessed on ENBC theory, as well as observed skills in newborn examination and resuscitation both before and after completing the Learning Labs. The average baseline score for newborn resuscitation was 2.2, or just over “competent”, with 12 out of 52 participants not competent in newborn resuscitation at baseline. The average baseline score for participants in newborn examination was also 2.2, and 5 out of 52 were not considered competent. While a score of 2.0, or “competent”, may seem acceptable, none of the 52 midwives were considered “proficient”—a score of 3.0—in either skill, meaning they could not smoothly and confidently perform examination or resuscitation on a mannequin. At the end of the Learning Lab period, average scores increased to 2.8 in newborn resuscitation and 2.6 in newborn examination, with 21 midwives achieving “proficiency” in resuscitation and 8 in examination. Higher pre- and post-test scores were seen for midwives in Monaco Maternity Center and CHC Ainaro, where midwives had recently also received BEmOC refresher training, which includes reviewing skills in newborn resuscitation. See Figures 3 and 4 for comparison of average competency scores per site.

The Learning Lab program provides a package of learning activities conducted by skilled midwives and trainers at the midwives’ workplaces. As noted in HAI’s report Evaluation of the ENBC Learning Lab Demonstration Project (2013), midwives who participated in the intervention sites demonstrated superior competencies in newborn resuscitation and newborn examination. The effectiveness of the Learning Lab program lies in the use of several teaching and learning methods of: targeted learning, repetitive skills practice, coaching, clinical simulations, and frequent skills competency assessments. In addition, HAI’s RHTA consultant, Dr Jenny Kerrison, states, *“Importantly, success of the program is also credited to the high quality HAI program facilitators and trainers and the trust developed in their relationships with DPHO managers and INS trainers.”*

Learning Labs are also very cost efficient: conducting six-month LL cycles (1 per month) in 6 districts at 19 health facilities for 113 midwives will cost an estimated \$4,335 (this does not include the HAI staff time to conduct the LL). However it should also be noted that that to ensure consistent participation in the Learning Labs, which is a key success factor (i.e. attending at least 80% of the Learning Lab cycle) the HAI facilitators need to be flexible with the scheduling of Learning Labs to address competing priorities in the facility. This issues contributed to delays with finalizing the Learning Labs according to plan given that over the Christmas and new year holiday period, many providers were on leave and it wouldn’t have been feasible to conduct Learning Labs over this period.

In addition, Dr. Ingrid Bucens, who completed a UNICEF contract to revise the national ENBC training curriculum, was contracted to incorporate these revisions to HAI’s ENBC Learning Lab to reflect updates in the national standards; make recommendations on ENBC Learning Lab performance Indicators; conduct a one- day training for HAI staff on revisions to ENBC learning Lab. Dr. Bucens

completed her updates to the ENBC Learning Labs and we are waiting for these updates to be approved by the MoH before releasing the new ENBC Learning Labs and HAI staff.

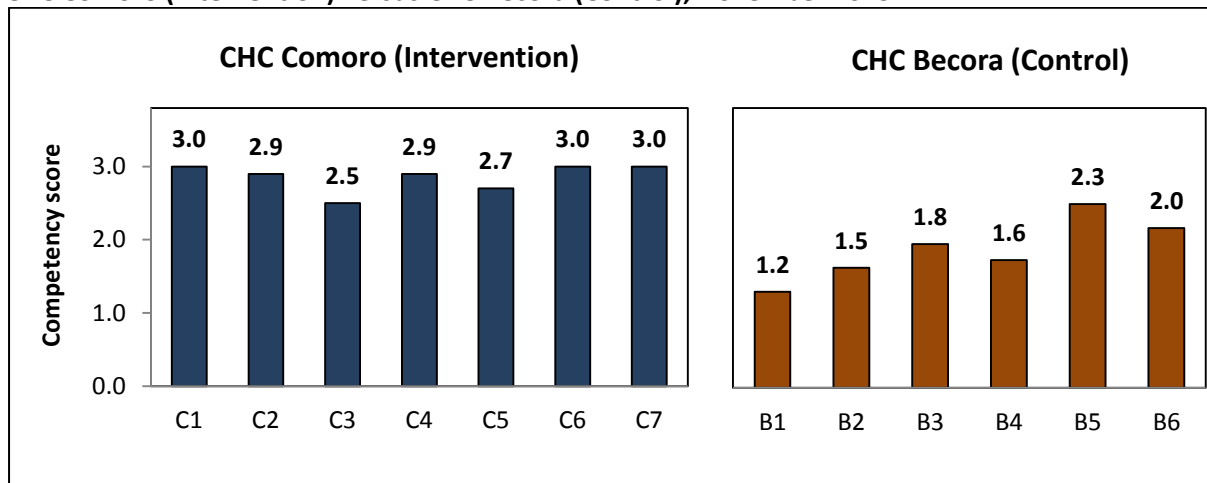
Lessons Learned: *After attending national trainings, midwives need additional support to be fully competent in skills acquired. The Learning Lab approach has the potential to provide a basis for a national system of in-service education, which has not yet been developed in the country.*

Lessons Learned: *Learning Labs are a cost efficient and effective strategy to support midwives to assure that, following a training, new skills are reinforced in the clinic setting.*

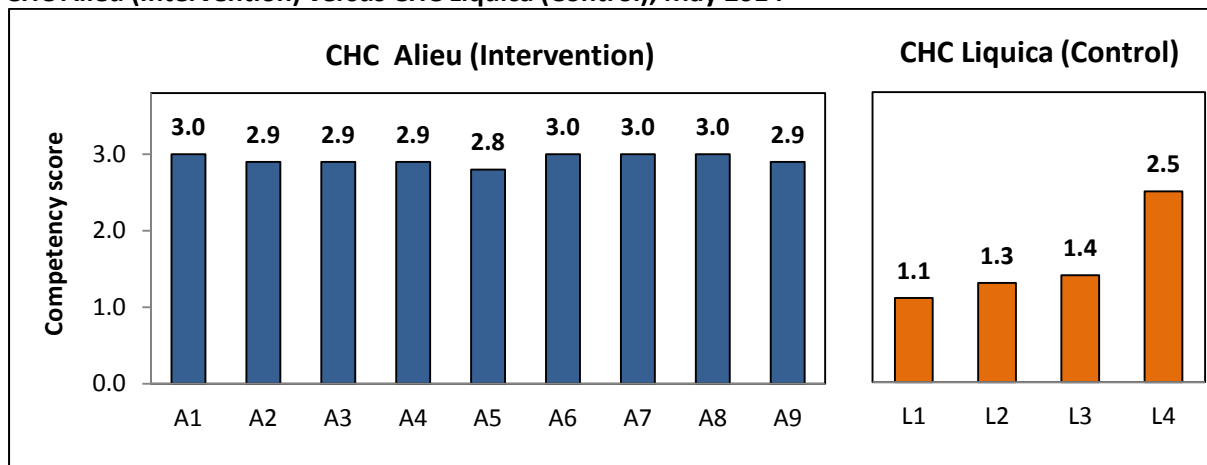
Lessons Learned: *Allow a degree of flexibility with the Learning Lab schedule so as to accommodate for competing priorities at the facility level (i.e. training, health campaigns, holidays etc). This will maximize the consistent participation of health providers which is a key success factor of the Learning Lab model.*

Figure 1: Post Test Assessment (PTA) Results for Newborn Resuscitation during pilot

CHC Comoro (Intervention) versus CHC Becora (Control), November 2013



CHC Aileu (Intervention) versus CHC Liquica (Control), May 2014



CHC Maubara (Intervention) versus CHC Bazartete (Control), June 2014

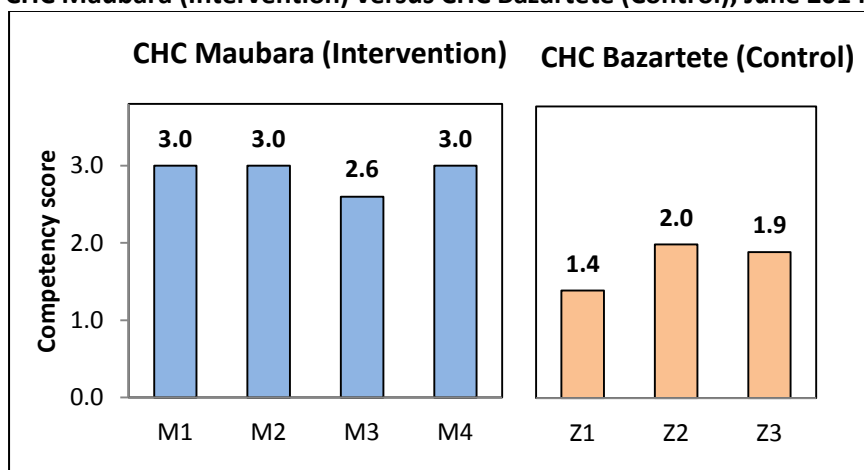
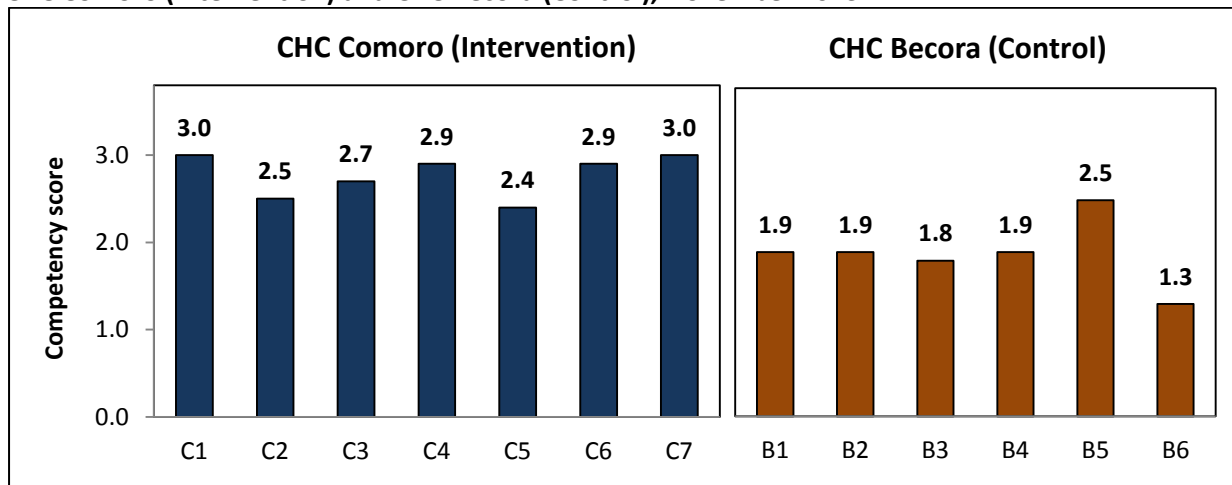
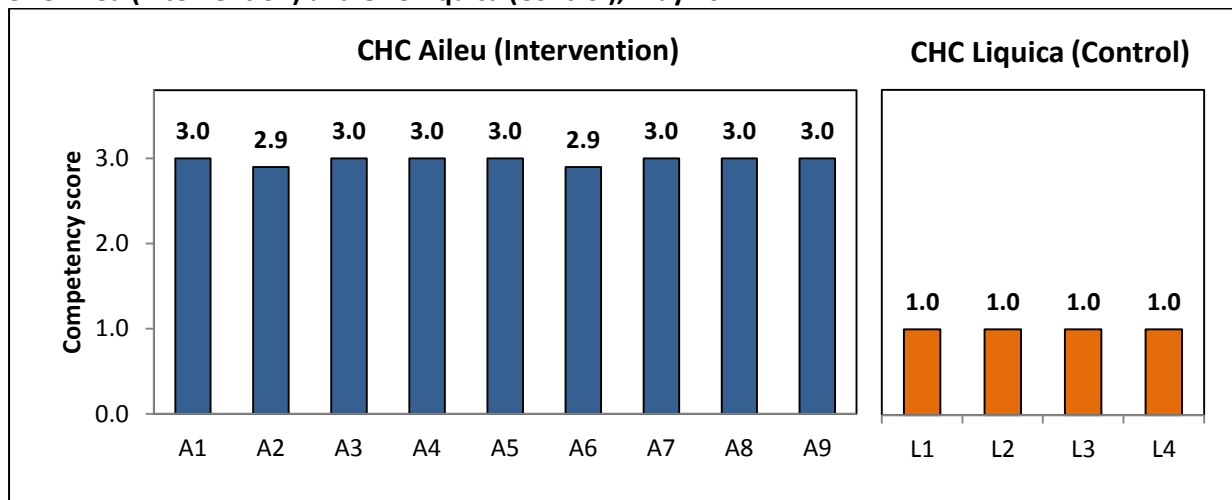


Figure 2: Post Test Assessment (PTA) Results for Newborn Examination during pilot

CHC Comoro (Intervention) and CHC Becora (Control), November 2013



CHC Aileu (Intervention) and CHC Liquica (Control), May 2014



CHC Maubara (Intervention) and CHC Bazartete (Control), June 2014

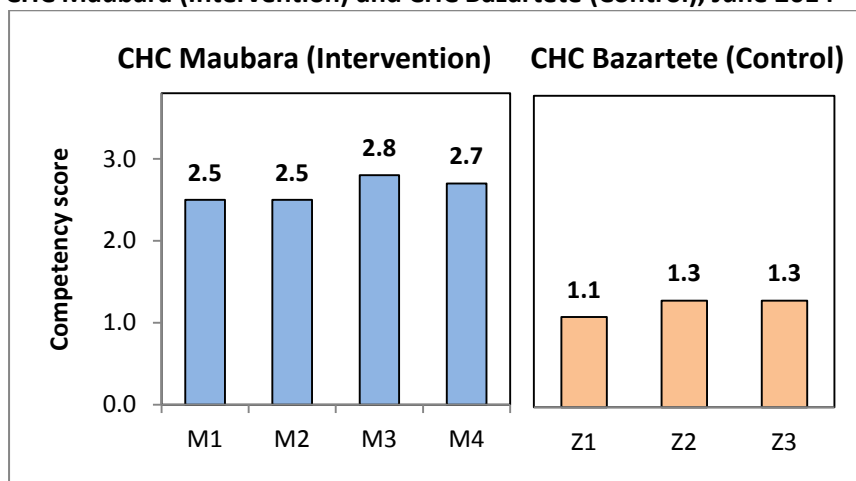


Figure 3: Comparison of average competency score in Newborn Resuscitation before and after Learning Labs

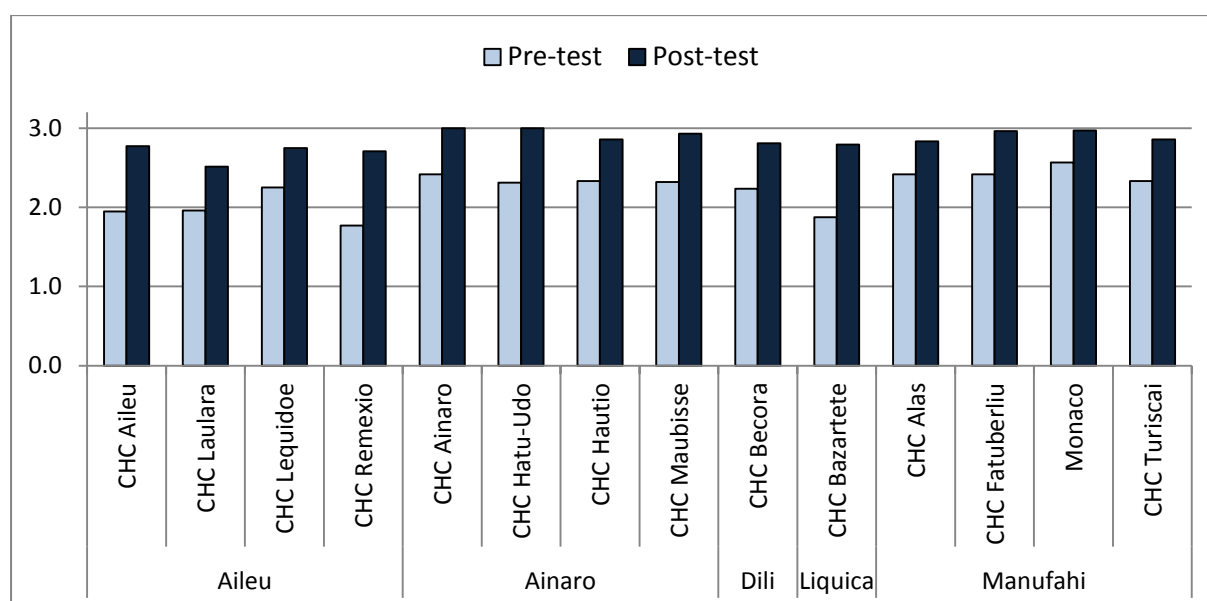
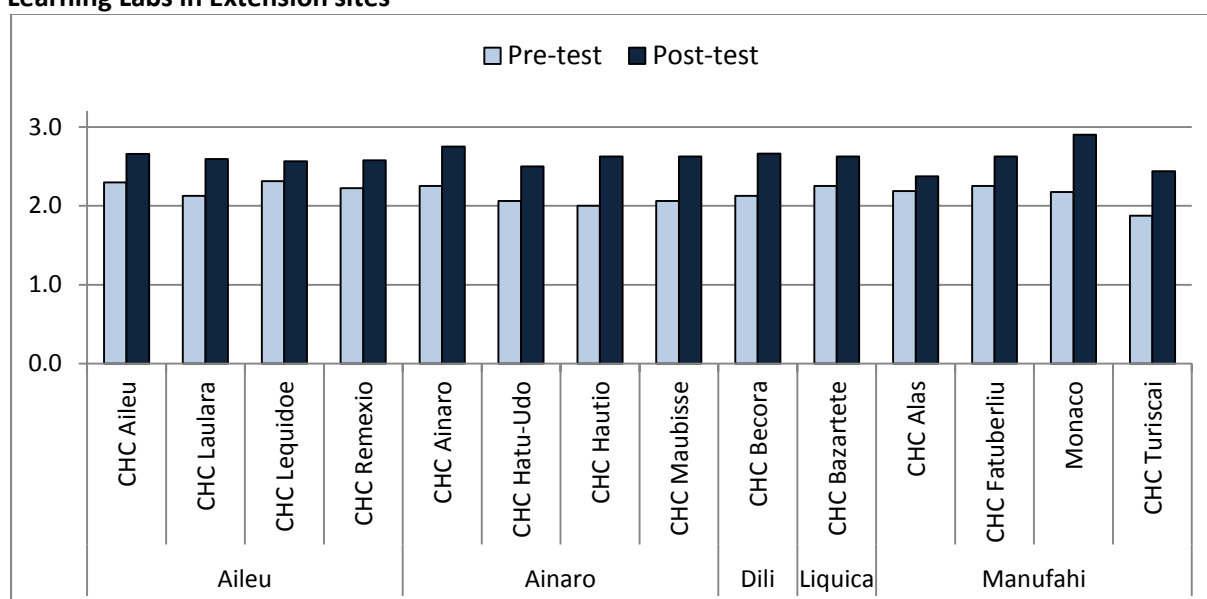


Figure 4: Comparison of average competency score in Newborn Examination before and after Learning Labs in Extension sites



Supportive Supervision of District-based midwives

HAI has been a lead INGO collaborator with the MoH in the development, testing, and use of a supportive supervision checklist. Revisions of the tool have been made to ensure that it is clear, easy to use, and captures important information about the competency of midwives and quality of services delivered. HAI also developed role-plays to be used during supportive supervision visits that target antenatal care (ANC) and family planning (FP) counseling skills and focus on good communication. During Supportive Supervision visits, we conduct a feedback meeting at the conclusion of the visit with the DPHO-MCH, the supported midwife and the CHC manager to discuss the findings of the visit and set an action plan to address identified shortcomings.

When HAI began its work in Supportive Supervision (SS) in 2005 it was critical to support the fledgling MoH and newly placed DPHO-MCH in the provision of this service. Over the years other health partners joined in SS work across the country. HAI considered SS an activity that would ultimately be shifted completely to MoH responsibility after 3-5 years – once DPHOs were trained up, once the government allocated vehicles for transportation, and once it became institutionalized in the roles and responsibilities of the District Health Management Team (DHMT). However, rather than a shift of responsibility to the DHMT, it has, for the most part, become dependent on INGO health partners for a variety of reasons including lack of available transportation, differences in priorities of the DPHO, at times lack of motivation, or inadequately understanding of the roles and responsibilities of the DPHO.

It is very challenging to measure the success of SS. In an analysis of HAI's SS work in 2010, HAI conducted a review of SS and found that utilization of health services was still quite low and that often a HAI-supported supervision visit takes place without a client in attendance and thus, the 'clinical coaching moment' was reduced to reviewing paper registers. In light of this analysis HAI worked to more tightly focus our SS work. For example, we began to organize our SS schedule to focus on midwives in more remote health facilities and those who had not received a SS visit in some time. We also shifted some SS support to include SISCa posts in order to monitor and build the quality of services delivered through this new community-based health system approach being implemented throughout Timor-Leste. Between March 2010 and September 2011, HAI assisted the DPHOs to conduct 170 supportive supervision visits to over 73 health facilities in our program districts.

In September 2012, Liz Ollier was contracted by AusAID, now DFAT, to conduct an independent review of AusAID-supported programs to improve family planning and reproductive health in Timor-Leste. In her report, Ms. Ollier points out that SS is an activity which is proven internationally to improve standards of care and the checklists in place in Timor-Leste for maternal health and family planning appear evidence base and comprehensive. She goes on to note that HAI support to SS appears to be provided to ensure that the visit will actually take place and to provide transportation for the district team. Ms. Ollier goes on to suggest that this may not be the most appropriate use of HAI's highly-valued clinical team and other logistical resources. Taking this advice on board, while also managing expectations of our district health counterparts, HAI significantly reduced its SS in **Project Cycle 2 (2012)** providing only 44 visits to health facilities deemed more in need in terms of remote location and gaps in the number of SS provided.

In **Project Cycle 3 (2013-2014)**, HAI's overall SS schedule was further reduced and focused with a total of 44 SS visits conducted in 37 health facilities in 2013 and 2014. Efforts were made to focus SS to complement Learning Lab implementation. During 2014 there were some notable disruptions encountered in the provision of SS in Liquica district when a HAI midwife responsible for this district resigned to join the MoH workforce. Recruitment of a new midwife took time, and once on board in 2014 she required time to orient to HAI programs. In addition, in mid-2014 the considerable disparity in salaries between the DPHO-MCH (significantly lower salary) by comparison to the clinical staff in the CHC and HP resulted in the DPHO-MCH complaining and subsequently there being a determination that the DPHO-MCH should move to the CHCs or HPs if they wanted a higher salary. This resulted in a vacuum in the DPHO-MCH role in a number of HAI supported Districts and subsequently a lack of focus for the SS visits. This situation was managed internally within the MoH and most DPHOs began to return to their posts in early 2015.

During our three month extension period (April 2015-June 2015) HAI intended to conduct the following SS-related activities:

- Conduct support to Supportive Supervision training jointly with MSI and the DPHOs
- Develop a joint Supportive Supervision plan with MSI and DPHOs
- Implement Support to Supportive supervision

Preliminary discussion with MSI were held in April 2015. This has been delayed due to conflicting schedule for HAI and MSI and lack of clarity on how to go forward without support from the consultant. It was agreed between MSI and HAI that Ainaro will be the pilot municipality for the joint SS and will be reviewed again in August 2015. In further consultations with MSI and MoH it was agreed that this activity requires considerable international technical support to review the SS system at a MoH level. This will be addressed in the new USAID health project slated to begin November 2015.

Lessons Learned 2010-2011: *Supportive Supervision requires an intensive effort in terms of human resources and logistical support. And while “intuitively” it seems like a good idea, it is challenging to measure the success of the effort. There is a need to focus SS effort in health facilities serving more remote populations and where midwives lack confidence in skills or are newly posted. As service delivery patterns change, it is important to also modify efforts to support new initiatives such as SISCa, where district-based health staff spend considerable time.*

Lessons Learned 2012: *Supportive Supervision may not be the best utilization of HAI human and logistical resources. When withdrawing support for Supportive Supervision it is important to carefully manage expectations of our district health counterparts who may have come to understand that SS was HAI’s responsibility to support.*

Lessons Learned 2013-2015: *HAI increasingly identifies its value added role in the provision of Supportive Supervision to be strengthening the capacity of the DPHO-MCH in the: (i) quality of the SS visit by ensuring that information collected is verified, (ii) assessing competencies through observation with clients or simulations, (iii) follow-up reporting and prioritizing back to the Manager of the facility and (iv) better integration of the health posts into the Supportive Supervision schedule.*

Lessons Learned 2013-2015: *The larger SS landscape in Timor-Leste is in need of consolidated coordination between development partners and the MoH and perhaps some international technical assistance to strengthen. It is hoped this will be a significant focus of the new USAID health project.*

Promoting the use of Birth-Friendly Facilities

In Timor-Leste babies are welcomed with ceremony and celebration, but far too many families know the sorrow of death, as Timor-Leste suffers from continued high rates of maternal and newborn mortality. The concept for Birth Friendly Facilities (BFF) was developed in response to qualitative community assessment conducted by HAI regarding birthing preferences and what would motivate community members to come to a facility for delivery.

In addition to the cultural ties to home delivery, the HAI study revealed negative associations with delivering in a health facility, which included concerns over the lack of privacy provided to a birthing mother, lack of support for traditional birthing practices, and lack of space or permission for family members to attend the birth. The conversations with community members exposed a missing link between the provision of medical services and cultural competence within the health service

delivery model. Once these gaps were identified, HAI launched a pilot effort to establish culturally comfortable environments for Timorese women to deliver safely; these settings became known as Birth Friendly Facilities.

From 2007-2009 with small grants from the Japanese and Australian governments, HAI worked closely with local communities and district health staff to establish BFFs in four districts. Local preferences were identified through a lengthy community mobilization process. Local labor and materials were used whenever possible when the facilities were rehabilitated, and a community celebration ceremony with dignitaries from the MoH and the donors marked the opening of each facility. With the facilities situated adjacent to the sub-district CHC, the BFFs are fully integrated into and staffed by the MoH. In **Project Cycle 1 (2010-2011)**, HAI provided technical assistance for supportive supervision of midwives at BFFs, supported facility data collection and analysis, and conducted health promotion activities in BFF communities to promote their utilization.

In 2010 a University of Washington Masters of Public Health student conducted a situationally analysis of three BFFs in Fatuberliu, Maubara and Remexio sub districts. In Fatuberliu, while overall Skilled Birth Attendants (SBAs) did not rise dramatically after the BFF opened there was a shift to facility delivery which increased substantially in a two year period. In Maubara, opposite trends are noted: the number of births delivered at the BFF has remained steady, but the total SBA increased overall – implying that more women have been assisted at home by skilled birth attendants. And in Remexio, BFF deliveries increased substantially over a two year period.

In 2012, the MoH made the decision to build a maternity house in every sub district in the country and with the BFFs integrated into the MoH system HAI withdrew specific support to BFFs and collecting and analyzing BFF-specific data, however, community health promotion in BFF sub districts continued as part of HAI's overall community work.

SECTION 2: Community Engagement to Increase Demand for Health Services

HAI has developed a number of Behavior Change Communication (BCC) tools and developed and implemented a variety of activities focused on community engagement to increase demand for maternal health services. During the five-year project period HAI's community-based activities have focused on 1) development of culturally appropriate BCC materials and tools; 2) Support for the MoH cadre of Community Health Workers (PSF – Promotor Saude Familia); 3) Support for health promotion activities carried out at SISCa events; 3) Community microplanning and related community activities; 4) Liga Inan mHealth program.

Development of behavior change communication tools

During the life of the project HAI has spent considerable effort to develop Behavior Change Communication (BCC) tools that are culturally appropriate and relevant for use in Timorese communities. In Liz Ollier's 2012 assessment of HAI programs she states, *"Many of the improved indicators would seem to be related to the significant demand creation activities undertaken by HAI."* Ms. Ollier notes that HAI has produced an impressive range of films and materials. The tools developed by HAI have been shared broadly with health partners working across the country and HAI has introduced the materials to a range of MoH staff who have been trained in their use. Noteworthy BCC materials in HAI's BCC package are:

- Health Promotion Films:
 - *Feto Nia Funu (The Women's War)*: a two-part, documentary style, educational video. Part one follows pregnant women, their families, and health professionals as they discuss behaviors related to pregnancy. Part two is about birth and postpartum care.

- *Hakur Ba (To Go Across/It Is My Idea)*: a simple drama designed to convey key health messages to all audiences.
Hakat Ba Naroman (Step Towards the Light): consists of five 10-minute educational segments covering the importance of birth planning and prenatal care, having a skilled birth attendant assist with delivery, the importance of postpartum and newborn care and early and exclusive breast feeding.
- *Espasu Oan 1 & 2 (Child Spacing)*: HAI made its first family planning, or child spacing film with funding from USAID in 2008, however, in 2011 the Church took objection to the film and their belief it emphasized modern contraceptive methods over natural methods and it became difficult to get MoH permission to show the film in communities. In 2011, HAI led an extensive collaborative process in order to make a new child spacing film. The stakeholder oversight committee included representatives from the MoH, the Church, UNFP, and HAI. A new film was completed and approved for distribution in late 2011 and has been shared and shown broadly throughout the country.
- *Liga Inan (Connecting Women)*: short film used for community promotion of the Liga Inan mHealth program.
- *Liga Inan (Connecting Women) Training Videos*: training videos used to improve the quality and to standardized health staff training in the *Liga Inan* program.
- *Maternal, Newborn, Family Planning Photo Cards*: set of ten photo cards depicting relevant Timorese images and portraying recommended maternal health behaviors.
- *Radio spots*: include 5 radio spots on MNC topics that have run on community radio and 1 popular song about the importance of immediate breastfeeding and giving colostrums.
- *Posters*: Posters depicting danger signs of pregnancy, delivery and newborns have been printed and are distributed to health facilities and community health workers.
- *Liga Inan Promotional Materials*: Many types of promotional materials have been developed during **Project Cycle 3 (2013 – 2015)** to promote Liga Inan (please see the Liga Inan section for an itemized list).

HAI trained a local NGO, HealthNet to show HAI's new child spacing (*Espasu Oan*) film in communities and to lead a guided conversation post-film screening. HAI contracted HealthNet to take the film out to our programs districts to show in rural communities. HealthNet was tasked with engaging with local community leadership and health staff to gain appropriate permissions for entry into communities. In **Project Cycle 2 (2012)**, HealthNet showed the film to an estimated 5,286 people who participated in guided discussions on key film messages after watching the film. In addition, with MoH and Church approval HAI made a 5-minute film version which was shown on TVTL over 20 times with an estimated audience of over 300,000. In **Project Cycle 3 (2013-2015)**, HealthNet continued under subcontract to show *Espasu Oan* in 199 aldeias, or hamlets, in 2013 to an estimated 8,021 people who also participated in discussion following the film viewing. In early 2014, HAI hired an external evaluator to assess HealthNet's work which revealed that district health staff were often dissatisfied with HealthNet's coordination efforts in their communities, that there was a high number of canceled events, and that HealthNet staff, which included no midwives were often ill prepared to answer more complex questions about contraceptive methods. Based on this evaluation, HAI did not renew this contract with HealthNet and made a determination that community health promotion about family planning should be carried out by clinical staff.

In **Project Cycle 3 (2013-2015)**, HAI brought a Communication Specialist to the team and promoted a seasoned HAI health promotion staff to Communication Officer. The establishment of a dedicated communication team to guide production of IEC materials and to train and coach and lead our health promotion work has been invaluable. The demands alone of an effective communication strategy for the scale up of the Liga Inan mHealth program have been heavy during Project Year 3 in

order to standardized mHealth training, review SMS messaging and development promotional materials.

Training community health workers in Mai Ita Koko (Come Let's Try!)

HAI developed a BCC communication package that we call *Mai Ita Koko* or “Come Let's Try”, which consists of ten photo cards depicting relevant Timorese images and portraying recommended maternal health behaviors. In **Project Cycles 1 and 2 (2010 – 2012)**, HAI provided training for the MoH-sponsored cadre of community health workers, PSFs, to use the photo cards as an educational tool during home visits and to encourage women and families to adopt one or more behavior, such as having a skilled birth attendant, giving birth at a facility or choosing a family planning method. The chosen behavior(s) is checked off on a colorful poster that contains each of the photos and the poster is left with the family to remind them of their selection and PSFs were tasked with periodic follow up with families.



In **Project Cycles 1 and 2 (2010 – 2012)** HAI trained about 450 PSFs in use of the tools and conducted selected monitoring to accompany them on home visits to provide mentoring and coaching. HAI analysis of our PSF support program revealed that PSFs were unlikely to actually conduct home visits unless accompanied by HAI staff. In addition, attrition of PSFs, estimated at about 40%, meant a continuous cycle of training. Lack of motivation and attrition of an unpaid volunteer health workforce is not unique to Timor-Leste, but is the challenge

everywhere of a cadre of volunteers. Ms. Ollier rightly notes in her assessment report that training and capacity building only deliver sustainability if the volunteers remain in post and implement the training. The PSF situation has been further complicated by the introduction of incentives. Some INGOs seeking to engage PSFs on their projects began to pay PSFs for work. In these areas it has sometimes resulted in PSFs being disinclined to engage with INGOs who do not offer monetary incentives. Given the barriers to successfully engaging with the PSFs HAI made the decision to withdraw support to PSFs in **Project Cycle 3 (2013 – 2015)**.

Support for SISCa health promotion

In 2008, the MoH commenced the SISCa program in Timor-Leste. Each sub-district CHC is required to deliver the SISCa program (*Servisu Integrado Saude Comunitaire*, or Integrated Community Health Services), monthly in every suco (village), usually in an outdoor meeting area or a local resident's home, referred to as a SISCa post. The CHC team should include a doctor, midwife, health promotion officer, nurse, and/or lab technician depending on available health workforce. During the early implementation period, the MoH requested support from non-government organizations who act as development partners in strengthening the health system.

Village leadership is provided with a small financial stipend and is tasked with helping to publicize and organize monthly SISCa events. The local cadre of PSFs are, in theory, provided a \$5 stipend to

carry out community health promotion at each SISCa event. In addition to HAI provision of Supportive Supervision to district midwives tasked with delivering antenatal care (ANC) and family planning (FP) at SISCa, HAI staff provides support to PSFs conducting health promotion activities. HAI also worked with the MoH to develop a national SISCa checklist to ensure the completeness of equipment and medicines provided at a SISCa post and the quality of services provided.

In **Project Cycle 1 (2010-2011)** HAI provided support to 344 SISCa events serving an estimated 38,727 community members; 67% of HAI-supported SISCa events had complete equipment necessary to provide ANC and FP services (deficit at the time was due to an persistent lack of iron supplements). In **Project Cycle 2 (2012)** HAI began planning a night event to show HAI health promotion films the night before a SISCa event in order to spark SISCa attendance. HAI supported 221 SISCa events in **Project Cycle 2 (2012)** where ANC services were provided to 1,572 women, postpartum care was given to 360 new mothers and their newborns; and 353 women received family planning counseling and services. In addition, HAI coached PSFs to deliver MNC health promotion to approximately 3,651 community members and family planning specific messages reached another 341 people through HAI-supported SISCa events.

In the course of supporting SISCa from 2008-2012, it became clear that one of HAI's primary roles was perceived by health staff to be providing transport for them to reach SISCa posts and sometimes to supplement the provision of health promotion or health services. In 2012, the World Bank, with funding from DFAT and other donors, also began supporting petrol costs associated with SISCa events. Therefore, in **Program Cycle 3 (2013-2015)**, HAI attempted to minimize our support to SISCa events by promising to support 16 SISCa posts, or approximately 1-2 in each of our focus sub-districts. We could not fully remove ourselves from SISCa support without disrupting our good relationships with district health staff. For the most part, we succeeded in reducing the number of SISCa events supported: 128 events in 2013 and 154 in 2014. An estimated 31,475 community members participated in these events. Of the 282 events supported in total, 174 occurred at the primary 16 SISCa posts. The high numbers of events supported outside our primary SISCa posts was due to a variety of factors. Sometimes HAI staff were requested to carry out a

Box 2: Community and health staff preferences on delivery of family planning

A University of Washington MPH graduate student conducted a qualitative assessment of the family planning component within SISCa. This assessment included interviews with CHC and DHS health staff, women in the community, NGO staff, and PSF as well as basic observation at SISCa posts. Some key findings from this research include:

- 3/4 women interviewed at SISCa posts had heard of the concept of family planning but less than half could identify one contraceptive method or were currently using a method
- A little more than half of women had spoken to a health provider at least once about FP
- Woman reported better relationships and trust with health workers at CHC and health posts through more sustained interactions because of SISCa posts
- Women interviewed were equally divided on if they thought SISCa was a good place to deliver FP services: Women who preferred SISCa cited the convenience of having it so close to home and not having to travel to the CHC; women who preferred the CHC cited a greater degree of privacy at the CHC and that you can go to CHC anytime while the SISCa post is only once a month
- Women reported a fear of being found out by the local church as reason for not inquiring about FP within their own communities (at SISCa)
- Women reported that other family decisions makers figured prominently in the decision to use a FP method

For more detail, see Berthiaume, J. An Assessment of Community-based Delivery of Family Planning Services in Timor-Leste. University of Washington. Health Alliance International. Masters Thesis. June 2011.

night event to show health promotion films (as part of a microplanning cycle or independently), and they stayed to ensure that women came for care. Sometimes the health facility vehicle was not working so we provided transport to additional posts. Sub-district Remexio, in particular, had challenges with vehicle maintenance and upkeep and often requested HAI assistance to fill in gaps.

With the shift of services from the CHC to SISCa HAI was worried about the provision of FP services being effectively carried out in the largely outdoor SISCa events and women's receptivity to receiving FP services at SISCa. A Master of Public Health student conducted research for her thesis on this issue in 2010. See Box 2 for findings from this qualitative study.

Lessons Learned: *It seemed to make good sense to link with the MoH-sponsored cadre of PSFs to expand the reach of our community work, however, it is important to build into approaches assessments that examine how the activity is operating on the ground and to make determinations on impact and cost efficiencies.*

Lessons Learned: *Women receiving maternal services at SISCa appreciate the opportunity to access services close to home and feel because they meet their midwife more often they have a better relationship.*

Community Microplanning Cycles

In HAI's community microplanning cycles, HAI convenes health staff and local community leadership to demonstrate the benefit of working together to solve community problems. Each microplanning session consists of three key components:

1. Review of the key maternal and newborn health indicators as monitored through the LAM and HMIS reporting systems
2. Discussion of barriers to service uptake and their root causes
3. Design of an action plan to be carried out in the following quarter

Based on the problem identified and action steps planned, various health promotion activities are arranged, pulling from a portfolio of HAI's BCC media package and health promotion activities, such as film screenings, night events, mother's groups, and men's advocacy meetings. These health promotion activities could take place through existing structures such as the Church and community meetings. Table 4 on the following page describes each activity and the number of men and women who participated in 2013-2014 during HAI's third project cycle. On average 24% of adults in each suco participated in the health promotion activities.

Most suco selected to receive microplanning cycles met key criteria: they had lower maternal service coverage rates than neighboring suco, yet still had sufficient access to health resources. Only two suco were selected for alternative reasons: Leolima, in Sub-district Hatu-Udo, was selected because it was only one of two suco in the sub-district and the other suco had received a large number of health promotion activities in the previous year; Soro Kraik, in Sub-district Ainaro was selected because the head of the sub-district health center refused to let HAI carry out activities in any other suco since this one lacked a midwife. See Annex 4 for detailed results for each suco. Overall, we are confident that all suco benefited from the program.

Table 4: Number of participants in health promotion activities⁶

Activity	Description	Participants 2013-2015		
		Men	Women	Total
Microplanning Meetings	HAI staff facilitate discussions between health staff and community members to illuminate gaps in health service uptake, the causes for these gaps, and identify a plan of action for following 3 months. The same participants are invited back 4 months later to review progress and make a new plan.	282	179	461
Community Events	These events involve both men and women from the community and often involve facilitated discussion, film screenings, or other health promotion techniques.	1370	1587	2957
Night Events	Film screenings in the late afternoon or evening are popular, especially among men. Films on maternal and newborn health and family planning are shown.	2924	2088	5012
Men's Advocacy Meeting	These meetings for men utilize the <i>Bon Dia Antonio</i> film, which reflects on two men's stories: one of how his wife died in childbirth and the other who is facing a similar situation. Participants discuss the faults and merits of each man's behavior. While designed for men, women occasionally insist on participating.	1021	70	1091
Women's Groups	These groups were designed to be run repeatedly in a community with the same women, adding and reinforcing information about healthy practices during pregnancy each month. Any men involved were PSF, health staff, or community leaders.	9	291	300
Total participants		5606	4215	9821

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A mid-term review of the program conducted by external evaluator, Sarah Meyanathan, indicated that while the program was seeing some satisfying increases in service uptake, more could be done to strengthen the program.⁷ In response, HAI strengthened operational guidelines and modified existing program materials to make the cyclic nature of the microplanning program more clear (take-home handouts with indicators clearly labeled over time). Please see Annex 5 for this evaluation report.

End of Program Outcome #5 was achieved: In a short program cycle of two years, **14 out of 15 microplanning suco saw a rise in service coverage of at least 7% in one or more key maternal health services.** There was variability in which service uptake improved across suco, but on average there was uptake in service for all five key indicators. It is important to note that facility delivery only increased in 6 of 15 suco, but because it increased considerably in these suco, it shows an on average increase of 5.6 additional births occurring per suco per month. A total of 84 additional

⁶ This table includes the total participants in health promotion activities linked to microplanning as well as the occasional, additional health promotion activities requested by health staff or community leaders.

⁷ Meyanathan, Sarah. Midterm Review of Health Alliance International's Microplanning Process. Timor-Leste: June 2014.

facility births occurred in the 3 months after microplanning cycles were completed than before they were begun. Overall, 302 additional services were provided in the microplanning suco when compared with the pre-microplanning period (see Table 5 below).

Table 5: Increases in service delivery in suco that received microplanning cycles

Health service delivery indicator	Average increase in service uptake 3 months before and 3-months after microplanning cycle	Total additional services provided during 3 months after microplanning cycles finished
# of women receiving one or more ANC visits	3.7	55
# of women receiving 4 or more ANC visits	2.5	38
# of facility births	5.6	84
# of total births with a midwife	4.4	66
# of post-partum care visits within one week of delivery	3.9	59
Total additional services	20.1	302

Liga Inan (Connecting Women through Mobile Phones)

The Liga Inan program was designed by Health Alliance International (HAI) and Catalpa International to help improve health knowledge and behaviors among pregnant women in Timor-Leste and to improve the linkages between women and midwives. Liga Inan is Timor-Leste's first mHealth project. Implemented and launched as a pilot in one district in 2013, and funded through USAID, Liga Inan seeks to improve care-seeking behaviors and improve midwives ability to follow up with patients. Trained health providers in community health centers and health posts enroll pregnant women into the Liga Inan service during their first antenatal care visit. The Liga Inan service, developed by Catalpa, immediately begins sending the mother automated messages timed to her gestational stage about how to keep herself and her baby healthy before, during, and after delivery. The Liga Inan service also assists mothers to contact their midwives directly if they have questions, problems, or need emergency services. In addition, the service prompts midwives to call the mother three weeks before the estimated due date to help the mother make a pregnancy plan for a safe delivery with a skilled provider. Based on very positive outcomes on key indicators in the pilot district of Manufahi, in June 2014, HAI was funded by DFAT to expand Liga Inan into two additional districts between June 2014 and March 2015, Liquica and Aileu.

Liga Inan Partnership

The Liga Inan program represents a close collaboration and partnership for development, design, and implementation between HAI, Catalpa, and the MoH. Catalpa International is a not-for-profit software development and services firm which provides innovative, simple and effective solutions in a development context, building tools to assist governments, nongovernmental organizations, communities and donors to make decisions to improve the delivery of aid and services. A sub-contract with Catalpa was added to HAI's **Project Cycle 3 (2013-2015)** to deliver a specific scope of work for the expansion of Liga Inan. This contract was extended through an amendment for the 3-month extension period (April –June 2015). The partnership has been in place since 2011 when HAI received the initial funding from USAID to pilot Liga Inan in Manufahi District. The seasoned partnership was well-prepared in June 2014 to expand Liga Inan into Liquica and Aileu Districts under new DFAT funding. A partnership agreement was signed outlining roles and responsibilities with regard to the Liga Inan program in February 2015.

HAI and Catalpa partner with the MoH on the Liga Inan program. We received initial permission from the MoH to launch the project in 2011 when HAI received a grant from USAID. Over the past nearly four years we have implemented the project in close collaboration with the District Health Services in Manufahi, and more recently under DFAT funding in Liquica and Aileu. Over the past year, HAI and Catalpa have entered into more serious discussions with the central level MoH about national scale up and transitioning management and funding of Liga Inan to the MoH after one to two years of support provided in the districts by HAI and Catalpa. The MoH has been receptive to the idea of both national scale up and providing budget support, though these discussions are still in an early phase.

Timor Telecom, one of three Mobile Network Operators (MNO) in Timor-Leste approached HAI and Catalpa interested in supporting Liga Inan. In October 2014, a partnership agreement was signed between HAI, Catalpa and Timor Telecom whereby Timor Telecom agreed to support the costs of SMS messaging for their clients who are enrolled in the program, and provide a small subsidy to other network subscribers (Telecomcel and Telemor).

This important new partnership represents a significant step in reducing the costs of the program and improving overall sustainability. After a one-year period of “exclusivity” agreed to with Timor Telecom, HAI, and Catalpa will approach the two other MNOs operating in country regarding similar support for Liga Inan.

Unfortunately, Catalpa’s progress in integrating the Liga Inan service with Timor Telecom has been significantly delayed and was not achieved by the end of the 3-month extension period (please see Annex 6 Catalpa Progress Report). The delay in transitioning to Timor Telecom means that messages are still being routed through Catalpa’s server, and that Timor Telecom has yet to subsidize any Liga Inan SMS. This has had budget implications for HAI as we have to date reimbursed Catalpa for all Liga Inan SMS costs. Catalpa is taking the lead on these negotiations with Timor Telecom and remains confident that a solution will be found and Timor Telecom will provide “credit” for past messages dating back to the signing of the partnership agreement in October 2014 that will cover future off network SMS costs. However, given our significant budget reduction, it remains a concern for HAI who assumes the costs for the SMS which will continue to grow as we expand Liga Inan into additional districts.

Ensuring Liga Inan is Ready for Increased Scale

Improvements to Liga Inan Service and Software. In order for Liga Inan to be ready for scale-up beyond a single pilot district, further improvements were required to the software underlying the service. A large consideration was processing the requests and SMS traffic from an increased number of users, as well as taking further steps to ensure privacy of participant information, and allowing participants to register multiple times if they happen to become pregnant again now that the program has been running for multiple years (occurring in Manufahi District). The dashboard used to monitor the progress (discussed in more detail later) also had to be able to analyze and display data from additional districts. In order to implement these changes, we relied on our technical partner and Liga Inan co-creators and this work was included in their sub-contract. Catalpa



Health staff use Android phones to interact with the Liga Inan system. In the future we will be able to add videos or other in-service reminders directly to the phones and health staff will be able to review their program participant lists and statistics.

International accomplished this task with a refreshed data dashboard in time for the August 2014 launch of Liga Inan in Liquica District.

The Liga Inan service has undergone all necessary updates, including rigorous testing for readiness to scale-up. The remaining challenge is that switching over to this new system relies on successful interoperability between the three MNO in Timor-Leste: Timor Telecom, Telemor, and Telkomsel. There have been some delays in ensuring that these systems can easily send and receive SMS messages between them. Given that this is the first time the MNOs have coordinated on this level—no other NGO or governmental program has required MNOs to cooperate at this level of interoperability—the delays are unfortunate but understandable. These delays did not prevent scale-up to Aileu and Liquica District, however, they will likely prevent future increases in scale until full interoperability is reached. For more details, please see a report prepared by Catalpa on their progress on deliverables and lessons learned in Annex 6.

***Lessons Learned:** mHealth programs are still very new in Timor-Leste and the technological requirements for implementing these programs may not yet be fully available. Patience and persistence are required when navigating new technologies.*

Geographic Selection Process. The Liga Inan program has shown to have impact in areas where phone coverage is sufficient for at least half of pregnant women to participate via a household phone. Additionally, the highest impacts have been seen in areas that have functioning and available vehicles to transport women to or from care. Based on these observations, HAI has recommended to the MoH that selection of additional districts for scale-up be based on 1) discernable gaps in health service uptake, 2) high rates of phone ownership and access to at least one antenatal care visit to enable enrollment, and 3) sufficient numbers of health staff trained in Safe and Clean Delivery Care and Essential Newborn Care. During a Liga Inan Dissemination Workshop on September 22, 2014 with key partners including the MoH, HAI facilitated a discussion during which the criteria above were considered, weighed, and recommendations made about key districts. Additional debriefs were held with MoH, Catalpa, HADIAK (a USAID program that supports maternal and child health), and other partners to finalize the selected districts. These discussions led to the recommendation that we continue the Liga Inan program in Manufahi and Liquica, and expand to Aileu in the first quarter of 2015. In a meeting with Dr. Triana Oliveira, head of the MCH Department at the MoH, HAI and Catalpa presented an update on progress of Liga Inan in Liquica District. Dr. Oliveira was pleased with the progress in Liquica and agreed with the expansion into Aileu in March 2015. Dr. Oliveira requested regular meeting with HAI and Catalpa to review progress in Liquica and Aileu. In May, HAI/Catalpa with DFAT presented about the Liga Inan to the Vice Minister of Health. During this meeting the Vice Minister approved scale-up of Liga Inan to Ermera and Manututo in 2015 and requested budget information specific to the MoH taking over the costs of the program in Manufahi. As part of HAI's USAID-funded Liga Inan program in Manufahi, we are preparing a transition plan to exit from supporting Liga Inan in Manufahi and moving toward a virtual support model. That plan will be shared with the MoH when it is finalized.

Liga Inan Promotion and Training Materials Improvements

Liga Inan uses a variety of channels and communication materials to promote the Liga Inan program and support implementation. While the majority of these communication materials were developed in the past year, many of the initial Liga Inan program materials were recently updated based on user-feedback (i.e. program stickers and health staff registration reminder tool), challenges in communicating the Liga Inan program to community members (i.e. health staff reminder tool, community-appropriate film, a poster outlining the functions of the Liga Inan program), and program material updates to ensure scalability of the program (i.e. training films and manuals). Radio spots

were developed and were being played three times a week by local radio stations in Liquica and Aileu in June 2015. See Box 3 for more information on the Liga Inan training film modules.



Box 3: Focus on the Film Modules for the Liga Inan Orientation

The Liga Inan Orientation film modules, five in total, were a vital addition to the orientation package. They address how to introduce Liga Inan to women, show examples of both good and bad communication between community members and midwives, reinforce how to appropriately respond to women in labor, and what to discuss when calling a woman 3 weeks before delivery.

Using role plays, they simulate real-life situations and incorporate humor into the intense mHealth 3-day training. These films ensure consistency in trainings across districts, and allow facilitators to focus on post-module discussions rather than re-enacting the role plays themselves.

In anticipation of the high demand for social marketing and promotion of the Liga Inan program as we set to scale the program up, HAI needed to add expertise in behavior change communication to the team. In June 2014 a Communication Specialist was added to the field team and a current Health Promotion Officer was dedicated to communications to assist. All materials were developed by HAI's Communications Specialist, who has 10 years of experience in health promotion in collaboration with Catalpa International. All Liga Inan materials were tested with intended audience members, and MoH counterparts were consulted prior to finalization. The majority of these materials can be printed in various qualities (i.e. in black and white, on an office printer) if needed. This option will contribute to sustainability and varying budgets as the program is transitioned to the MOH. Table 6, below, lists key materials and their audiences.

Table 6: Summary of materials used in the Liga Inan Program

Material	Objective	Audience
Promotional billboard for district capital	Promote LI to wider community and male involvement	General community
Street banners for each sub-district	Promote LI and encourage women to enroll at health facilities	General community
Poster for health facilities	Explain how to join program and benefits for mother	Pregnant women
Liga Inan community film	Introduce the program to community audiences	MOH, stakeholders, partners, donors, general community
Orientation user guide	Explain how to implement the program and provide tools to support implementation	Midwives/doctors
Liga Inan orientation film	Facilitate discussion on client provider	Midwives/doctors

Material	Objective	Audience
modules	communication in LI and ensure consistency in training quality	
Registration reminder card and lanyard	Remind health staff how to use all LI phone functions	Midwives/doctors
Health staff reminder tool for health facilities	Remind health staff what to discuss when registering mothers	Midwives/doctors
LISIO and emergency stickers	Remind women how to contact health staff and request transport	Pregnant women
T-shirts/hats	Promote LI and motivate interest for implementation	Midwives/doctors
Mini telephone brochure	Promote LI and provide examples of types of SMS messages	General community, schools, partners
Functions of Liga Inan handout	Explain key functions of LI to key stakeholders	MOH, partners
Website	Promote LI, provide background details, monitor progress	MOH, stakeholders, partners, donors

Liga Inan Roll-out Activities in Liquica and Aileu Districts

Liga Inan was launched in two districts during between August 2014 to June 2015. In order to keep the roll-out a manageable size and ensure strong uptake from health staff, the start-up activities were limited to 2-3 sub-districts at a time, which meant there were three separate training periods: all three sub-districts of Liquica received training in August 2014, two sub-districts (Aileu and Remexio) in Aileu District received training in March 2015, and the final two sub-districts in Aileu (Laulara and Lequidoe) finished training in June 2015. This allowed adequate time for follow-up and generating additional lessons learned between sites, including the improvements to training materials mentioned above, as well as compiling a working draft of the Training Participants Manual that was used in the two trainings in Aileu District. During this time, there was also a handover of training responsibility between Catalpa and HAI staff for the technical components of the training (i.e. how to use the phones, how to train on Liga Inan functions, and how to conduct practice sessions without interrupting the existing Liga Inan system).

The start-up in Aileu was also delayed from the initial workplan. HAI and Catalpa had been hoping that the Orientation and Launch in Aileu would occur after the Liga Inan system had been moved over to Timor Telecom, which would hopefully prevent any issues related to over-burdening the current server with too many messages due to higher numbers of participants. It would have also made monitoring of progress easier since the new Dashboard is waiting on this interoperability milestone as well. When it was clear this would not be possible, as described in the Liga Inan Partnerships section above, we decided to launch Liga Inan in Aileu in March.

Over the three, 3-day Orientations, 82 health staff were trained in how to use smart phones and Liga Inan functions, as well as reviewing communication skills, danger signs during pregnancy, and how to estimate due dates. **All district midwives were included in the Orientations (39 midwives), and an additional 30 doctors, 3 nurses, and 10 CHC and district-level health managers were trained** in order to ensure that Liga Inan was implemented in health facilities where there were no midwives. **By the end of June, all 7 community health centers and 35 health posts in Liquica and Aileu Districts were actively enrolling women.** See Table 7 for more information on staff trained per district.

Overall, 84% of Orientation participants said they were confident to register women into Liga Inan. Doctors rated themselves much higher than midwives on readiness to register women, which could

be due to a greater familiarity with smart phones: Orientation facilitators observed that almost all doctors were already familiar with or owned smart phones themselves before the Liga Inan training and required far less practice than their midwife counterparts during the Orientations. We are considering ways to adjust training so that midwives get more time practicing with the phones and functions of Liga Inan, and doctors receive more time to practice counseling and midwifery skills (i.e. estimating due dates and identifying danger signs around delivery).

Box 4: Launching Liga Inan

Celebratory, official launches of the Liga Inan program were conducted in Liquica District on August 21, 2014 by the Australian Ambassador, Peter Doyle, and the then Vice Minister for Health, Natalia de Araujo, and in Aileu District on March 13, 2015, which was attended by the new Vice Minister of Health and the Ministry of Education's Coordinator for Social Affairs.



"Liga Inan provides our communities with necessary messages to raise awareness of the danger signs [during pregnancy and delivery] and when to access routine prenatal care. With these, women can receive assistance during pregnancy, during delivery, and after delivery. Today's [maternal and newborn] deaths are preventable with appropriate care."

--Natalia de Araujo, former Vice Minister for Health,
during Liga Inan launch in Liquica

Following the training of health staff and official launch, HAI staff conducted community socialization events in every suco in Liquica District and in Aileu and Remexio Sub-districts to promote knowledge about and participation in the Liga Inan program. Pregnant women and their husbands, as well as PSF and community leaders, were invited to an event that utilized role plays, explanations of the Liga Inan program, introductions of danger signs during pregnancy by the relevant local health staff, and enrollment of women who had brought their health booklets. The new, 7-minute film on Liga Inan was completed in time to be used in socialization events in Aileu District, which included women's accounts of their participation, supportive messages from husbands, local leaders, and health staff. Socialization events took place 3-4 months after the LI program had been launched in each District, however some further delays have been experienced in Aileu because a national immunization campaign is keeping all health staff too busy to conduct additional community events.

In total, 1,351 community members received information about the Liga Inan program. This included an estimated 356 pregnant women, or 12% of women who would have been pregnant in Liquica and 17% of women who would have been pregnant in the two sub-districts in Aileu.

Additionally, 504 participants (37%) were male, hopefully ensuring that women received support from their husbands to participate. Socialization events were not conducted in Sub-districts Laulara and Lequidoe in order to determine whether these events were required to achieve adequate enrollment in the program.

Table 7: Summary of Liga Inan start-up activities per start-up phase

	Orientation	Readiness	Socialization Events
LIQUICA (ALL SUB-DISTRICTS) AUGUST 2014	<ul style="list-style-type: none"> 41 health staff trained <ul style="list-style-type: none"> 19 midwives 15 doctors 3 nurses 4 managers All facilities are registering women in Liga Inan <ul style="list-style-type: none"> 3 CHC 23 HP 	89% of health staff reported they were confident to start enrolling women in Liga Inan	<ul style="list-style-type: none"> 23 (all) suco received socialization events 181 pregnant women participated, or 12% of currently pregnant women Other participants: <ul style="list-style-type: none"> 263 women 250 men 115 local leaders 69 PSF
AILEU I (AILEU & REMEXIO) MARCH 2015	<ul style="list-style-type: none"> 25 health staff trained <ul style="list-style-type: none"> 12 midwives 9 doctors 4 managers All facilities are registering women in Liga Inan <ul style="list-style-type: none"> 2 CHC 8 HP 	80% of health staff reported they were confident to start enrolling women in Liga Inan	<ul style="list-style-type: none"> 17 (all) suco received socialization events An estimated 175 pregnant women participated, or 17% of currently pregnant women Participants: <ul style="list-style-type: none"> 288 women 48 men 94 local leaders 43 PSF
AILEU II (LAULARA & LEQUIDOE) JUNE 2015	<ul style="list-style-type: none"> 16 health staff trained <ul style="list-style-type: none"> 8 midwives 6 doctors 2 managers All facilities are registering women in LI <ul style="list-style-type: none"> 2 CHC 4 HP 	79% of health staff reported they were confident to start enrolling women in Liga Inan	<ul style="list-style-type: none"> No suco received socialization events

Early Results of the Liga Inan program

Program Participation. Enrollment of pregnant women into the Liga Inan program in Liquica District has exceeded all expectations. Health staff in Liquica began utilizing the Liga Inan program immediately after training, registering 267 women in the first three weeks, even before socialization events occurred. This indicated strong interest and dedication in Liga Inan. **While the End of Program Outcome #6 aimed to enroll 1200 women in Liquica, or 40% of annually pregnant women, over 1300 women have enrolled by the end of March. As of June 30th, 1798 women in Liquica District had enrolled in the Liga Inan program, or 59% of annually pregnant women.** Please see Table 8 for estimated percent enrollees by sub-district.

Participation in Aileu was equally as impressive. Within three months, there were 590 mothers participating, which is 52% of the estimated pregnant women in the District. This is a strong

performance and demonstrates strong awareness and confidence in the Liga Inan brand and service. Additionally, high participation might be due in part to the SMS messages sent by Timor Telecom to all known TT users in Aileu District at the time of the launch.

Health staff in Lequidoe and Laulara only began enrolling women in June. While enrollment is strong already in Laulara, Lequidoe is falling short of targets. This could be due to health system constraints: there is only one midwife based in the Health Post in Fahisoi and in Liquidoe CHC there are only doctors and no midwives. Since no socialization events were conducted in this sub-district, enrollments are dependent on word of mouth and regular attendance at ANC visits, which will be the model going forward both in response to funding cuts, but also to meet the realities of future sustainability. We are hoping to strengthen health promotion efforts at SISCa events in order to promote the program.

Table 8: Estimated Percent of Pregnant Women in Liquica and Aileu Enrolled in Liga Inan through June 30th 2015

Sub-district	Months of operation	No. of pregnant women who have participated	No. of est. pregnant women annually	Percent annually pregnant women who participated in Liga Inan
Bazartete	10	722	1152	63%
Liquica	10	577	1007	57%
Maubara	10	499	890	56%
Liquica Total	-	1798	3049	59%
Aileu	3	387	1045	37%
Remexio	3	203	504	40%
Laulara	1	79	360	22%
Lequidoe	1	16	314	5%
Aileu Total	-	590	1549	38%
Program total	-	2388	4598	52%

Health Staff Utilization of Liga Inan. District health staff are the primary implementers of the Liga Inan program. HAI monitors their activities in two ways: an online dashboard that monitors how health staff and women interact with the Liga Inan service and follow-up facility visits. The Liga Inan dashboard was created by Catalpa International and tracks key implementation indicators such as numbers of enrollments per health facility and per suco, numbers of broadcast messages sent, and whether health staff are confirming deliveries, as well as allowing program managers to monitor the text of messages sent to women. The dashboard is monitored daily by members of the Liga Inan team, including the mHealth Officer, Senior Monitoring and Evaluation Manager, Program Director, Regional Coordinators, and LI Field Officers. As an interactive system it allows for immediate responses to encourage good use of the program while also identifying areas of weakness. For example, if a health facility sends a helpful broadcast message to their participating women, the LI Coordinator can reply with a congratulatory SMS directly to the phone that sent the message via the dashboard. All of this is viewed in real-time. We are working toward bringing this dashboard access to central MoH staff and Catalpa is developing a new tool for district level health managers access data.

In addition to monitoring progress via the dashboard, during the first few months of the Liga Inan program in a district, HAI staff conduct monthly health facility visits to check in with staff to review the functions of the Liga Inan service, clear up confusion about interfacing with system, and troubleshoot any problems they experience. They use these meetings to review the list of women who have successfully registered and to collect contextual information for reporting, such as whether there have been any challenges in accessing the Liga Inan service or notable absences of health staff from facilities. This on the ground support provided by HAI will continue for a 6 to 12-month cycle before transitioning to a virtual support model.

Health staff enthusiasm over the program was clear in the high enrollment levels achieved. Additional targets for **End of Program Outcome #6** stated that 100% of health facilities would have enrolled at least one mother in the previous month and sent at least one broadcast message to women enrolled through their facility. In June 2015, 33 out of 35 health facilities in Liquica and the two sub-districts initially trained in Alieu had enrolled women, or 94% of health facilities. There was one inactive site per district. In Liquica there is a rural health post staffed by a male doctor, who said women in his community prefer to go to the female midwife in a nearby health post for their antenatal care and thus he does not see many women. In Alieu, one site has had a turnover in staff since the initial Orientation and we have not yet had time to provide an orientation to the incoming midwife.

Health staff have also been actively utilizing the message broadcast function (“Inan”). Out of 35 active health facilities in Liquica District, Aileu Sub-district, and Remexio Sub-district, 34 of them have tried the Inan function since Orientation. Broadcast message topics usually fall under three categories: (i) supplementary health messages, (ii) announcements of mobile health clinic (SISCa) dates, and (iii) announcements of other community events or health staff unavailability or absences from health facilities. The remaining site is the health post in Aileu mentioned previously that has had a handover in staff—a trained Doctor left to work in Manatuto District and the midwife had been unable to attend the Liga Inan Orientation. In March, we reported that the quality of Inan messages in Liquica during the first 6 months had been poor—utilization was low and sporadic and many health facilities were using the broadcast system to send duplicative health messages and even call out individual women who were late on their ANC visits. Training materials were developed by our Communications Specialist and used at the Liga Inan Review Meeting in Liquica in February as well as the Liga Inan Orientation in Aileu in March. In Liquica, the number of health facilities regularly sending messages rose from 7 to 11 facilities, and a much greater percent of the messages were dedicated to announcing SISCa or other events, or health staff absences from facilities. Half of the facilities in Aileu District sent at least one message in three out of the last four months, and almost all related to announcements of use to their enrolled patients.

Not only are health staff using the system regularly, they are using it correctly. While many staff make errors in the first month after training, the number of errors health staff make drop off considerably in the months following the program launch (see Figure 5). Overall, rates of errors in SMS message following the launch of Liga Inan in each district were quite low—10% and below—and reduced over time (see Figure 6). (The peaks seen in the fourth month in Alieu District occurred when Laulara and Lequidoe launched.) When health staff send a message that the Liga Inan system cannot process, they receive a message that encourages to reformat their message and try again. The ongoing user support, strengthening of responses sent to health staff, and the simplicity of Liga Inan are all helping drive the error rates down. Improvements to training materials, which can be retained as an easy reference document and were employed in Aileu District, have also helped to ensure successful utilization of the program in Aileu, which had slightly lower error rates than in Liquica District.

Figure 5: Percent of district phones that sent one or more messages in error each month

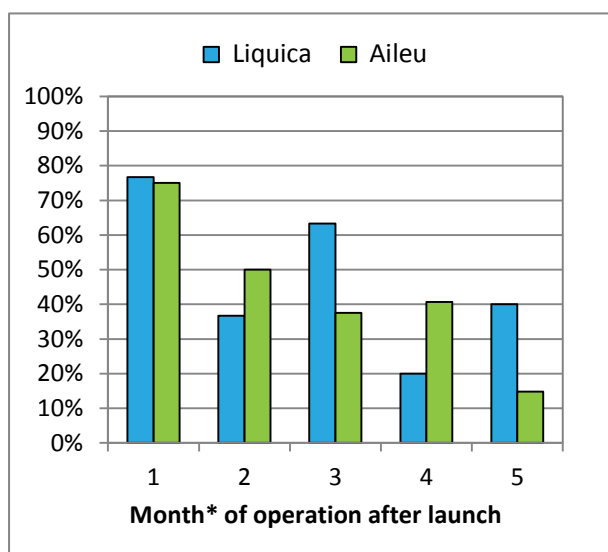
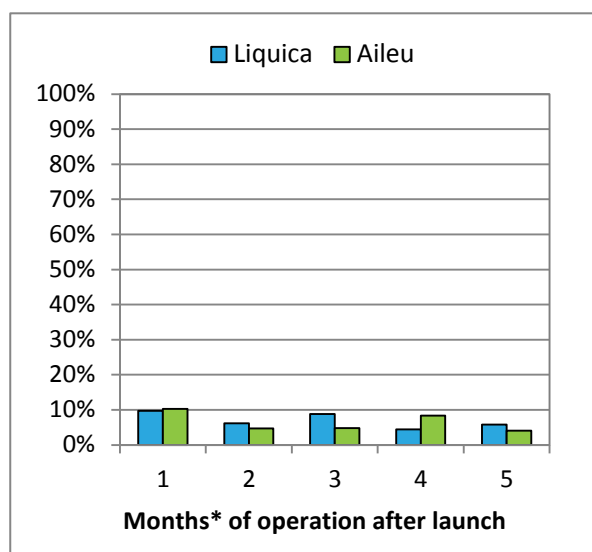


Figure 6: Total percent of SMS messages that resulted in an error each month



*30 day periods after launch date in each district, not calendar months. Analysis by Catalpa International.

One challenge that was clear from dashboard monitoring was that some enrolled women were unclear about who was sending them these Liga Inan messages. During the first six month of operation in Liquica, the Liga Inan service received around 20 messages from enrolled women, such as “What is your name?” and “Who is this? Who did you get my phone number from?” Currently, the Liga Inan system uses a regular phone number, the same as a private use number, to send messages. When the issues with interoperability between Timor Telecom and the other MNOs are resolved, Liga Inan will be moving over to a “short code”, or 4-digit phone number. This should alleviate some confusion because it will clearly not be a private number. We have also added an additional, automatic message for women to receive during their first week that lets them know they were enrolled in this program by their health provider and that messages will now arrive twice a week. The most important improvements, however, must come from health staff during the enrollment process, and this has been recently reviewed with them, as mentioned below.

Facility visits made it clear that most health staff have a strong understanding of the program and were active in implementation. They reported challenges such as some women had changed their phone numbers and the health staff were unable to locate them. Some sites requested additional phone credit (“pulsa”) because they were not able to make it through the month on the \$10 credit provided, however, few sites had filled out the Liga Inan phone logs used for monitoring calls so we could not justify increasing these amounts. Finally, HAI staff have found that some health staff phones are frequently switched off or go unanswered, and needed to be reminded that it makes it difficult for enrolled women to contact them if the phone is not powered on.

A few of these early challenges were reviewed during an evaluation meeting with all Liquica health staff in late February 2015. Some health staff were surprised and chagrined by the level of confusion among women participating in the program. Others were already aware of these issues, since they had heard as much from women directly. During the one-day evaluation meeting, a few key items were addressed: i) health staff reviewed and practiced stronger counseling methods during the Liga Inan enrollment process and provided a checklist and reminder tool that include key messages; ii) health staff reviewed how to design and send good broadcast messages; and iii) health staff practiced filling out phone logs.

Lessons Learned: Health staff are enthusiastic implementers of the Liga Inan program, and can enroll women to this program with little support from HAI staff.

Lessons Learned: More attention should be provided during the first month after enrollment to ensure that health staff are conveying essential information to women at the point of enrollment.

Lessons Learned: Liga Inan also serves as an important platform to address other issues in the health system that are obstacles to improved health outcomes, such as improved interpersonal communication, strengthening of client-centered approaches, and the importance the role of midwives in mobilizing resources (such as emergency transport for pregnant women, equipment etc).

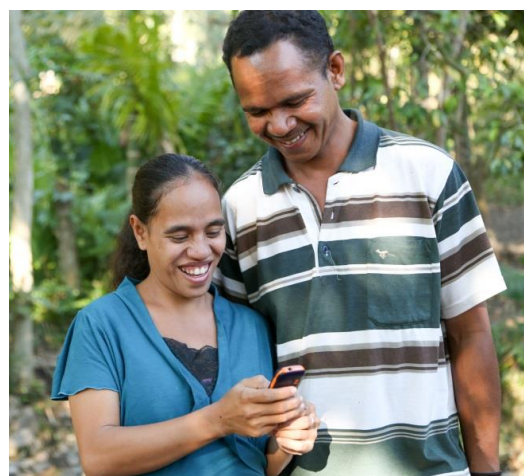
Follow-up telephone surveys. Three months after the launch of Liga Inan, HAI and HealthNet staff conducted a series of telephone surveys with a random sample of enrolled women to see if they are receiving, reading, understanding, and sharing the SMS messages sent to them. Out of 136 women, the teams were able to contact 123 women (90% of sample) by phone, home visit, or other method. No women refused to participate in the interviews.

The majority of women (73%) received a message on the previous Monday. Unfortunately this was just shy of the program target of 80%, and may also reflect poor recall. However, some sub-sets of participants did reach this goal, for instance women using Telemor as a mobile network operator (MNO) in Sub-districts Maubara and Liquica. Further analysis is necessary to examine the extent to which location and MNO selection impact the success of message delivery.

When asked what information health staff had provided to them during enrollment, only 41% of respondents listed knew that they would be receiving SMS messages from the program, and only 24% identified that they would be receiving those messages on Mondays and Thursdays. This could account for the lower than expected rates of message delivery. Additional obstacles to delivery of SMS messages include women having changed their number (5% of respondents) or having problems charging their phones (12% of respondents).

Overall, 69% of women read their own messages without help, and, once read, 89% of respondents said that messages were easy to understand. Husbands were the most likely person to help a woman read the SMS messages, though occasionally another family member or neighbor was mentioned.

Eighty-six percent (86%) of women reported that they had discussed the Liga Inan messages with a family member or friend: 65% of women reported discussing messages with their husband and 20% with another adult family member. These are heartening results since many healthy behaviors require buy-in and support from a woman's family in order for her to follow the recommendations, such as creating a birth plan, saving money for transport, eating and resting sufficiently, delivering in a health facility, and deciding whether and how to space additional pregnancies.



65% of women report that they discussed the Liga Inan messages with their husband

The majority of women could list one or more messages that they had enacted. Two frequently mentioned actions were remembering to take iron tablets and returning regularly for antenatal care. These are positive findings in the Timor-Leste context, where there is a high incidence of anemia during pregnancy and iron tablets are a key intervention in preventing postpartum hemorrhage. Generally, the concept of creating a birth plan was still unfamiliar: one action most frequently listed as “difficult to enact” was to save money for transportation at delivery.

The telephone surveys conducted about three months after launch of Liga Inan have proved exceedingly useful to understand how enrollees are interfacing with the Liga Inan service, how the messages are perceived and understood and also for HAI and Catalpa to identify problems early and make course corrections. For a full report of survey findings, see Annex 8.

Responses from women who have participated in the Liga Inan Program in Liquica:

"The Liga Inan Program makes pregnant women happy because they can access information twice each week to remind and prepare themselves.

--Mariana, Leotela

"This program is good because pregnant women can connect to their midwife so that midwives can come help them."

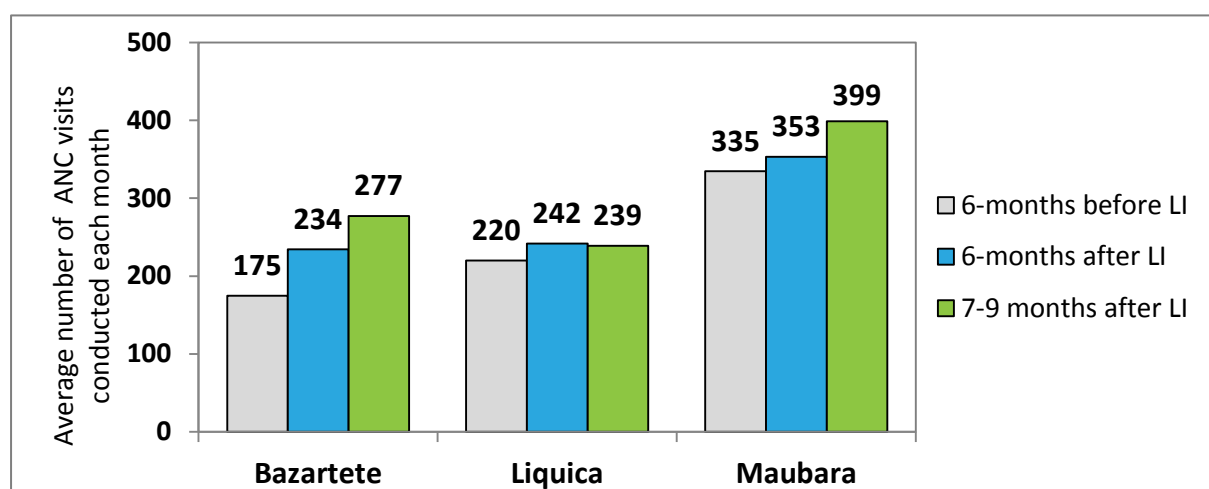
--Maria, Guguleur

"Why is the Liga Inan Program not implemented in Ermera District and other districts so that pregnant women who live in the rural areas there can also access information from the Liga Inan Program?"

--Berta, Loidahar

Health service uptake in Liquica. Many of the goals of the Liga Inan program were achieved: there were notable increases in uptake of key antenatal and delivery services. **A comparison of service uptake 7-9 months after the launch of Liga Inan in Liquica shows a 125% increase in the total number of antenatal care visits provided, and that District health staff provided, on average, an additional 186 ANC visits a month (see Figure 7).** The largest increases were seen in Bazartete: health staff are now providing 102 additional ANC services a month, an increase of 158%! Little change was seen in Liquica District, possible due to the low number of midwives available in that district.

Figure 7: Average number of antenatal care visits provided each month by district health staff



Surprisingly, the percent of women receiving one or more ANC visits rose considerably during this period, with around 100% of estimated pregnant women in Bazartete and Liquica Sub-districts receiving their primary antenatal care visit (see Figure 8). This may have been due to interest in the

Liga Inan program. The percent of women who were reported to have received four or more ANC visits increased in Liquica and Maubara Sub-districts. This indicator can be challenging to interpret in Timor-Leste because the government indicator requires women to have received their first ANC visit in the first trimester and the remainder of her visits to follow a timely schedule. The data suggests that in Maubara, both total visits and the number of women receiving four or more ANC visits are rising concurrently. In Bazartete, overall ANC visits are rising, increasing the likelihood that women visiting are receiving additional visits, however it is likely that women did not start ANC early enough to warrant the “ANC 4+” definition. In Liquica, unfortunately, the data quality appears to be poor and further investigation is required to determine which of the ANC-related indicators—“4 or more ANC” or “Total ANC visits”—is being inappropriately calculated.

Figure 8: Percent of women who receive 1+ and 4+ antenatal care (ANC) visits before and after the launch of the Liga Inan Program in Liquica District

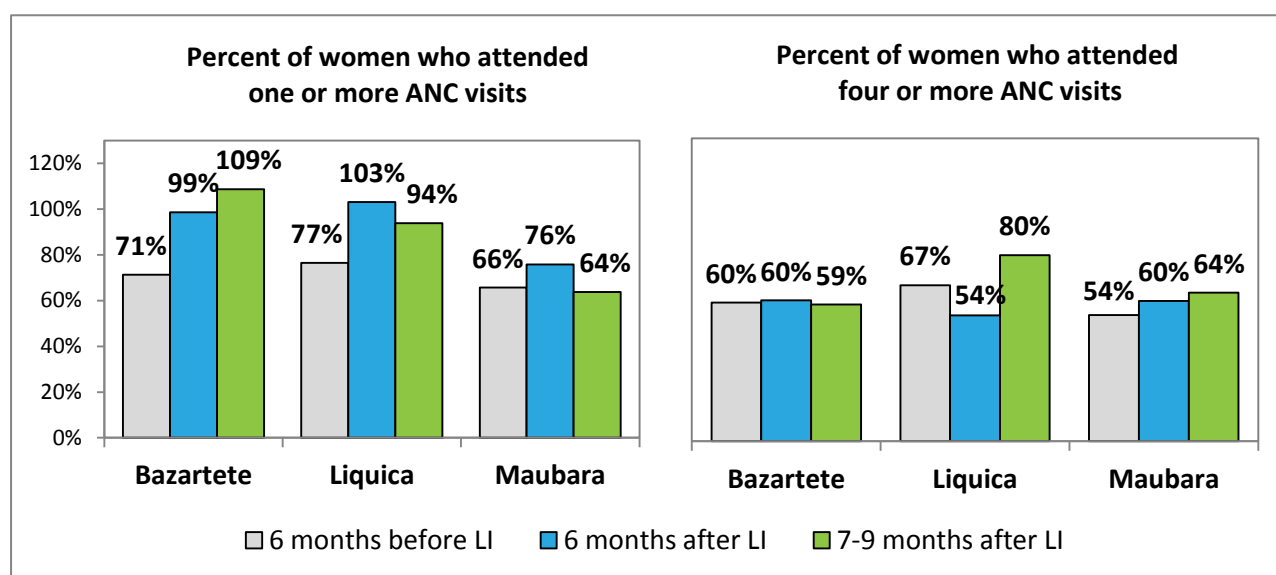
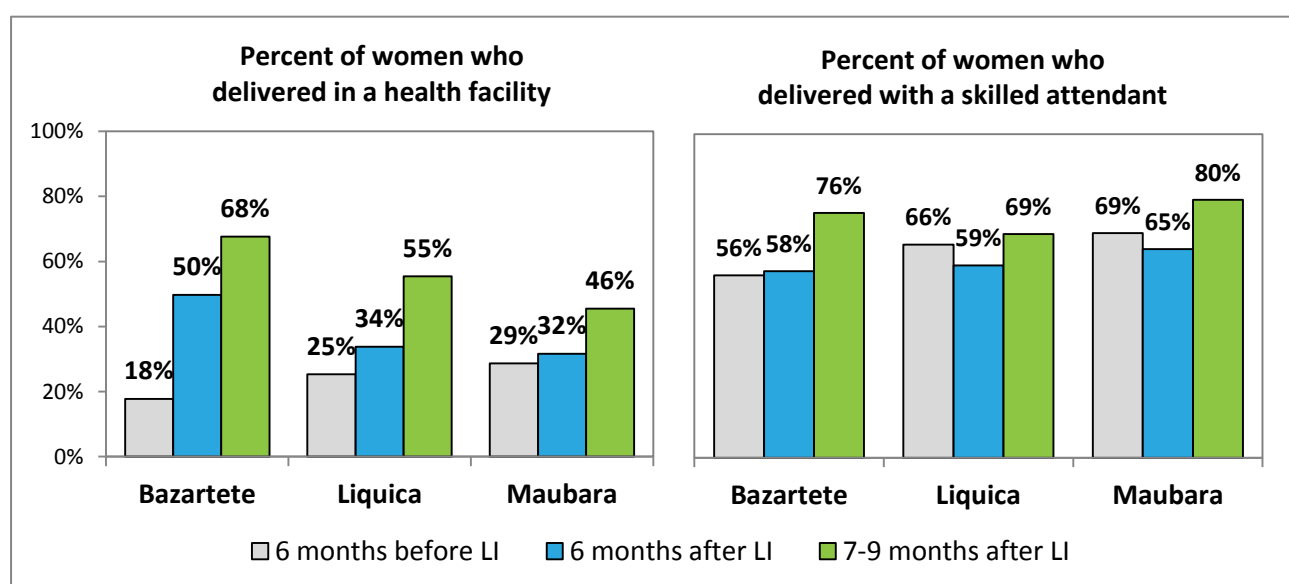


Figure 9: Percent of women who delivered in a health facility and/or with a skilled birth attendant before and after the launch of the Liga Inan Program in Liquica District



Liquica District was targeted for receiving the Liga Inan program because according to the National Health Management Information System statistics for 2013, while skilled birth attendance was already high in Liquica District (61%) compared to national-level figures, 70% of assisted births occurred in homes. It is a great achievement, then, that the percent of births assisted by skilled attendants rose from the baseline of 63% during the 6 months leading up to the launch of Liga Inan (March-August 2014) to 75% for the period of March-May 2015, and the majority of these deliveries (77%) occurred in a health facility, completely inverting the proportion of assisted births that occur in facilities. Overall, births in a health facility increased from 23% of estimated births in March-August 2014 to 57% of estimated births in March-May 2015. These increases in facility births occurred in all sub-districts in Liquica (see Figure 9), though the overall coverage of assisted births increased primarily in two sub-districts: Bazartete and Maubara. As mentioned previously, there were a limited number of midwives in Sub-district Liquica, which could account for the lack of improvement in the overall skilled birth attendance rate.

The slightly extended timeline for the DFAT grant has allowed us to document the achievement of our **Goals** for health service uptake. **Coverage of antenatal care, skilled birth attendance, and facility births have all increased over baseline levels and in almost every case exceeded our targets (see Table 9).** These results are consistent with results from Same Sub-district in Manufahi, which saw a very large increase in delivery services after the launch of Liga Inan. One resource that these sub-districts had in common was access to appropriate transport: at the start of the Liga Inan program in Liquica, HAI petitioned to DFAT's Mobile Mechanic Program to check on the available vehicles in Liquica District. Three multifunctional vehicles were examined and repaired, ensuring that all three sites had more regular access to emergency transport. This concurrent investment in health resources might have been partially accountable for the increases in facility deliveries, however both the Director for District Health Services and the District Health Program Officer for Health Promotion firmly attributed these increases to Liga Inan when independently questioned by the Senior Monitoring and Evaluation Manager. It is important to note that at this time many health posts are under renovation, and that starting in the second quarter of 2015, there will be many additional health facilities at which women will be able to deliver. These renovations, however, would not have impacted these early improvements.

Table 9: Summary of service coverage improvements from 2013 to 2015 in Liquica District

Indicator	Baseline (2013 HMIS data)	Target	EOPO (March-May 2015)
Percent of births in Liquica District attended by health care providers	61%	65%	75%
Percent of births in Liquica District that occur in health facilities	19%	25%	57%
Percent of births attended in Liquica District which also occur in health facilities	30%	45%	77%
Percent increase number of ANC visits in Liquica District	729 ANC visits/month	150% increase	898 ANC visits/month (125% increase)
Percent of women in Liquica District receiving 4+ ANC visits	60%	65%	67%

Further scale-up activities beyond Liquica and Aileu

During the three month extension period HAI planned several activities to support that anticipated expansion of Liga Inan into Ermera and Manatuto Districts. An initial preliminary discussion with

DHS Manatuto was conducted, and they have indicated their interest in receiving the Liga Inan program. Discussion with DHS Ermera was put on hold until impact of DFAT budget cuts could be analyzed. Subsequently, while some district mapping activities have been started, there full data collection was delayed until August 2015.

Liga Inan Sustainability

Sustainability of the Liga Inan program needs to be considered on multiple levels:

- Continued local community awareness of the availability of the program
- Training of new health staff in the Liga Inan program
- Sustained behavior change among target beneficiaries
- Using Liga Inan data for program management
- Sustainability of the technical service currently managed by Catalpa
- Continued focus to reduce program costs over time to enable handover to the MoH

HAI and Catalpa remain committed and focused on sustainability solutions for the Liga Inan program. Over the past year we have made some significant progress in this regard. We have engaged with the MoH at the national level to put them in the role of decision making with regard to expansion activities. Chief among the actions to ensure sustainability is the development of a Liga Inan Roadmap for the future, the acceptance of which will complete **End of Program Outcome #7**. The Roadmap development process began in June 2014 when the Liga Inan expansion proposal was presented to the Council of Directors of MoH. This was followed by a Liga Inan Roadmap Workshop on 22 September 2014 where 65 participants from MoH, Districts and health partners gave their strategic recommendations for the expansion and scale-up of Liga Inan. This was followed by various consultations with key stakeholders in the MoH and at the request of the Director for Public Health and Head of the MCH Department; HAI and Catalpa have drafted a Roadmap for review by key MoH stakeholders. This draft was submitted to MoH in July 2015, and all parties are committed to finalizing and adopting the document.

There has been high level government presence at our Liga Inan launch ceremonies with the Vice Minister of Health and Liquica District Health Service Director in the Liquica launch and representation of the new Vice Minister of Health, the Coordinating Minister for Society and Education, and the Minister of Education attending the day of the launch of Liga Inan in Aileu District in March 2015. We have been requested by the MoH to have quarterly meetings to update on progress and results of Liga Inan.

As mentioned above, we signed a partnership agreement with Timor Telecom providing support for the cost of SMS messages delivered twice weekly to expectant mothers enrolled in Liga Inan and currently Timor Telecom clients. We anticipate engagement in the next project cycle of the other two network providers operating in Timor-Leste. Sharing of costs with private partners will increase the likelihood of the MoH being able to take over the Liga Inan program in the future.

To support consistency, quality, and sustainability of training materials, HAI produced a seven minute video for community health promotion that can be given to health staff and community leaders to promote the Liga Inan program. In addition, we have created five video training modules that capture the Liga Inan health staff training that is currently dependent on HAI and Catalpa staff. It is anticipated that these videos will be used to train new staff and refresh staff already trained without needing to call upon the services of HAI or Catalpa.

In the next project cycle Catalpa will be working on new innovations that will simplify the access to Liga Inan data by the national and district level staff so that they can increasingly use this data for program management, a function that is currently facilitated by HAI and Catalpa staff. As we reduce

promotional and training costs, foster engagement of MNOs in support of Liga Inan and continue to show impressive results in the Liga Inan program we are confident that both donors and the MoH will recognize the value for the results achieved in the Liga Inan program.

SECTION 3: Monitoring & Evaluation/Operations Research

Using and generating an evidence base for health programs and interventions is one of three core pillars upon which Health Alliance International is based. Affiliated with the University of Washington, HAI prides itself on conducting high quality research and utilizes connections with the university to learn about advances in global health and design strong evaluations. HAI has three full-time staff dedicated to monitoring and evaluation in the field, clearly demonstrating this commitment: The Senior Monitoring and Evaluation Manager, Marisa Harrison, is responsible for the design and implementation of the monitoring plan, with support from the M&E Coordinator, who is responsible for monitoring program implementation and collecting HMIS data, and the mHealth Officer, who monitors the use of the Liga Inan system and assists with IT and technical troubleshooting. The M&E team in Timor-Leste is supported by the Director of Timor-Leste Programs at the headquarter office. During **Program Cycles 2010-2015**, HAI has enlisted external evaluators and technical assistance to bring objective eyes to the program. In 2013, HAI hired an external evaluator to assess both our family planning health promotion program with Health Net and our microplanning programs running in 10 suco. These evaluations provided valuable findings, and impacted program direction. Overall, M&E accounts for 5-7% of HAI's annual budget.

In **Project Cycle 3 (2013-2015)**, HAI focused on building an evidence base around our Learning Labs and Liga Inan programs, as well as utilizing local data to guide community-level activities. Both Learning Labs and Liga Inan are innovative programs for Timor-Leste, which had neither a strong follow-up after training program nor a mHealth program previously. It was essential to examine these programs in depth and develop M&E plans.

Dr. Jenny Kerrison, the Reproductive Health Advisor who worked with the HAI team to design and develop the ENBC Learning Lab modules, also designed a detailed monitoring and evaluation plan that employed a case-control model and included context data and assessments of both perceived and actual skills. Feedback was solicited from Learning Lab participants, health managers and trainers at INS and MoH, which all contributed to the final Learning Lab guidelines and M&E plan.

Monitoring and evaluation of Liga Inan utilizes a variety of data collection methods to triangulate the impacts of the Liga Inan program: utilization of the Liga Inan service is easily observed through an online data dashboard created by Catalpa International, which is reinforced through facility visits; follow-up phone call surveys are show the level of distribution and comprehension of the SMS messages; and national HMIS system data is monitored for increases in the provision of health services. All of this triangulation, however, can lead to a heavy load of data that must be input and analyzed. One of the impacts of the delay in interoperability between Timor Telecom and the other MNOs, has meant that we have been unable to utilize the improvements to the Liga Inan Dashboard that Catalpa completed in early 2015. These changes are intended to ease the burden of monitoring utilization of Liga Inan across multiple districts, including being able to quickly identify facilities that are underperforming and more quickly analyze system data. This has meant that our already stretched M&E Team are sometimes struggling to keep up due to the time it takes to clean and analyze the data. The workload associated with monitoring this program as it grows will be taken into consideration in August 2015 when the monitoring and evaluation plans for the 2015-2018 DFAT activities are finalized.

Supplementary evaluations play a large role in allowing HAI to examine key aspects of the program in more detail. One such review was a qualitative research project conducted by Masters in Public Health candidate Gena Barnabee. Ms. Barnabee conducted in-depth interviews with all health staff implementing the Liga Inan pilot project in Manufahi District to determine the impact on this novel, phone-based system on their workload and job satisfaction. Her encouraging results have strengthened the MoH confidence in this program.

In addition, Jessica Dyer conducted qualitative research with mothers enrolled in Liga Inan and completed her thesis in June 2015. Ms. Dyer's research revealed that mothers appreciated the access to trusted information about their health, receiving the SMS motivated them to action and seek care, they shared and discussed messages with husbands and family member, and they greatly appreciated new access to communicating directly with health staff. However, Ms. Dyer's research also revealed that long standing belief that a midwife should be called only if there is a problem persists in Timorese communities and steps could be taken to further address this via new messages. In addition, while mHealth solutions can be an effective tool, it is not a stand-alone solution, but rather is embedded in a health system that requires attention to have responsive transportation systems and trained health providers. Ms Dyer is currently working on a condensed report for the MoH and donors that will be available September 2015.

Throughout the years, other graduate students have come from the University of Washington to evaluate aspects of our programs in more detail, including Ms. Annemarie Nolan, who conducted a baseline assessment of facility readiness to perform Basic Emergency Obstetric Care, which helped guide our BEmOC programs in **Program Cycle 2013-2015**. Having students conduct evaluations, with strong support from HAI headquarter and in-country support staff, helps contribute to the learning cycle both for HAI and the greater global health community. For a full list of relevant student reports, see Table 10 on the following page.

Throughout these evaluations, the voices of program beneficiaries are heard. The Liga Inan evaluations, for example, included not only Ms. Barnabee's and Ms Dyer's interviews, but also a series of interviews with over 120 women participating in the Liga Inan program in Liquica. Both midwives and women were happy with the program, but listed some ongoing challenges such as charging phones and changing phone numbers. From these interviews, we also recognized that some women were unclear about Liga Inan program details, and we were able to redesign how we run the sessions on communication during the Liga Inan Orientation for health staff and review these skills with health staff in Liquica at the 6-month review meeting. Participant feedback is always solicited from trainings conducted by HAI, including the Liga Inan Orientations and Learning Labs, and the external evaluations conducted by Sarah Meyanathan and many student programs explored beneficiary experiences in more detail.

Table 10: Student evaluations relevant to Program Cycle 2013-2015

Year	Researcher	Brief description of project	Report title
2007	Allison Moore	A mixed-methods analysis on the utilization of the Remexio and Maubara BFFs and barriers to use, including informational interviews, focus groups, and analysis of HMIS and BFF use data. These BFF are still in use today.	Improving Maternal and Newborn Health in Timor-Leste: Birth-Friendly Facilities, an Implementation Evaluation.
2008	Madeline Frey	A qualitative analysis of the <i>Mai Ita Koko</i> photocard and poster project with PSF in Liquica and Aileu. HAI continued to train PSF in these photocards through 2013.	The use of photo cards in the PSF program in two districts of Timor-Leste: An implementation evaluation.
2010	Jen Berthiaume	In-depth interviews on the availability of family planning counseling and methods at SISCa events,	An assessment of community- based delivery of family planning services in

Year	Researcher	Brief description of project	Report title
		and preferences of community women and midwives in where to receive and deliver FP.	Timor-Leste.
2010	Norah H. Meyerson	A situational analysis of the resources and potential community interests at 3 birth friendly facilities and a government maternal waiting house. Her report helped guide program expansion at these sites.	Expanding the use of birth friendly facilities: A situation analysis in Fatuberliu, Maubara, and Remexio.
2011	Annemarie Nolan	A facility assessment for all community health centers and BEmOC-trained midwives in Manufahi and Ainaro Districts, which served as a baseline for BEmOC training efforts.	Basic Emergency Obstetric and Neonatal Care Assessment: Manufahi and Ainaro Districts.
2013	Gena Barnabee	A series of in-depth interviews with all midwives and health staff supporting the Liga Inan pilot in Manufahi. She found that while workload increased, so did satisfaction and perceived effectiveness of midwives in their work.	Midwives' perceptions of an innovative mHealth technology's impact on their work and job satisfaction.
2014	Jessica Dyer	In-depth interviews with women who had completed Liga Inan, who had been enrolled for a minimum of 10 weeks, and who had had a previous pregnancy when she did not participate in Liga Inan.	Maternal health behavior change: Women's experiences as participants of an mHealth program in Timor-Leste

Program and student reports are always widely distributed to partners, donors, and other key stakeholders. We regularly report program findings to the MoH and district-level health services, including meeting monthly with Dr. Triana Oliveira, the Head of the MCH Department. We conducted two large dissemination workshops in 2014 on the Learning Lab demonstration program results and Liga Inan findings to date. The Chief of the Department of Quality Control at INS presented results of the Learning Labs and HAI staff submitted a poster to the Cuban Health Brigade International Exchange in October 2014.

SECTION 4: Project Management

Staffing

HAI staffing in our Timor-Leste team has grown slowly but steadily over Project Cycles 1, 2 and 3. In 2010 we had a staff of 24 on our team; in 2011 we increased the team to 25; there was a jump in 2012 and 2013 to 30 staff; staff increased to 39 in 2014 and currently in 2015 we have a staff of 43.

With the DFAT decision to add funds to scale up the Liga Inan program in June 2014, HAI added some new staff and reassigned some staff to accommodate these new activities. This included an expat Communication Specialist to manage the high level of promotion and social marketing anticipated to achieve successful implementation of Liga Inan in new districts. Other staff were reassigned from the HAI Same office to the Dili office to support Liga Inan expansion. In addition, with the shift of Learning Labs from pilot to expanded implementation we hired new clinical staff (midwife) to accommodate this scope of work. There were also some administrative positions added to strengthen support to programmatic efforts.

HAI maintains a model of a low ratio of expat staff to national staff linked with a highly engaged HQ Director who has worked on HAI programs since they commenced in 2002. The number of expats on the team over the project cycles has varied between two and three. The HAI team is comprised of program staff, both for health promotion and clinical (we have 7 midwives), administration and

finance team, technical team, which includes M&E, communication and quality improvement, and the drivers/logistician team.

HAI has a Senior Management Team led by HAI's Country Director and includes six senior managers across our finance, administration, program and technical teams who meet monthly. HAI has an all staff meeting once a quarter where staff from our two district offices in Manufahi and Ainaro come to Dili for an all staff planning and coordination meeting. Once yearly, HAI tries to hold an all staff 2-3 day retreat for team building and annual planning and coordination.

HAI has staff dedicated to the implementation and management of our key initiatives. There is overlap among some staff, particularly on the technical team where clinical quality improvement, M&E, and communication cut across all initiatives. During the five year project cycle, primary responsibility for management of our clinical trainings and supportive supervision have shifted as staffing configuration has changed and grown. We have also utilized different models to provide a Reproductive Health Technical Advisor (RHTA) over the years. We have hired a full time RHTA on staff (2009-2011); more recently we have brought in this expertise on short term focused assignments to increase cost-effectiveness. During **Project Cycle 3 (2013-2015)** we have had the good fortune to engage the same RHTA, who comes in for 2-3 weeks each quarter to work with the HAI team to develop and implement the Learning Labs. This model of TA support has been a model that has been cost-effective and also provides important cohesion for the team. Currently, HAI's Quality Improvement (QI) Manager with support from the QI Coordinator have managed the implementation of the ENBC Learning Labs and development of the SCDC Learning Labs and are supported by the RHTA. A Senior MNC Adviser recruited through the Australian Red Cross volunteer program is a midwife who supports in-house clinical strengthening, training, and quality control of the HAI clinical team. Recently HAI has introduced clinical practicum as part of the clinical team performance assessment; each clinical team member is required to do a minimum number of hours and services each month in the area of maternal and child health in a health facility as a performance requirement.

HAI's Program Director has oversees the overall management of Liga Inan, with close oversight provided by the Country Director. The Liga Inan field team is supported by a Communication Specialist and a Senior M&E Manager who both have played a critical role in design and development of the training, promotion, and monitoring and evaluation of the Liga Inan Program. Close coordination with Catalpa is crucial to the success of the Liga Inan program. Catalpa is a valued partner and brings critically important expertise to the planning for and implementation of Liga Inan. In February 2015, HAI and Catalpa signed a partnership agreement that includes a roles and responsibility matrix outlining levels of responsibility on specific tasks related to implementation of Liga Inan. Working out these details with Catalpa provides clarity going forward in our partnership. Management of the HAI-Catalpa partnership is largely the responsibility of the Country Director, though HQ led the development of the partnership agreement that outlines our good faith desire to collaborate together on Liga Inan and also currently manages the Catalpa sub-contract under HAI. HAI and Catalpa have committed to regular (monthly) meetings of all key staff involved in Liga Inan. Supplementary meeting of HAI and Catalpa staff around specific tasks will occur as often as needed. HAI and Catalpa are committed to aligning their priorities and workplans in the implementation of Liga Inan to avoid duplication of effort and maximize cost sharing.

Timeliness and cost-effectiveness of activities

HAI staff works hard to deliver activities on time and on budget. We have financial monitoring, scheduling, and M&E data tools (including the Liga Inan dashboard) to provide information to managers that assist them to make sound decisions regarding HR and financial resources in order to implement activities. In **Project Cycle 3 (2013-2015)**, we are delivering according to our workplan and are spending according to budget. There are obvious start-up costs for initiatives such as Liga

Inan and Learning Labs, however, HAI and partners are committed to build capacity and reduce costs associated with programming that are identified at the onset for MoH handover, such as Liga Inan and Learning Labs.

There have been activities during the five year project cycle that have proved to not be cost effective or impactful. For example, support for the cadre of volunteer community health workers, or PSFs was not successful because, though PSFs are tasked with home visits of pregnant women, we found that unless HAI staff actually accompanied the PSF lacked motivation to carry out the home visit on their own and so HAI withdrew support. In the case of SISCa support and Supportive Supervision, again the logistical support for transportation and human resource is high and unsustainable, however, there is perceived value on the part of our MoH counterparts at the district level. Given these relationships are important to maintain HAI elected for a more nuance response to scale back and refine our support rather than eliminate completely. We use SISCa in Liga Inan communities to promote enrollment in the program, and we focus supportive supervision around facilities receiving Learning Labs or are Liga Inan districts.

In the area of demand creation, behavior change as a result of HAI's microplanning cycles has been difficult to provide short term results on indicators that require longer program cycles to effect change (SBA, facility delivery). In addition, it is challenging to tie community behavior change to any one initiative and it is hard to find a sustainability marker. However, HAI continues to believe that there is value for communities to have microplanning cycles and we believe the end of project outcomes for the microplanning activity show promising results. HAI's review of the HealthNet sub-contract in mid-2014 to support family planning health promotion in local communities was found to have mixed results and was therefore discontinued.

Financial and Grants Management

HAI HQ Director of Finance provides direct oversight to HAI Country Director and our national staff finance team to assure that tight financial controls, procedures and principles are maintained and followed. Our national finance team is headed by the Senior Finance Manager, who has worked for HAI for seven years. A Peachtree database is used for financial data entry, all entries are reviewed and cross referenced with receipts in the HAI Dili office and at HQ in Seattle. In 2014, HAI Country Director initiated internal capacity building for HAI senior managers to improve their financial management of activities directly under their purview. Our Senior Financial Manager developed a new financial tool to more carefully monitor monthly financial data to provide to managers. HQ Director provides oversight over grants management and compliance with terms of our donor grant or contracts, and management of our sub-contracts under grants and is supported by HQ Grants Manager.

When we submitted the first draft of this report in March 2015, there were some large expenses that had not hit the budget yet, including large payments to Catalpa International and thus, we were under spent. As of June 30, 2015 Catalpa had invoiced HAI in full for their sub-contract.

When HAI's DFAT Agreement (Number 54456) closed on June 30, 2015 we were very close to fully expended on the budget. The total amount awarded HAI over the five year funding cycle was \$5,152,000 and by June 30, 2015 HAI had spent 99% of total funds. As agreed, a final expenditure report is due to DFAT 60 days after close of the agreement, or August 31, 2015.

Alignment with MoH priorities

HAI's cooperation with the MoH includes HAI managers participating in relevant technical working groups (MNC, FP, nutrition, M&E, and health promotion). HAI attempts to meet monthly with the MoH Head of MNCH Department to provide briefing on HAI's activities, plans and lessons learned.

In early March 2015, the Head of the MNCH Department requested to meet with HAI and Catalpa quarterly with other MoH officials for updates on the Liga Inan program. HAI has presented at the Council of Directors meetings at critical junctures in the HAI program, and welcomes the opportunity to continue to engage at this level.

HAI's Country Director, QI Manager have been highly engaged with the MoH and INS regarding the many trainings HAI has supported with other development partners over the five year project cycle. HAI was also catalytic in facilitating important discussions between MoH and INS regarding various trainings (Family Planning training of trainer) and the Learning Labs that were deftly conducted by HAI's QI Manager. The present high degree of buy in from the MoH and INS to embed the Learning Lab model into the national training system is a testament to our QI Manager's skills in managing these important partnerships.

SUSTAINABILITY AND RISK MANAGEMENT

HAI believes strongly in a system of continuous learning in our programs in Timor-Leste. We want to develop and implement programs and activities that have impact and are more than just a "good idea." We work hard to measure success, self-reflect and assess our work, make adaptation to existing activities, or withdraw support from activities where success has not measured up to expectation. We also work with our partners to innovate new ideas and approaches that show promise. Over the five years of funding from DFAT, HAI has improved our capacity to build in sustainability at the front end of project development. Liga Inan and Learning Labs are good examples.

The role of development partners and donors is often to bring in some of the higher startup costs and skills for development of programs such as Liga Inan and Learning Labs, but also to work from the beginning with a lens toward institutionalizing the programs within government systems. In the past year, HAI and Catalpa have made solid strides in this regard in the Liga Inan program as discussed in the body of this report. Likewise with Learning Labs, INS has already indicated that they want Learning Labs to be embedded in the national training system. HAI will continue our work on this effort with INS and the MoH with the envisioned outcome being Learning Lab modules across a range of technical areas and INS training staff carrying out Learning Labs as part of a continuous professional development system in Timor-Leste.

HAI works diligently to align activities and workplans with the MoH strategic priorities. This requires careful and persistent attention, flexibility, and ability to respond to opportunities as they arise. All HAI staff are aware of the importance and primacy of our partnership with the MoH and that it represents a core value of HAI as an organization. HAI has seasoned national staff members who have benefited from consistent capacity building over years and now take lead roles in representing HAI at the MoH and other related institutions such as INS. We believe that this benefits our programs and our relationships with government and it benefits the long term sustainability of HAI's work. The MoH team is increasingly challenging NGOs to be more sustainable, cost-effective, and impactful and the HAI team welcomes the opportunity to be challenged and where appropriate expand and scale-up programmatic successes through MoH ownership of programs such as Liga Inan or Learning Labs.

HAI is well aware of risks that can threaten both project implementation and sustainability. HAI has outlined an extensive list of potential risks and management response in a risk matrix (please see Annex 7 for a detailed risk matrix).

GENDER EQUALITY

The greatest risk to the life of a Timorese woman is simply becoming pregnant. Addressing this terribly sad reality is at the core of HAI's programs in Timor-Leste and where we seek to have the greatest impact in our work and partnership with the MoH. When women not only survive pregnancy, delivery and the postpartum period, but thrive across the continuum of care it benefits and empowers individual women, their families and their communities.

Gender plays an important role in decision making and power relationships in Timor-Leste. HAI recognizes that husbands are important household decision-makers with regards to health care-seeking behavior and targets men with health promotion activities. We know that women enrolled in Liga Inan are sharing their twice weekly text messages, most often with husbands. For example, in Liquica district 86% of women receiving Liga Inan SMS shared with a family member or friend. HAI and Catalpa are currently exploring the feasibility of enrolling husbands (and potentially other gatekeepers, such as mother-in-laws) to receive tailored messages via the Liga Inan program in the new project cycle. In HAI's microplanning work men's advocacy was a particularly successful part of the program where men were given skills and tools in how to develop a pregnancy plan and mobilize community transport in support of the women in their family and community. HAI's promotional/IEC materials consider male involvement through images and messages that target both men and women in the community. Where feasible HAI disaggregates monitoring and evaluation data by gender to determine how interventions are reaching both men and women. With the return of the Cuban-trained doctors, the Timorese health workforce is dramatically changing from one dominated by female midwives to a more equal gender distribution and this has been factored into HAI's selection process for trainings and FUAT, while also recognizing the strong cultural preference of mothers for a female service provider in the area of reproductive health.

In **Project Cycle 3 (2013-2015)** HAI has internally focused significant attention in increasing gender awareness of our own staff. Utilizing locally resourced expertise we have been able to provide in-house training on gender, including the important issues of domestic and sexual violence through Pradet. In addition, HAI Senior MNC Advisor led an advocacy workshop that included a session for all staff (from Country Director to Drivers) on HIV/AIDS globally and in Timor-Leste with specifics on the impact of women. At this workshop a HIV positive Timorese woman spoke to HAI staff about her experiences with stigmatization related to her HIV status. Also in 2014, adding to the global literature on gender issues HAI HQ staff co-authored a paper on domestic violence in Timor-Leste in relationship to maternal services and infant health published in *Maternal and Child Health Journal*.⁸

PROGRAM INNOVATIONS AND PRIVATE SECTOR COLLABORATION

The most recent **Project Cycle 3 (2013-2015)**, has two unique innovations at the center of HAI's work in Timor-Leste: 1) Liga Inan, the first ever mHealth program in the country focused on maternal health and showing some very positive results, and 2) Learning Labs, a new approach to reinforcement of competency based in-service national training, which aims to assure that following a training new skills gained are reinforced in the clinic setting. The Learning Lab has also shown very positive results to date. Both innovations have received broad support from relevant MoH departments and government institutions.

⁸ Meiksin R, Meekers D, Thompson S, Hagopian A, Mercer MA. Domestic violence, marital control, and maternal, birth, and family planning outcomes in Timor-Leste. *Maternal and Child Health Journal*. 2014. [Epub ahead of print]. doi: 10.1007/s10995-014-1638-1

Liga Inan takes advantage of the increasing market penetration and popularity of mobile phones to deliver tips and reminders to attend care to pregnant women. Our partners on the Liga Inan project, Catalpa International, developed a Liga Inan data dashboard that delivers the ability to track real time data to monitor and manage the project. New innovations in Liga Inan over the next program cycle will be developed to build capacity of national MoH to monitor the dashboard and also to provide tools for district health staff to monitor and manage the project. Liga Inan has also proved highly “portable” from the initial pilot district of Manufahi to two new districts (Liquica and Alieu), where enrollment figures are exceeding expectations.

The Liga Inan project has also sparked some innovative partnerships. In October 2014, HAI and Catalpa signed a partnership agreement with Timor Telecom, one of three Mobile Network Operators (MNO) in Timor. This partnership will support the cost of SMS for mothers who are enrolled in Liga Inan and are also Timor Telecom clients. This support from Timor Telecom will lead the way for similar future partnership with the other MNOs once an exclusivity period is completed in October 2015. The social capital gained through corporate support for SMS to improve the health outcomes for Timorese mothers and babies is a highly attractive option for the MNOs.

The Learning Lab model is a viable, cost effective solution to the persistent “FUAT gap” that has plagued the Timor-Leste health system for years. A demonstration of the Learning Lab model in 2013-2014 showed very positive results with midwives who completed the Learning Lab 6-month cycle and tested significantly higher on competency exams compared to a control group of midwives – both groups had recently received the national ENBC in-service training. Through this work HAI has successfully bridged the relationship between the MoH and INS. We are excited by the high level of support to embed Learning Labs within the national training system.

CONCLUSION & NEXT STEPS

In this five-year program cycle from March 2010 to June 2015, with generous support from DFAT, HAI has implemented an integrated health system strengthening and demand creation program that is strategically aligned with MoH’s national priorities in maternal and child health and family planning. This program builds on existing national systems, processes and capacities; uses innovative approaches to address complex challenges; is evidence-based and tailored to the local context and capacities; and focuses on the potential for scalability and sustainability. The program also highlights HAI’s strategic commitment to cost-efficiencies and impactful solutions. As a learning organization, HAI has utilized ongoing operational research, monitoring and evaluation findings, and global best practices to continue to reflect on and adjust the program in accordance with new evidence to ensure maximum impact and outcomes. Having successfully tested a number of innovations, particularly during the final program period in the area of Liga Inan and Learning Lab, HAI is now well positioned for new challenges in the coming years for scaling these innovations up and fully integrating them into the MoH systems and programs.

Based on feedback from the Partner Performance Assessment and a significant reduction in budget going into the next three year-project cycle a number of adjustments will need to be made going forward and are outlined below:

- **Capacity Building and Succession Planning** – HAI is pleased that DFAT shares a common goal of striving toward national ownership through capacity building of our national team. We will continue to emphasize the long term goal of nationalizing the HAI field office through

focused attention on capacity building of our staff. Capacity building is needed not only in the technical focal areas in global best practices around maternal/newborn care and family planning, but also in effective training approaches that don't rely on didactic methodologies, coaching and mentoring principles that motivate quality performance, communication skills that enable learning and enhance client-provider encounters. Administrative capacities need to be strengthened in the areas of grant management and compliance, program planning, financial management and forecasting, fiscal accountability, management of sub-contracts and awards, human resource management, sound procurement policies that follow donor rules and regulations, monitoring, evaluation and research, report and proposal writing. A nationalized HAI team in Timor-Leste will also require a high level of diplomacy, mediation and negotiation skills to be successful and effectively work in a complex, fast-paced, dynamic and competitive space.

In addition, for HAI to become a national organization, there is a significant amount of work and capacity building and understanding required the area of organizational development, registering in-country as a NGO, developing and managing a Board of Directors.

Illustrative examples of how other donors are approaching this type of capacity building are available. For example, in the second round of Centers for Disease Control (USG-funds) 5-year funding in Cote d'Ivoire awarded to HAI in March 2015, the Request for Proposal specifically outlined a goal of transitioning to a national organization. HAI has established a local NGO (the registration process alone took two years) and over the grant cycle, this local NGO will receive capacity building so that at the end of 5 years it is envisioned that it will be able to compete for the next round of funding with perhaps a sub-award to HAI for specific areas that may still require expertise. A key point is that the grant provides funding for this sizable scope of work and it is a deliverable. Other organizations have also been active to move in this direction, a very good reference document from the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) is, *Transitioning large-scale HIV Care and Treatment Programs to Sustainable National Ownership, The Project Heart Experience*.

- **Sustainability** – In addition the future program will focus on developing a strong understanding, commitment, and capacity within the HAI team for building sustainability of HAI's program within the government-run health system.
- **Transparency** – HAI has always prided itself as an organization that is self-critical and analytical; however in light of DFAT's request, HAI has taken even more effort in this report to highlight challenges, delays, and risks. This was also indicated in the most recent quarterly meeting where HAI emphasized further the challenges, obstacles and risks of our implementing efforts and we look forward to continuing these reflective sessions with the DFAT team on a quarterly basis.
- **Leadership and Management** – HAI continues to build on its close relationships with the MoH, INS, and other partners as well as our internal communication and team building. Meetings with the MoH MCH department will continue to occur on a quarterly basis (as requested). HAI also meets with INS on a quarterly basis to review program progress and

develop joint workplans. All District Directors were met in April 2015 and another trip is planned for August 2015 to review the new HAI DFAT program with all the District Directors and DPHO-MCH and will continue to be held at least annually, and, if possible, every six months.

There are monthly meetings held with Catalpa and regular communication with MSI. More formalized partnerships are currently being forged with St John of God, who will be providing technical assist for HAI midwives implementing Learning Labs. Monthly lunch time meetings will continue with MSI and Hadiak (until the HADIAC program closes). UNFPA has requested the assistance of HAI for the BEmOC assessment, which will be carried out in September 2015. HAI Country Director is represented on various high level bodies including the Global Fund Country Coordinating meeting, Health Development Partners meeting, and various working groups of the MoH.

Internally HAI has a Senior Management meeting once a month, team meetings of all departments are held weekly (many of which the Country Director attends), the Country Director meets all line managers one-to-one monthly, and there is an all staff meeting at least once every quarter. Annual appraisals are conducting across the organization and supervising managers have been trained in how to conduct an effective performance appraisal. Other meetings occur regularly with all team members, and the Country Director maintains an open door policy where she encourages team members to come and discuss successes and challenges. The emphasis for leadership and management for the coming years will be on succession planning by building a strong senior and middle management which can manage independently both internal and external relations.

- **Technical Support** – given the reduced budget going forward, HAI will have less, if any resources for international technical assistance to support the continued capacity building of the HAI team. Given that HAI's program is evolving to that of providing more high-level technical assistance to the MoH/INS, we would like to request DFAT's consideration with respect to other channels where TA support can be sourced through DFAT. The areas of greatest need to the HAI program for the foreseeable future are in the areas of: (i) continuing to strengthen the HAI clinical team in their clinical competencies relating to MNCH and coaching/mentoring skills, and (ii) technical assistance to the ongoing investment in strengthening the capacity of HAI senior and middle management in program management, M&E, and reporting. HAI HQ will continue to provide support for strategic planning, management, grant and financial management.
- **HQ Support** – During the next program cycle HAI has reduced HQ cost where organizationally we are able and programmatically it made sense. We removed direct support for all HQ staff except the Director of TL Programs (i.e. finance, grants management and MNC TA). HAI's federally approved NICRA rate is requested. The Director will continue to be highly engaged in the project to provide TA for strategic planning, management of Country Director and with external partners, technical advising in key programmatic areas, reporting, staff profile planning that may include future reduction in workforce and business development. In June 2015, the Director facilitated a telephone conference call between

HAI's Executive Director and Deputy Director with the DFAT Timor-Leste team to specifically discuss and rationalize HQ financial support. In this call DFAT reiterated their satisfaction with HAI performance and agreed to the level of HQ support going forward in the new program cycle.

- **Advocacy** – In the context of a reduced DFAT budget, HAI will be actively looking for ways to amplify the impact of the HAI program through engagement with other donors, MoH direct funding of activities, private sector sponsorship, and other innovative funding models. HAI welcomes DFAT's support in this area. Discreet components of the Liga Inan program such as funding of the SMS messages and procurement of the phones may be easily passed on to a third parties or may be able to be funded directly under a DFAT recurring costs. The costs of setting up Liga Inan in a district may also be an attractive option to other donors (i.e. KOICA, USAID) and HAI would welcome DFAT's advocacy for this in the donor community.