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A RAPID ASSESSMENT OF KEY AREAS OF THE NHSSP FOR TIMOR-LESTE: STRENGTHS, CHALLENGES, AND OPPORTUNITIES FOR MOVING FORWARD

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The Health Finance and Governance Project
USAID's Health Finance and Governance (HFG) project helps to improve health in developing countries by expanding people's access to health care. Led by Abt Associates, the project team works with partner countries to increase their domestic resources for health, manage those precious resources more effectively, and make wise purchasing decisions. As a result, this five-year, $209 million global project increases the use of both primary and priority health services, including HIV/AIDS, tuberculosis, malaria, and reproductive health services. Designed to fundamentally strengthen health systems, HFG supports countries as they navigate the economic transitions needed to achieve universal health care.

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A RAPID ASSESSMENT OF KEY AREAS TARGETED BY THE NHSSP FOR TIMOR-LESTE: STRENGTHS, CHALLENGES, AND OPPORTUNITIES FOR MOVING FORWARD

CONTENTS

ACRONYMS

CSC	Civil Service Commission
DFAT	Australian Aid
DHS	Demographic and Health Survey
GDP	Gross Domestic Product
GNI	Gross National Income
GOTL	Government of Timor-Leste
HFG	Health Finance and Governance
HRH	Human Resources for Health
INS	Institution of National Service Education
LMIC	Lower-Middle-Income Country
MOF	Ministry/ Minister of Finance
MOH	Ministry/Minister of Health
MSI	Marie Stopes International
NHSSP	National Health Service Strategic Plan
ODA	Official Development Assistance
PBB	Project-Based Budgeting
PFM	Public Financial Management
SAMES	*Serviço Autónomo de Medicamentos e Equipamentos de Saúde*
TB	Tuberculosis
THE	Total Health Expenditure
UNTAET	United Nations Transitional Administration in East Timor
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

EXECUTIVE SUMMARY

Situational Analysis

Since gaining its independence in 2002, Timor-Leste has made significant strides in rebuilding its political system, physical infrastructure, civil service structure, and health care system. The country has done this with substantial financial and technical donor support. In the health sector, Timor-Leste has created a sound 20-year national health plan, the National Health Sector Strategic Plan (NHSSP) 2011-2030. The NHSSP identifies four health system priorities: 1) Provision of Health Services, 2) Investment in Human Capital, 3) Infrastructure Investment, and 4) Health Management and Administration.

Despite these positive developments, Timor-Leste faces significant challenges: many health indicators are poor – Timor-Leste's stunting rate is the second highest in the world, and maternal mortality remains staggeringly high across the socio-economic spectrum. It will be important to break the cycle of close birth spacing, high fertility rates, chronic malnutrition, poor human capacity, and poor education. In addition, Timor-Leste has to take the health development agenda increasingly into its own hands, against the backdrop of dwindling donor resources and a contracting oil-dependent economy, which is responsible for up to 80 percent of Timor-Leste's gross domestic product.

To help inform the future scope of USAID health sector support in Timor-Leste, the agency tasked the Health Finance and Governance (HFG) project with conducting a rapid assessment of Timor-Leste's progress against the key objectives of the NHSSP, and to identify potential strategic high-impact areas for agency support. Specifically, HFG was asked to:

- Identify the most important areas for improvement within the NHSSP
- Determine where further progress is needed to meet the key goals of the strategic plan
- Identify areas where efficiency could most likely be gained and donor technical assistance lead to the greatest cost-benefit
- Recommend to USAID where limited resource investment might add greatest value

A rapid literature review identified three areas on which USAID could focus, in alignment with the NHSSP's core objectives:

- Financial management and administration
- Human resources for health (HRH) management
- Procurement

Problem Statements and Recommendations

This section identifies specific challenges within each of the three focal areas, and suggests actions to surmount these challenges.

Financial Management and Administration

Challenges:

Donor support for health, typically worth $40 million annually, is expected to fall by more than half from 2015 to 2016 (Hou & Asante, 2015a); the annual national health budget is also expected to decrease by 12 percent, from $68 million to at most $60 million. At the same time, expenditure pressures, driven largely by staffing costs, are growing. Eighty percent of the total health budget is allocated to salaries, leaving very little fiscal space for medical goods, services, and infrastructure, all in need of substantial investment. For example, many rural health posts do not have running water and/or refrigeration for medicines.

The current budgeting process follows a normative line-item process as per a Ministry of Finance decree. For example, health post budgets, which consist largely of health worker costs, are based on a seven health worker per *suco* (village) model, irrespective of population size or medical need. A detailed spending flows analysis highlighted the key inefficiencies in the financial system, reporting that "Overspending and variability in budget execution rates across line items and across districts provides strong evidence of the mismatch between activities/needs, on the one hand, and budget allocation, on the other hand" (World Bank, 2012).

Suggested impact areas:

Improved resource allocation

Changing from line-item budgeting to need-driven programmatic budgeting (including a move toward need-based staffing strategies) will lead to targeted spending and help to substantially reduce system inefficiencies. It will also save administrative costs. High-level financing personnel in the Ministry of Health (MOH) as well as high-level technical advisors are strongly advocating for need-based and programmatic budgeting.

Effecting such change will be an iterative process. The first step will be to improve the MOH's input-based budget process, including needs assessments and allowing for modifications based on assessment findings. The MOH may consider piloting a budget-neutral, results-based component of the budget process.

More efficient use of resources by National Hospital, districts, and SAMES

Early in 2016, financial and planning autonomy was granted to Guido Valadares National Hospital, the National Laboratory, the Institution of National Service Education (INS), and the drug procurement agency *Serviçio Autónomo de Medicamentos e Equipamentos de Saúde* (SAMES). This is a real opportunity to increase efficiency and enhance quality of the health care system, and represents the first step toward complete fiscal decentralization. For example, allowing these four entities greater autonomy in the budgeting process is likely to help avoid the premium prices that facilities pay for emergency drug orders at SAMES, and favors synchronizing HRH needs with trainings. Systematic technical assistance toward strengthening the financial performance capacities of these newly autonomous institutions has the potential to both improve financial efficiency as well as set the next steps toward project-based budgeting (PBB), and help in the implementation of the public financial management (PFM) roadmap of the NHSSP.

Building human capacity at upper- and mid-level management in the MOH Directorate of Finance

Some personnel in the MOH Directorate of Finance have greatly benefited from training in health systems strengthening, project management, and financial management – but only in limited numbers and at the senior level. Support to improve the management capacity of mid-level staff will make the system resilient to staff rotations and management changes. Traditionally, staff rotates between posts every two years but can also be moved on an ad-hoc basis. Expanding health systems training and management capacity will strengthen the MOH against the impact of these human resource shocks.

USAID could collaborate and coordinate with other development partners to support the mid-level managerial capacity building. It could facilitate improvement of the need-based budgeting processes through focused technical assistance and/or embedding into the MOH an advisor with long-term contextual experience, knowledge, and trustworthiness.

HRH Management

Challenges:

Over the past 10 years, HRH grew at a faster rate than the Timorese population. Over 700 Cuban-trained doctors have returned since 2010, and other cadres of health care workers have grown substantially as well. While the acute shortage of medical personnel has been addressed in terms of numbers, challenges remain due to insufficient clinical skills among young doctors, a persistent gap in knowledge versus practice among all health personnel, and a lack of medical specialization opportunities. The training in Cuba was mainly in community health, and the doctors returned to Timor-Leste before undergoing clinical residencies. Other significant challenges are inadequate HRH distribution, subpar management qualifications of financial and district managers, high staff turnover and frequent staff rotation at the ministerial level, and normative staffing strategies based on geography, rather than medical need.

Suggested impact areas:

One low-cost, high-impact action is the implementation of HRH reforms resulting from the Functional Analysis of the District Health Services of the Guido Valadares National Hospital (Coté & Neno, 2014), including embedding an HRH reform implementation champion in the MOH Directorate of Administration and Human Resources. There are pre-identified candidates for this position. Both the MOH and development partners support this recommendation, but funding to hire a long-term consultant is insufficient. The World Health Organization (WHO) has provided short-term financial and technical inputs toward supporting the HRH reform, but future long-term financial and technical support by donors remains uncertain.

The second action would be to build managerial capacity, especially at the mid-level, in the MOH and at the district level. This might be best done in coordination with other development partners, as well as a focus on sustainability post donor exit by nationally institutionalizing trainings.

Improvements in Health Services and Procurement

Challenges

The drugs and medical supplies procurement system continues to face serious challenges in Timor-Leste. SAMES, the autonomous procurement agency, was absorbed by the MOH in 2013, but regained its autonomy to procure medicines and manage its own budget in 2016. Experts have forecasted that this transfer of autonomy might further stress a system plagued by frequent stock-outs, a high volume of expensive emergency purchases, and severe deficiencies in warehousing and distribution to facilities, due in part to lack of adequate planning.

Further, no autonomous quality assurance agency exists to test potentially large quantities of counterfeit drugs. Also, drug purchasing orders are not openly advertised for international competition, leading to very expensive procurement contracts.

Key areas of efficiency gains:

The procurement system will benefit from need-based purchasing, the development of framework contracts, wider international advertising of drug orders, as well as the reduction in stock-outs, all of which can be achieved by technically supporting SAMES' greater autonomy over its operating budget.

Possible high-impact donor investments include supporting a trusted technical advisor to build institutional capacity and need-based procurement of drugs and supplies via SAMES. Given past intense investments and technical assistance by the World Bank and the World Food Program, these development partners might be best positioned to lead support to improve procurement processes.

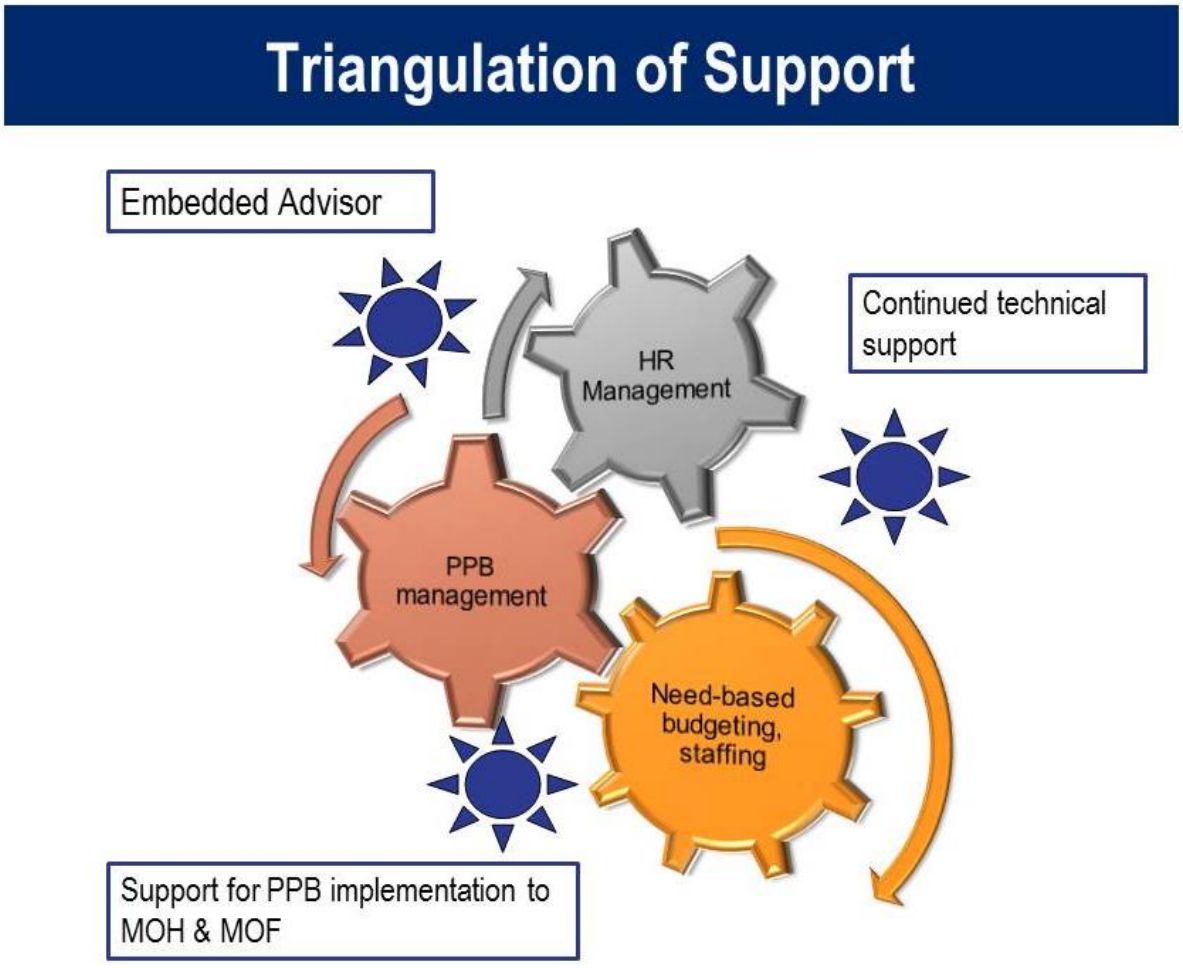
The Way Forward

Overall, our recommendations are based on a vision of 'support triangulation' regarding PBB, need-based staffing and budgeting, and managerial capacity building (Figure ES-1). Support for the MOH to increase efficiency in financing and build mid-level management capacity will empower district-level managers to do need-based staffing and budgeting, which will lead to better health service delivery. Increased financial efficiency and managerial capacity also will improve procurement processes, with more pre-negotiated supply contracts and, thus, budgetary savings. Better supply chain management will result in fewer stock-outs and emergency drug orders, with a positive impact on budgetary processes. In sum, support in the three key areas of health financing, HRH, and procurement will lead the Timor-Leste health system toward greater efficiency and sustainability and offer the population better care and better health. We present the specific set of recommendations in Table ES-1 below.

Table ES- 1: Key Recommendations

Specifically, we suggest that even with limited programming resources, better decision making could be supported within the MOH, including:	
Health Financing	• Support/co-support of PBB champion in the MOH Directorate of Finance • Implementation support for PBB and mid-level managerial capacity building for health financing activities
Human Resources	• Support/co-support human resources implementation champion • Help build managerial capacity for human resources, including at the district level
Procurement	• Help build institutional capacity and need-based procurement, including embedding a trusted technical advisor for need-based procurement of drugs and supplies via SAMES

Figure ES-1. Triangulation of Support Areas



1. INTRODUCTION

1.1 Background

Timor-Leste (area: 15,410km^2) occupies the eastern half of the island of Timor and includes the nearby islands of Atauro and Jaco and the exclave of Oecussi. Timor-Leste has an estimated population of over 1.2 million. The country is divided into 13 districts, 65 sub-districts, 442 *sucos* (villages), and 2,225 *aldeias* (hamlets). Approximately 29 percent of residents live in Dili and Baucau, the two largest cities. The most commonly spoken local language is Tetum, with Bahasa Indonesian, Mambae, and Macassae being other commonly spoken languages (Ministry of Health, 2011). Portuguese and Tetum are Timor-Leste's official languages.

Timor-Leste has a long history of colonization. Timor-Leste was colonized in the mid-16th century by the Portuguese, who maintained their rule until 1974, with the exception of the Japanese occupation from 1942 to 1945 during World War II. After the Portuguese withdrew in 1974, Timor-Leste was ruled by Indonesia. On August 30, 1999, a UN-sponsored referendum endorsed Timorese independence. This was followed by a period of civil violence and an anti-Timorese independence movement by the Indonesian military and militia. Timor-Leste was recognized as an independent country on May 20, 2002. The violence that occurred during the Indonesian occupation is believed to have led to the death of nearly a quarter of the population. Widespread displacement and destruction of infrastructure, particularly in 1999 after the Indonesian withdrawal, has created stressful conditions for the public health system and contributes to poor health indicators and health services in the country (Ministry of Health, 2011)

In 2006, the country faced another round of violence, and more than 100,000 people were displaced (National Statistics Directorate & Ministry of Finance, 2010). However, since 2008, Timor-Leste has been largely stable, though a rising youth population and underemployment could lead to civil unrest in the future.

1.2 Impending Fiscal and Health System Crisis

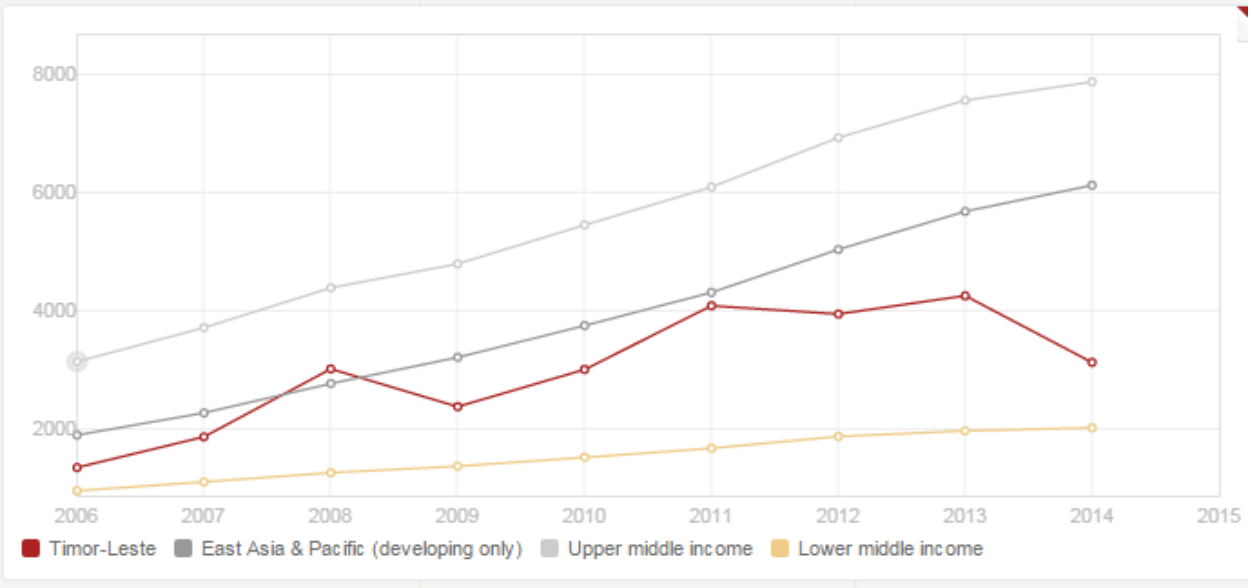
Due to the intentional destruction of up to 80 percent of health facilities during the violence that preceded the Indonesian withdrawal from the country, the government of Timor-Leste (GOTL) had to rebuild its health system and health systems infrastructure from the ground up. During the Indonesian occupation, the public health system was largely operated by Indonesian staff; after the referendum, most of the health workforce returned to Indonesia, leaving an insufficient number of personnel to run and manage facilities. Upon independence, the country of just under 1 million people had only 30 physicians. Thus in 2000, the United Nations Transitional Administration in East Timor (UNTAET) established the Interim Health Authority (IHA), which used substantial donor funding to begin rebuilding (Huff-Rousselle, 2009). Since then, Timor-Leste has made substantial strides in rebuilding its political system, physical infrastructure, and civil service structure. Over the past decade, the Ministry of Health (MOH) has continuously taken greater charge of its health system, and has developed strategic plans and guidelines for health system reform. With the help of substantial donor financial and technical support, the GOTL created the 20-year National Health Service Strategic Plan (NHSSP) 2011-2030, and aims to fully implement these plans. Timor-Leste also replenished its human resources for health (HRH) from just over the 30 doctors in 2002 to roughly 750 physicians, over 1,000 nurses, over 450 midwives, and

other public health and health administrative workers in 2014, all employed by the public sector (Hou & Asante, 2015a).

Despite this progress, Timor-Leste faces the significant challenge of taking the health development agenda into its own hands, against the backdrop of dwindling donor resources and a contracting oil-economy, responsible for up to 80 percent of Timor-Leste's gross domestic product (GDP). The health budget is expected to contract by at least 12 percent (from $68 million to at most $60 million) from 2015 and 2016, and development aid for health is expected to decline significantly. Figure 1 depicts the declining Gross National Income (GNI) per capita in Timor-Leste since 2013, a trend that is set to continue throughout 2016. This is in contrast to rising GNI per capita in geographically and economically neighboring countries. This economic contraction is truly worrisome in a country with serious health problems such as severe neonatal, infant, and child malnutrition – Timor-Leste has the second highest stunting rate in the world – and saw increases in maternal mortality between 2012 and 2015.

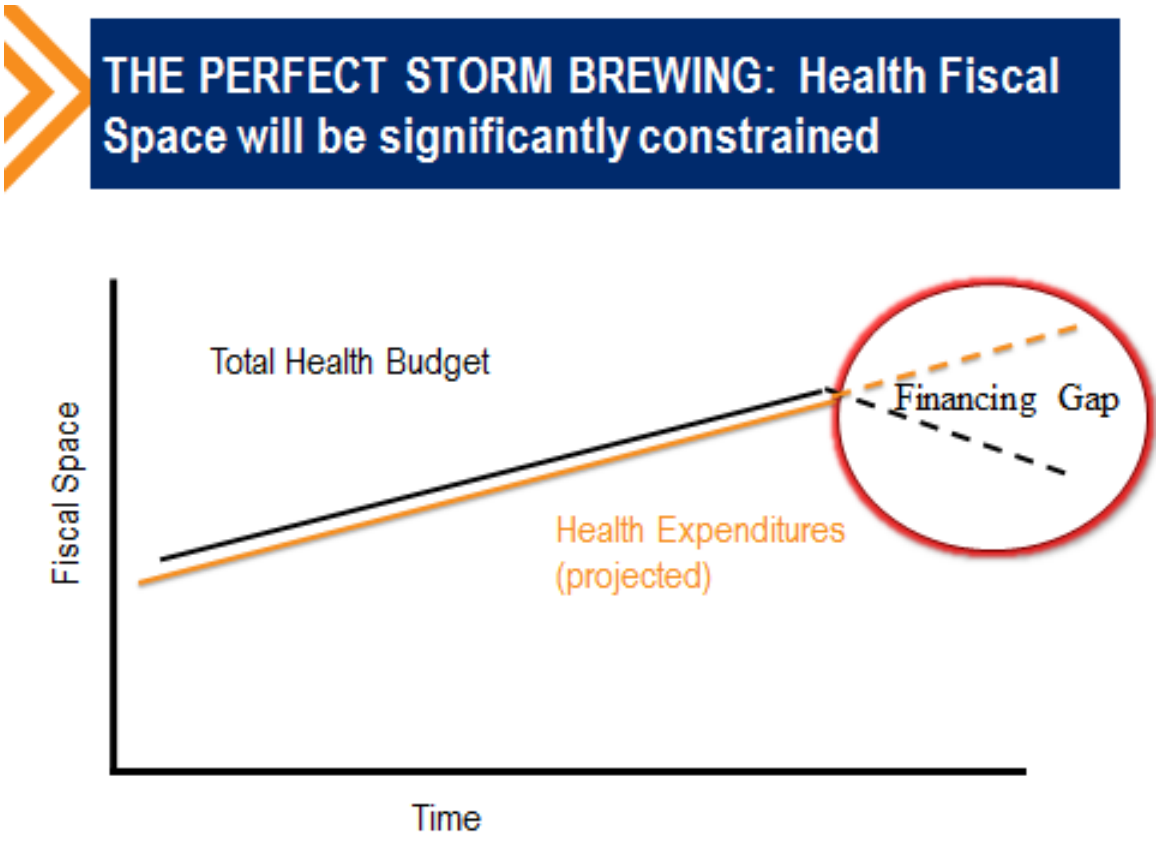
Substandard health is an issue across the socio-economic spectrum in Timor-Leste, and could worsen in the face of decreasing donor support and a contracting economy. The health system is particularly vulnerable given that 40 percent of spending on health in Timor-Leste in 2014 was sourced from donor moneys. Since then, Timor-Leste has been classified as a lower-middle-income country (LMIC), and is scheduled to graduate from the World Bank's preferential loans and grants program reserved for the poorest countries. Thus, a failure to make substantial efficiency gains, or to make a contingency plan in the wake of economic contraction and the impending donor exit, would leave Timor-Leste's health system in perpetual crisis and with a yawning health financing gap (Figure 2).

Figure 1: GNI Per Capita Trajectory, Timor-Leste, 2006–2014.



Source: World Development Indicators (http://data.worldbank.org/country/timor-leste)

Figure 2: Anticipated Financing Gap for Timor-Leste Health Care System



Source: Authors

1.2.1 Human Capacity Building: An Ongoing Challenge

In addition to the impending fiscal crisis, Timor-Leste has been facing a health and human capacity emergency with respect to high fertility rates, high maternal and infant mortality rates, and potentially increasing stunting rates. Short birth spacing and high teenage pregnancy rates exacerbate this issue, and if business as usual continues, human capacity is set to weaken and further impede economic development.

Despite the efforts by Marie Stopes International (MSI) and Family Planning International, Timor-Leste's progress in reproductive and maternal health, especially local uptake of family planning services, is very slow, even for a low-income country. It will be important to break the cycle of low birth spacing, high births, chronic malnutrition, poor human capacity, and poor education. Women in Timor-Leste face the highest risk of death while giving birth in Southeast Asia, with 575 maternal deaths per 100,000 live births (National Statistics Directorate & Ministry of Finance, 2010) and 78 percent of births taking place at home. Between 1990 and 2010 the contraceptive prevalence rate rose by only 1.7 percent, while unmet need increased by almost 10 percent.

The challenges of delivering family planning services in Timor-Leste stem from its history of Portuguese colonialism, Indonesian occupation, and the destruction and dislocation that followed the breakdown of both. During the Indonesian occupation, the Catholic Church emerged as a key supporter of the

resistance movement and developed great influence over Timorese politics, culture, and education. This influence continues today.

This, as well as alleged campaigns of forced family planning under Indonesian rule, have had significant implications for reproductive health service delivery: Mistrust and misconceptions about family planning are dominant, as are a desire for large family sizes, a lack of education in bio-physiology, and the influence of parents and grandparents in decision making.

Poor infrastructure and the restrictive environment raise the cost of delivering family planning services, but the need has never been greater. With unmet need rising, Timorese women are more reliant on the MOH and key NGOs such as MSI to provide both natural and artificial methods of family planning. Services are delivered by supporting the government to deliver family planning counseling and services in clinics, health posts, and mobile outreach. Continued efforts in education, acceptance of family planning, and birth spacing are needed to help Timor-Leste to break the cycle of low human capacity, weak economic growth, and high fertility. Targeted investments in the health sector will play an essential role in improving human and economic development in Timor-Leste.

1.3 Objectives

USAID has supported the health sector in Timor-Leste since 2002. Due to declining foreign aid budgets, and Timor-Leste's LMIC status, future technical and financial support for the country's health sector from all donors is uncertain. To help inform the future scope of USAID health sector support in Timor-Leste, the Health Finance and Governance (HFG) project was tasked to rapidly assess Timor-Leste's progress against the key objectives of the NHSSP, and to determine potential strategic high-impact areas for USAID support of the health sector.

The rapid assessment included a focused literature review,[1] a site visit, key informant interviews, and a progress review of key areas targeted by the NHSSP. These activities provided the evidence for the herein presented general and USAID-specific recommendations, and next steps.

The overarching goals of these activities were as follows:

1. Identify the most important areas within the NHSSP that need improvement;
2. Take stock where further progress is needed to meet the key goals of the strategic plan;
3. Identify areas of efficiency gains and areas where technical donor assistance might lead to the greatest cost-benefit; and
4. Recommend to USAID where limited resource investment might add greatest value.

The key deliverables are a literature review as well as this report on the rapid assessment.

1.4 Methodology

The methodology for the overall rapid assessment was based on 1) a rapid literature review, 2) a site visit including several key informant interviews, and 3) an analysis of Timor-Leste's progress against the key goals of the NHSSP. Specifically, the NHSSP provides the guiding framework for all key activities and decisions in the health sector, and is organized around the following four strategic directions and key priorities: 1) Provision of Health Services; 2) Investment in Human Capital; 3) Infrastructure Investment; 4) Health Management and Administration. This assessment focused on areas 1, 2, and 4.

[1] A summary of the rapid literature review was shared in an additional document with USAID in late 2015.

1.4.1 Rapid Literature Review

The health program lead of USAID/ Dili identified 62 key documents on the Timor-Leste health system for review. The assessment team classified the documents into seven categories (Public Financial Management, Human Resources, Pharmaceuticals, Procurement, MOH Guiding Documents, Strategies Policies and Guidelines, and Other) and then ranked them based on their relevance.

The key data and findings were extracted from the documents based on the main categories of the NHSSP. The findings of the literature review were reviewed by several key experts to ensure accuracy and that the findings were up to date.

1.4.2 Site Visit and Key Informant Interviews

On Sept 17–27, 2015, the HFG Activity Lead and Technical Adviser conducted a site visit to Dili to gain deeper insights into the health care system and to meet with key informants, development partners, and policymakers. All interviewees and their respective expertise are listed in Table1.

All interviews were semi-structured and focused on one of the three pillars of the NHSSP: health financing, HRH, and procurement. Preliminary findings of the rapid assessment were shared in form of a presentation with USAID at the end of the site visit.

The trip in general and interviews in particular achieved the goal, imparting to HFG a better understanding of the workings of the Timor-Leste health system, identifying strengths and weaknesses of the health system, and introducing the work to key stakeholders to garner support for the assessment findings and recommendations. The content of the desk review, the debriefing presentation, as well as the feedback from the mission and the local MOH, were incorporated into the final analysis and report.

Table 1: Key Informants

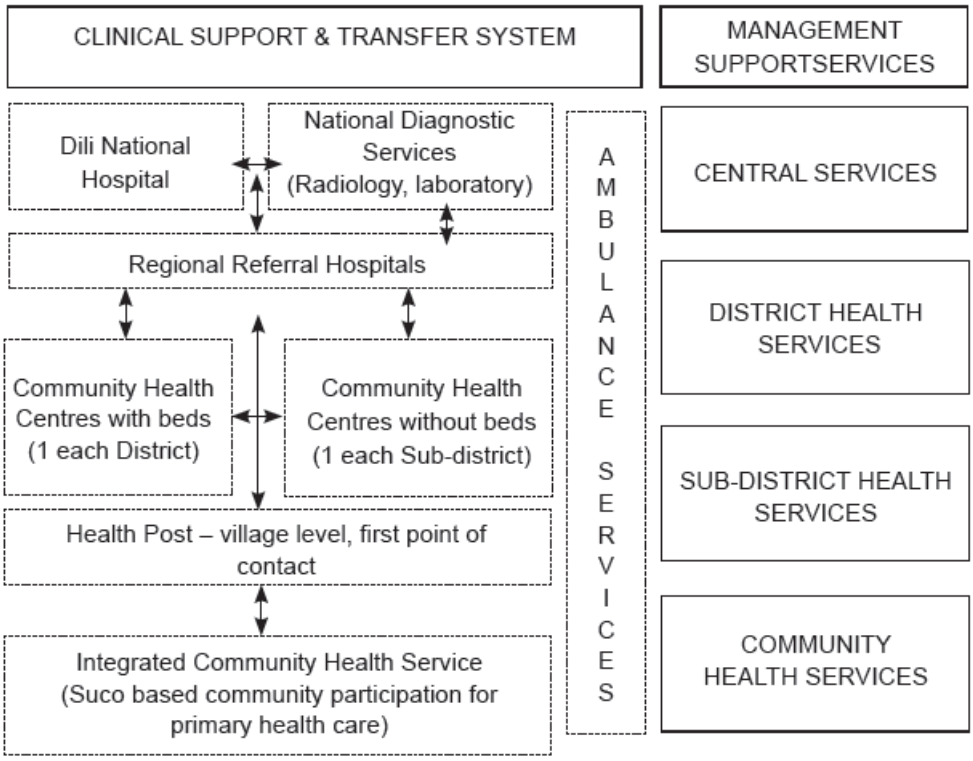
Name	Organization	Focus Area
Dr. Odete Belo, Narciso Fernandes	SAMES	Procurement
Eileen Sullivan	World Bank	NHSSP
Nicola Morgan	Chief of Party MSI, Timor-Leste	Human resources, services
Gil da Costa	USAID (Prev: SAMES)	Procurement
Dr. Eric Vreede	RACs Medical Training Program	Human resources
John Pile	UNFPA	Human resources, services
Sr. Marcelo Amaral	Director of Finance, MOH	Financing, human resources
Sr. Maximiano Neno	Director of Human Resources, MOH	Human resources
Oscar Barreneche	Health Policy Advisor, WHO	NHSSP
Lisa Cleary	Adviser, Civil Service Commission	Human resources
Ash Rogers, Stephen Kearny	World Food Program	Supply chain, procurement
Mia Thornton	2nd Secretary Dev't Health, DFAT	Human resources
Pedro Figuerido	Senior Adviser to Prime Minister	Finance
Maria Natalie	Director Monitoring and Evaluation, MOH	Monitoring and Evaluation
John Grundy	Consultant, Health Specialist (prev: WHO)	Health Finance

2. HEALTH SYSTEM OVERVIEW

In the Timor-Leste National Health Service, fiscal and administrative services are centralized; service delivery is moving toward decentralization. The central services' role is to develop health policies and regulations, set priorities, establish health standards, develop national plans and budgets, oversee monitoring and evaluation and donor coordination, and ensure equitable resource allocation. The district health services implement the national plans (Ministry of Health, 2011).

According to the NHSSP, the current health system structure is based on access to publicly financed and delivered primary care – the core of health service delivery – with referral care provided by regional hospitals and more specialized services by one national hospital in Dili. Figure 3 illustrates the configuration of the National Health Service.

Figure 3: Timor-Leste National Health Service Configuration



Source: (Ministry of Health, 2011)

Primary health care is provided through the district health service structure, at community health centers and health posts, and via outreach activities. Management authority and responsibility is increasingly being shifted to the district level, though managerial challenges remain.

Part of the primary health care strategy is to staff every health post per suco with seven health care workers, including a doctor, nurse, midwife, lab technician, pharmacist, technician, and ancillary worker (Ministry of Health, 2014b). Health posts generally serve a population of 1,500–2,000 in rural areas, and

5,000 in urban areas. This staffing model is very popular politically, but it is very normative and neither takes into account the health needs of the local population, nor has it been properly costed. What's more, recent analyses and discussions with finance and health officials point to the unaffordability of this model, even in the unlikely event of modest fiscal growth.

The public health sector provides free services at the point of care, resulting in just over 4 percent out-of-pocket expenditures on health care. Most of the out-of-pocket expenditures are due to the use of private health services by the non-poor. Twenty-nine percent of the non-poor use private health services and it is estimated that approximately 25 percent of basic health service delivery is provided by the private sector. Table 2 lists the numbers of public and private health facilities, by type.

The health infrastructure remains a weak link of the Timor-Leste health system. Especially in rural areas, health posts struggle with a lack of electricity, equipment, and sanitation. Newly constructed public health facilities have not improved service delivery as anticipated, in part because they are poorly maintained. As a result, infrastructure investment was removed as a donor focus area until the government allocates appropriate resources for maintenance.

Table 2: Health Infrastructure Distribution

Type/Level	Public	Private	Total
Health Posts	192	0	**192**
Community Health Centers	66	26	**92**
Maternity Clinic	42	1	**43**
TOTAL	**264**	**26**	**290**

Source: (Ministry of Health, 2011)

2.1 Health Status

Based on the 2009-10 Demographic and Health Survey (DHS) (National Statistics Directorate & Ministry of Finance, 2010), the overall health of the Timorese has substantially improved since independence in 2002. However, there are large regional variations. Timor-Leste has the highest fertility rate in Southeast Asia, with 5.7 births per woman. Fertility is higher among rural women, with an average of 6.0 births per woman, than in urban areas, where the average is 4.9.

Despite increased contraceptive use, family planning remains a challenge, with 12 percent of births mistimed and 2 percent unwanted. Maternal mortality has decreased from 660 per 100,000 women in 2003 to 557/100,000 in 2010 (National Statistics Directorate & Ministry of Finance, 2010). Antenatal care coverage is high at 86 percent. Still, the majority of births (78 percent) take place at home (National Statistics Directorate & Ministry of Finance, 2010); 53 percent of urban women, but only 12 percent of rural women, deliver in a health facility. Postnatal coverage is also low, with 68 percent of women not receiving a postnatal check-up. Fifty-eight percent of children under five are stunted and 19 percent are wasted (National Statistics Directorate & Ministry of Finance, 2010). Thus, maternal and child health continue to be a priority area for the MOH.

Though the number of fully vaccinated children (ages 12-23 months) tripled from 18 percent in 2003 to 53 percent in 2009/10, this is still a dangerously low level. To address this, the GOTL initiated a large-scale immunization coverage campaign. By 2014, this had resulted in 87 percent coverage for BCG, and

over 100 percent (surpassing target) vaccination coverage for measles and rubella in 2015 in some municipalities, with an overall >90 percent coverage rate.

Targeted disease control programs have been very effective in controlling communicable diseases. For example, malaria incidence has declined from 132.9 to 0.3 per 1,000 from 2008 to 2014 (Ministry of Health, 2014a). Mortality due to tuberculosis (TB) was 42 per 100,000 in 2010 and treatment success rate for the cohort was 86 percent (compared to a global target of 85 percent). From 2003 to 2009, a total of 151 HIV cases were reported among those who had been tested, but the NHSSP stated that that figure is likely much higher (Ministry of Health, 2011). Based on the Director General's report, in 2014, 76 new HIV cases were diagnosed, and there were 12 HIV-related deaths and a total of 484 cumulative cases (report not publicly available). The true HIV prevalence rate is not known.

Even with these gains, communicable diseases continue to pose a major threat to the country, which means the MOH needs to improve and expand surveillance and control (National Statistics Directorate & Ministry of Finance, 2010). Despite advances in malaria control, nearly one-fifth of children under five reported fever in the latest DHS survey (National Statistics Directorate & Ministry of Finance, 2010). There are also outbreaks of other diseases like dengue hemorrhagic fever, most recently in 2005, which had a peak fatality rate of 14 percent (Ministry of Health, 2011).

Non-communicable diseases account for 663 deaths per 100,000. Over half of the population (58 percent) does not have access to clean drinking water and 70 percent does not have access to basic sanitation (Ministry of Health, 2011). Increased smoking rates, especially among males (68.8 percent in 2014 (Ministry of Health, 2014a)), are linked with high rates of cardiovascular disease and cancers (National Statistics Directorate & Ministry of Finance, 2010). Cardiovascular disease is the fourth leading cause of death in Timor-Leste (Ministry of Health, 2011).

2.2 Service Readiness and Quality

The 2014 Joint Annual Health Sector Review (Ministry of Health, 2014a) revealed major equipment supply gaps, frequent stock-outs of essential medicine (33 percent at community health centers), and the inability to perform basic tests. Only 4 percent of health posts, the closest and most accessible form of care to most people, have a pharmacist. The destruction of health facilities over decades of violence underscores the need to rehabilitate infrastructure. In addition, significant HRH challenges persist. Only 43 percent of health posts have a resident or midwife. While the midwife shortage is real, the main staffing issue regarding nurses and physicians is inadequate distribution and insufficient skills to meet medical need. A service readiness assessment measuring infrastructure, human resources, and medical supplies showed that only four of 222 health posts met the minimum standard, and all four were in Ermera district (Ministry of Health, 2014a).[2]

[2] Ermera district has been receiving significant USAID support. Since the management of the USAID project for service readiness was handed over to the MOH in 2014, the human resource and medical supply standard has been maintained, which highlights the sustainability of this project.

2.3 Health Seeking Behavior and Equity

Health utilization has fluctuated over the years, overall increasing slightly from 2009 to 2014. Poor health care quality and low service readiness often explain low health utilization rates. However, even with the influx of 711 new primary care doctors over a two-year period (2010-2012), utilization rates remained the same (Ministry of Health, 2014a). Utilization also varies widely across health specialty area, districts, and urban versus rural populations (Ministry of Health, 2014a).

Health-seeking behavior is especially low for facility-based deliveries. Only a quarter of women reported giving birth in a facility. Rural women were three times more likely not to deliver in facilities than urban women (Rosser & Bremner, 2015). In Dili, delivery by a skilled birth attendant reached 79 percent compared to as low as 20 percent in some remote districts. This variation has been attributed in part to the lack of transportation in rural areas. Similarly, poorer women were less likely to use health services (Rosser & Bremner, 2015). Antenatal care visits increased from 68 percent to 78.3 percent from 2009 to 2014, but there was a 23-28 percent drop-out between the first visit and the fourth visit, suggesting there are quality of care issues (Ministry of Health, 2014a). According to a recent health worker survey, service provision in rural health posts is consistently low, both for antenatal care and general health services (World Bank & Oxford Policy Management, 2015).

2.4 Financing for Health: Toward Financial Efficiency Gains

The MOH intended to develop a five-year implementation plan (2015-2020) grounded in the goals and focus areas of the NHSSP. The motto for this effort, developed in 2010, is '1 plan, 1 budget' to streamline activities and avoid duplication of efforts. The implementation plan for this process is still in development.

One key issue that will be addressed in the implementation plan will be public financial management (PFM), so that the Timor-Leste health system will realize financial efficiency gains to withstand the impending budget crisis. Further key focus areas are human resource planning and implementation of the national primary health care strategy, as well as the strengthening of the procurement system.

The following three sections provide a situational analysis as well as key recommendations on these three main areas.

3. FINANCIAL MANAGEMENT AND ADMINISTRATION

3.1 Overview

In Timor-Leste, public health services are financed by the GOTL and donor support. Health care in public facilities is free of charge; out-of-pocket expenditures are consequently low, less than 4 percent of health spending, and impoverishment due to health service fees also is very low (Australian Aid & Asian Development Bank, 2011).

The Timor-Leste health system must overcome four major health financing challenges: 1) achieving sustainability as donors exit and as Timor-Leste grows its non-oil economy; 2) addressing the fiscal demands of a growing health workforce; 3) tracking and adjusting resource flows to reach allocative efficiency and optimal health system performance; and 4) resolving the disconnect between planning, budgeting, and allocation.

Overall, the GOTL has made impressive progress in the recent past in laying foundations for sound PFM, in spite of weak institutional capacity. With the support of development partners and technical assistance, the GOTL has passed the Budget and Financial Management Law (2009), reached approval of the implementation of the Financial Management Information System (FMIS) using Freebalance software, established a single account treasury, passed the Petroleum Fund law, and established the Petroleum Fund in 2005. Nevertheless, recent PFM reports indicate that the (health) financing system still faces several challenges and planned system improvements. In particular, the office of the Prime Minister hopes to move from line-item budgeting to a project-based budgeting (PBB) model. However, the budgeting process is set by decree laws, and hence, the Ministry of Finance (MOF), the organization that approves and enacts decree laws. Thus, any financing reform needs to be led by the MOF, and will take effect only after a change in decree laws to PBB.

At present, there is no connection between the MOF and line ministries to move from line-item budgeting to PBB. To create a link or a roadmap toward PBB, the MOH developed an overarching PFM Roadmap as outlined in the NHSSP 2011-2030. The roadmap sets out steps and goals and includes strengthening relationships and communication with the MOF in order to bring about reform. The MOH PFM Working Group was established, after some delay, in 2014, and has met several times with the MOF in order to initiate reform. One of the core objectives of this working group was to determine a pathway and a process to move from Traditional Budgeting to PBB. This working group would also oversee the training program of financing officials for the MOH. Thus, one of the long term objectives of the PFM training unit was also to establish training program at the MOH level that is not only sustainable, but would produce quality, well-trained financial officials to support its health objectives. Currently, the PFM Working group, who meets once a month and by invitation by the MOH only, is falling behind in its task of the implementation of the roadmap, and trainings for finance officers did not commence until mid-2015.[3]

[3] The PFM Working Group consists of members specifically working on public financial management including MOH Directorate of Finance, the Planning Department and other relevant MOH members, the Advisers who were funded under the World Bank project working on PFM reform (support ended June 2015), DFAT (who funded the World Bank Project), the EU, and the members of the Ministry of Finance, particularly those working on capacity building/PFM reform. USAID was extended

As of early 2016, the National Directorate of Finance Management & Procurement is working towards the 2013-2017 PFM Road-Map expectations from the NHSSP 2011 - 2030.

Still, the PFM Roadmap has not yet brought about a change in the decree laws affecting a move toward PBB. While a change was discussed in fall 2015, the MOF decided against it in late 2015. It will thus take at least another budget cycle before such a change can be made in the budgeting mechanism. Hence, potential strategic support of the PFM roadmap by USAID could help establish the necessary impetus to actualize the very much needed finance and budget reform, as per discussions with local USAID mission staff.

3.1.1 Financial Management and Administration

In 2015, the MOH Directorate of Finance coordinated the planning and budgeting process for 2016, which was updated from that of previous years: In the past, the budgeting process was coordinated by the Department of Planning under the Directorate of Finance. In 2015, Planning was moved to the MOH Directorate of Policy, Planning and Cooperation.

The 2016 budgeting process had seven major steps:

1. Districts were asked to put together a district plan using a template with line items under specific activities
2. Districts/Departments were given a budget ceiling (for the first time in 2015)
3. The District/Department budget was submitted to central-level MOH
4. The central-level MOH enters the plan into FreeBalance software by line item (reviewed and checked centrally), and submits it to the MOF
5. The MOF budget was prepared under the broad categories of Good/Services/Salaries and Minor Capital. (Major Capital has a separate budget under the Office of Strategic Planning)
6. The MOF granted final budget according to FreeBalance categories and the categories in the preceding point
7. The final budget was returned to the MOH, which then sub-divided the budget for the districts/departments as line items

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a courtesy invitation to the meetings since the local USAID representative had special expertise in PFM, and hence attended most meetings since inception.

3.1.2 Health Financing Challenges

The Health Resource Tracking Study (World Bank, 2014), investigating the issue of centralized health funding and financial bottlenecks, revealed large inefficiencies due to line-item budgeting, leading to overspending, unmet needs, and delayed financial disbursements:

> "…The goods and service budget is still prepared on a line item basis, rather than by program or activity, and examined that way during the national budget process. […] The line item budgets are mostly set incrementally (i.e. based on the previous year's budget), or in an arbitrary way that reflects an overall budget ceiling but does not take into account the specific activities or needs of the district. As a result, the district level goods and services budgets are not particularly closely related to the activity plans of the districts, their needs or their cost structure. […]This co-existence of wildly inaccurate budgeting of individual line items combined with almost perfect execution rates at the category level shows that expenditures are not being controlled at the line item level.[…] … Eventually, this leads to the accumulation of dramatic debts at the district level to suppliers and also to health staff who sometimes pay out of pocket when facility funds are not available. Accumulated debt is not formally recorded in the books."
>
> (World Bank, 2014)

The findings of the World Bank study were mentioned in every interview by the rapid assessment team. Both key policymakers and development partners highlighted the strong need for financing reform and suggested or agreed to a move from line-item budgeting to PBB – which as mentioned above is being discussed in reform and implementation strategy meetings.

Currently, the management of health funding is highly centralized in the central-level MOH, and was described as a highly 'micro-managed' process (Coté, 2015). The MOH has been called upon to improve both the quality and operations of its spending. On June 11, 2015, the Council of Ministers passed Decree-Law 22/2015, effective July 9, 2015. The law created a Planning, Budgeting, Monitoring and Assessment Unit (UPMA) under the Prime Minister "to connect the annual plans from State Institutions to the General State Budget in a more explicit way" (Coté, 2015).

Another challenge is presented by the health financing bottlenecks. For example, districts are supposed to receive operating cash in advance of making payments. In practice, the first installment arrives several months into the year, and financial processing until the funds can be used can take up to 45 days. Amounts paid are often less than costs incurred, or they are simply not paid, especially near the end of the year. The imprest system requires an activity proposal to approve payments, and these payments must be fully expended before a new imprest can be released. This system causes a gap at the beginning of the process, and again at the end while accruals are processed: regardless of the speed of processing, the system will delay payment and should be re-examined.

Despite a theoretically 'decentralized' system, expenditure approval remains centralized. Expenditures up to $1 million must be approved by the MOH Director General, and expenditures over $1 million must be approved by the Minister or Vice Minister. As a result, the Cabinet is currently signing cost per visit (CPVs) worth less than $50. As Coté (2015) reported, "DNARH approving every single oil change for MOH cars is another good example of this tendency to extreme centralization."

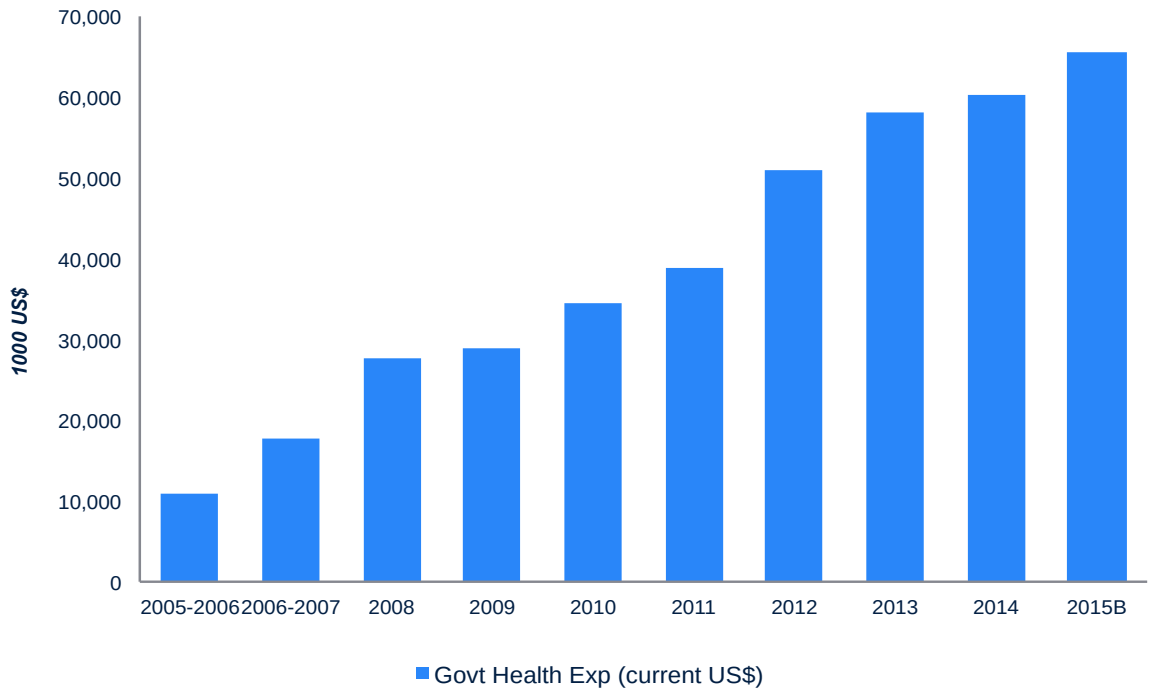
In addition to the necessity of an updated financing and financial reporting mechanism, the impending funding shortfall and donor exit are posing major challenges to Timor-Leste's health system. A short overview and a situational analysis thereof are provided in the upcoming sections.

3.2 Sources of Health Financing

3.2.1 Government Funding

Between 2008 and 2014, roughly 62 percent of Total Health Expenditure (THE) in Timor-Leste was GOTL spending (World Bank, 2014). In 2016, government health spending is expected to drop as much as 12 percent from 2015, in dollar terms from $68 million to about $55 million, $60 million at most (Figure 4).

Figure 4: Actual Government Health Expenditure



Source: (Hou & Asante, 2015b)

Continuation of the current allocation of government health resources can potentially be detrimental to the health system. Several key expenditure trends are particularly worrying and need to be carefully monitored:

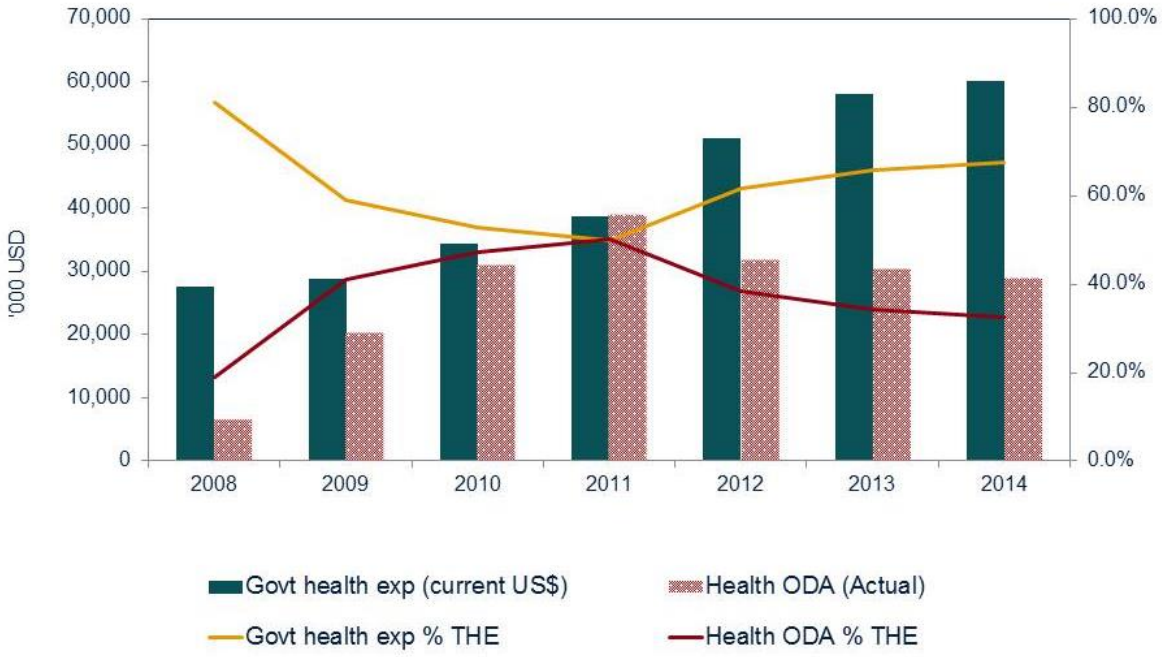
- High spending at the central MOH level, which will jeopardize efforts to expand health services in the districts;
- The rapidly rising health salary and wage expenditure; and
- The extremely high percentage of district health budgets expended on salaries – constraining the expansion of services in the districts, thus making the financing of service delivery dependent on shrinking donor assistance

The cross-cutting health financing issues of misallocation, tardiness, and financial micromanagement at the central MOH level reinforce each other. The district goods and services budgets are not well-linked to national policy or district-level plans or needs, making the budget a poor expression of primary health care goals and needs and increasing the likelihood of budget over- or under-runs.

3.2.2 Donor Funding

Timor-Leste's health sector has been a key beneficiary of donor funding: approximately 12 percent of Official Development Assistance (ODA) in Timor-Leste is allocated to health, and it contributes 38 percent of THE (from 2008 to 2014) (Figure 5). In 2011, a half of THE was due to donor funding. In dollar terms, Hou & Asante (2015a) showed that total ODA in Timor-Leste rose from $11.3 million in 2005 to $275.9 million in 2014, an average of around $170 million per year and a nominal growth of nearly 2,338 percent over the 10-year period.

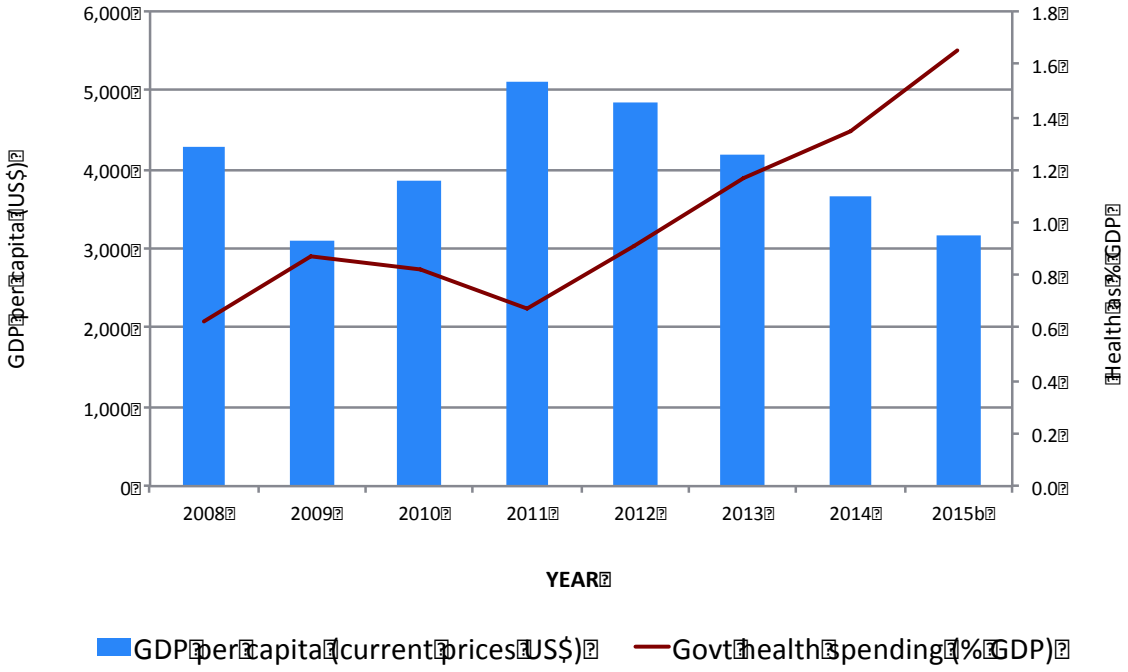
Figure 5. Government Health Expenditure and Donor Health Funding as a % of Total ODA, 2008-2015



Source: (Hou & Asante, 2015b)

Overall, aid additionality was low – in years that donor funding of health substantially increased, government spending decreased (Hou & Asante, 2015a). Figure 6 shows this negative correlation between donor and government health spending. For example, when donor funding rose from 19 percent of THE in 2008 to 50 percent in 2011, government health spending declined by a similar amount: from 81 percent to 50 percent of THE.

Figure 6: GDP Per Capita and Health Expenditure as Percentage of GDP, 2008–2015



Source: (Hou & Asante, 2015b)

However, this association might not continue: Since 2012, ODA has been decreasing, and it is projected to fall rapidly from 2016 to 2019. Australian Aid (DFAT) has been the largest donor, providing more than a third of total ODA to Timor-Leste between 2011 and 2015. Other key donor agencies have been the Japanese International Development Organization (JICA), Portugal, Asia Development Bank, USAID, and the European Union. Together the six agencies provided more than 70 percent of the total ODA in Timor-Leste between 2011-2015 (Hou & Asante, 2015a).

It is expected that some donor funding will remain over the next five years (until 2020). Despite the plan to wean Timor-Leste from donor funding by then due to its recent classification as a LMIC, actual ODA has historically exceeded planned ODA. Further, the fact that close to 50 percent of Timor-Leste's population still lives under $1.25 per day emphasizes the need for sustained donor funding. Still, health care fiscal space issues will need to be considered in light of decreasing donor funding, the fiscal pressures from increasing health workforce salaries, and an increase in HRH (Coté, 2015).

3.3 Ensuring the Sustainability of Financing

To address the imminent fiscal space issue, the MOH will need to estimate the incremental recurrent costs from donor spending. The lack of data and absence of a standard monitoring framework make this difficult.

Solutions to address fiscal space issues in the wake of decreased donor funding include reviewing MOH, Ministry of Education, and private sector funding. In particular, the International Finance Corporation is examining the potential of public-private partnerships in diagnostic services.

3.3.1 Distribution of Health Dollars

Government health expenditures at the central MOH level represented the highest share of total government health expenditure between 2008 and 2014. Central-level health expenditure grew by nearly 198 percent in nominal terms from US$9.3 million in 2008 to US$27.7 million in 2014 (from 18.9 percent to 60.5 percent of THE). As mentioned in earlier sections, the high rate of resource centralization at the central MOH may be due partly to the limited decentralization of functions and weak capacity in the districts.

According to a recent World Bank report (Hou & Asante, 2015a), the proportion of government health expenditure consumed by hospitals is low compared to other countries in the same income group. Between 2008 and 2014, hospital-level expenditure grew by 66.6 percent, from US$8.4 million to US$14 million. However, hospitals received a declining share of government health expenditure. Between 2008 and 2014, MOH salary/wage expenditures increased by 344 percent, from US$5.5 million to US$24.4 million. As a proportion of total government health expenditure (financed with allocations from the state budget), this was a 103 percent increase, from 20 percent of total government expenditure in 2008 to 40.5 percent in 2014. Non-salary recurrent expenditure (in this analysis, goods and services plus training and workshop expenditures) increased by about 106 percent, from US$16.5 million in 2008 to US$34 million in 2014.

3.4 Suggested Impact Areas

3.4.1 Need-driven budgeting and staffing

Key personnel in the MOH Directorate of Finance and high-level technical advisors are advocating for programmatic and need-based budgeting. That is, this recommendation is demand-driven and in alignment with best evidence. Changing from line-item budgeting to need-driven programmatic budgeting (including a move toward need-based staffing strategies) will lead to targeted spending and help substantially reduce system inefficiencies. It will also lead to savings in administrative costs. An example of current inefficiencies that will be addressed is that of aligning fuel purchases for medical vehicles with need, to prevent fuel stock-outs or shortages.

The shift to need-driven budgeting will be an iterative process. The first step will be to improve the input-based budget process of the MOH, by doing needs assessments and basing modifications on the findings. Consideration could be given to piloting a 'budget-neutral, results-based component' as part of the budgeting process.

In addition to improving the budgeting process, enabling provider autonomy (particularly for district, referral, and national hospitals) has the potential for achieving substantial efficiency and quality gains. Greater provider autonomy will also prepare Timor-Leste for greater fiscal decentralization. However, greater provider autonomy will require skill building of mid-level managers in financial management. Key, but limited, personnel in the MOH have greatly benefitted from training in health systems strengthening and financial management. Broadening this assistance to more mid-level managers and embedding experienced financial advisors in the MOH will help move the system toward programmatic budgeting. As one key health official noted during an interview, the "program-based budget at the district level will be as good as the district manager." Also, in the long-run, to enable PBB, a change in decree-laws will be necessary. The change will only be possible with strong support and leadership of the MOH and the MOF.

3.5 Recommendations for Strategic USAID Engagement for Improved Health Financing

Currently, there is no shortage of informed strategies to improve Timor-Leste's health system. However, a key challenge and expressed need has been how to move from strategy to implementation, and how to translate health systems concepts into practice. This area will be key for upcoming donor support, and is an area where USAID has expertise gained from the many global health reform projects it supports.

Some high-impact areas for future USAID investment in the health financing process are:

1. Support/co-support of a health financing champion in the MOH Directorate of Finance. (A champion with several years of experience has already been identified and is in part supported by DFAT)
2. Provide implementation support for more efficient financing mechanisms and support mid-level management capacity building in the Directorate of Finance
3. Build managerial capacity, especially at the mid-management level in the MOH and at the district level

4. HEALTH HUMAN RESOURCE MANAGEMENT

The management of adequate HRH is an ongoing challenge for Timor-Leste's health system. Although the government has made significant progress toward ensuring appropriate recruitment, distribution, and training of available staff to fill health care and management gaps, significant challenges remain.

Emerging from key stakeholder interviews and HRH assessments by Coté (2015) and the World Bank and Oxford Policy Management (2015) is a serious concern about the general level of human capacity in Timor-Leste. Some have likened the human capacity issue to that faced by the worst-faring sub-Saharan African States; illiteracy rates among 15-year-olds are as high as 50 percent; mid-level positions like pharmacist or management positions remain empty due to lack of skilled personnel; and even the skills of trained personnel are minimal.

To address the human resource needs, Timor-Leste requires long-acting capacity planning and strategies that target the full spectrum of human capacity building and sustainability, including investment in family planning, education, need-based staffing, specialist training opportunities, merit-based staffing, and defined career trajectories. The human resource system needs to be need-based, responsive, and of increased capacity.

4.1 Quantity of Health Workers

Post-independence, the government worked to narrow the gaps in the health workforce. As a result, from 2002 to 2014, the MOH workforce increased from about 900 in 2002 to 1,643 in 2004, and to 4,212 in 2014. This is in large part attributed to the GOTL decision to send approximately 1,000 medical students to Cuba for training (Ministry of Health, 2011). The Cuban medical training program was extremely effective in quantitatively addressing the critical physician shortage post-independence. Still, there are significant challenges regarding the clinical skills of this relatively inexperienced cadre, as well as their appropriate tasks with regard to community health outreach.

Despite the fact that the health workforce grew faster than the population, the composition of the workforce does not meet the HRH requirements set out by the government on average. For example, there is not enough staff to fulfill the 'seven health worker per suco' plan.[4] Notably, this model not only surpasses the WHO recommendation for adequate staffing, but it is also financially unsustainable in the short and long term, according to a recent World Bank analysis (Hou & Asante, 2015b).

Staffing at the MOH also faces several challenges. There is a rotation of posts every two years, with posts often filled irrespective of qualification and training. As of fall 2015, the MOH is moving toward merit-based staff selection. While this is a step in the right direction, everyone up to the district level is re-applying for their jobs, and this might result in further instability in the management and the execution of the national health agenda.

[4] The Cuban community health model is based on a 1 doctor: 1 nurse ratio at the community level. The seven health worker per suco model has 2 doctors: 1 nurse ratio.

4.2 Distribution of Health Workers

Perhaps more critical than health care worker quantity are worker distribution, training level, and cadre composition. While there is a sufficient number of physicians (on average), there is a true shortage of nurses and midwives in most districts (Hou & Asante, 2015a). As has been mentioned, there is a 'know-do' gap in the physician workforce, often due to lack of clinical experience as part of their training in Cuba, and too few senior physicians in the current health workforce (World Bank & Oxford Policy Management, 2015).

While several facilities are overstaffed, others are severely understaffed. A lack of experienced managers has led to nurses and other clinical staff taking on much of the responsibilities of running health facilities. Even if a clinical health worker is present in the facility, there may be a perceived shortage if they are taken away from their clinical responsibilities (Coté, 2015). This issue is expected to worsen as the doctors trained in Cuba will be managed by management-inexperienced senior nurses. Hence, almost all facilities could gain greatly from improved management and staff morale (Coté, 2015).

To address current and future staffing needs, a recent World Bank report (Hou & Asante, 2015a) modelled three different staffing scenarios and their respective financial feasibilities. The first model, the seven health worker per suco model, is not financially feasible. The only model found to be financially feasible is the WHO Millennium Development Goal of 2.28 service delivery staff (0.55 doctors, 1.73 non-doctor direct delivery staff) per 1,000 people. This would necessitate maintaining the current physician per capita ratio, as well as significantly increasing the number of midwives per capita.

Despite staffing shortages and allocation issues, the health fiscal space remains extremely tight. The increase in staffing over the past decade, paralleled by an increase in personnel salaries (mainly to keep up with inflation, often >10 percent annually), has crowded out funding for services and facilities and equipment. Recent financial projections add to the concern that these financial issues need to be addressed sustainably. Overall, there is great need for adequate resource allocation and budgetary planning that takes into account acute and long-term needs (Ministry of Health, 2011).

There is a wide variation of health staff within districts. Health personnel are concentrated in more urban areas, thus leading to average travel times from rural areas to clinics of close to two hours. (The target is a less than one-hour walking distance.) A recent study by Deen et al. (2013) revealed that over 25 percent of households were more than two hours away from their usual health care provider (Deen et al., 2013). To address the rural staffing shortages, incentives in the form of subsidies are given to those who take rural posts. The latest human resource plan also addresses this mal-distribution of staff, calling for a shift from a normative to a need-based staffing model, linked to budgeting.

4.3 Quality of Health Workers

Over the last decade, over 1,000 Timorese university students were trained as medical doctors in Cuba, and over 700 have returned thus far, with the majority having returned in 2012. However, the quality and appropriateness of their skills is in question. They were trained in a public health preventive model and received very limited clinical training. Therefore, they require further clinical training in the form of general residency and specialty training. There is only one tertiary facility that provides minimal services. For many complex procedures, patients are transferred to tertiary facilities in neighboring countries.

Oversight structures in place for returning medical workforce from Cuba are weak (USAID, 2012). Further, there are few mentoring programs for newly trained physicians, which is simply a function of the age composition among physicians: because the mostly Indonesian physician workforce disappeared over a decade ago and the Cuban training was so recent, 90 percent of physicians are between 24 and 34 years of age. The age distribution is different among midwives and nurses: most midwives are 35–49

years old though a quarter are 24–34 years old. There are more male than female nurses, and most are in the 35–49-year age group.

A recent HRH review by Coté (2015) further questioned the quality of both health care workers and health administrative workers. It highlighted the lack of motivation across staff levels, the lack of adequate staffing across shifts, high rates of absenteeism and lateness, as well as lack of adequate attendance to patients' needs, due to poor management and accountability (Coté, 2015). Further, the report revealed a lack of performance optimization. For example, nurse assistants perform the same tasks as nurses with six years of training.

4.3.1 Specialization and Training

Medical specialty trainings are still few and far between, and there is great need for long-acting capacity building. Only 50 medical specialists are practicing in Timor-Leste, hence most complicated cases are referred and evacuated to overseas facilities.

The majority of the Timorese medical specialists were trained by the DFAT-funded medical specialty training program, which started in 2012. The program set out to train 12 specialists as part of a two-month rotation at the Guido Valadares National Hospital. The training focused on IUDs, implants, and family planning counselling. Building on this success, an additional specialist training program by the Australian government in 2012 graduated three medical specialists in anesthesia, three in surgery, and three in pediatrics. As of 2015, each annual cohort of this specialist training program includes four fellows each in anesthesia, surgery, and pediatrics. In addition, this program also performs obstetric training at the medical intern level; there currently is no post-graduate diploma in obstetrics in Timor-Leste.

In terms of public health (financing management) training, additional resources and technical assistance are needed, also.

As discussed above, in 2016, the 29 newly autonomous health entities (including SAMES, the National Hospital, and the National Laboratory) will receive budgets directly bypassing the line ministry. Since this change will occur without much lead time between the appraisal in 2015 and the establishment of the autonomous entities in 2016, the MOF might experience additional strain in supporting this process. To accomplish the decentralization, the MOF will roll out FreeBalance, the current PFM software, to all new autonomous entities. The autonomous entities will need to recruit and train staff to work on this system. The MOH has in-house training capability but its training unit will be strained to respond to this need. The MOH currently funds the training unit. Thereafter, there will be required support for institutionalizing the administrative, human resource, management, and PFM requirements of the autonomous entities.

4.3.2 Investing in Human Capacity

Human capacity remains extremely weak in Timor-Leste. This is related not only to the performance of the health sector, but to a weak education system, a staggeringly high fertility rate, and continued poor maternal and neonatal health, including severe malnutrition of the mother and baby.

To address human capacity issues, and to break the cycle of poverty, malnutrition, high fertility rates, low educational achievement, and un-sustained development efforts, there needs to be better integration of plans between the Ministry of Education, Institution of National Service Education (INS), and the MOH. There is no national policy or strategy regarding specialist training.

4.4 Opportunities for Donor Involvement in HRH Improvement

Human resource planning, training, and the quality of care provision are closely interconnected. The lack of management and leadership skills in key positions of the Timor-Leste health system correlates with overstaffing (during the day) and understaffing/ lack of performance at night, and with the fact that there is insufficient staff in many facilities to handle both static and outreach services. In addition to poor management at the delivery and the administrative level, there is a weak overarching civil service structure, and the civil services reform has yet to be finalized.

A key finding from the review and the stakeholder interviews was that investment in mid-level management capacity to improve the efficiency and quality of care provision would be a 'low-hanging' fruit of donor investment. Key external advisors have longstanding experience in and knowledge about Timor-Leste, and the MOH human resource unit has expressed great interest in continued collaboration, to further implement the recommendations of the past HRH assessments.

Another key impact area for donor investment is mid-level managerial training, with the hope that this will improve institutional capacity and sustainability. Currently, MOH staff rotate every two years, and a person's placement often does not match his/her skill level. The high rate of staff transition enhances complacency and impedes creation of institutional memory.

There is a wide variation of health staff within districts. Health personnel are concentrated in more urban areas, thus leading to average travel times to clinics of close to two hours. (The target is a walking distance of less than one hour.) Solutions to this unequal distribution might be found in more efficient staffing, innovative mHealth/ eHealth solutions, and improved infrastructure. As the MOH is strongly committed to taking services to the people, innovative ways to do this should be considered due to practicality concerns.

4.5 The Civil Service Commission and Human Resources

Overall, there are weak governance structures for the human workforce, coupled with the Civil Service Commission's (CSC's) work on standardizing entry requirements for civil servants and salaries. The CSC is a relatively young organization, and is technically and financially supported by the Australian government. Its four commissioners are key, impartial decision-makers for civil services.

The key tasks of the CSC are to:

Process salary requests;

- Do recruitment;
- Support a policy planning unit; and
- Support the human resources system (based on a Portuguese system)

The CSC further focuses on building leadership and capacity, building professional cadres (for example, via the Young Professional stream in the government), and supporting the civil service system shift toward a position-based model. The CSC further supports a decentralized, need-based staffing system, which would move away from the seven health worker per suco model.

The CSC's concrete goals in the medium term are to conduct a staffing diagnostic; to improve the management and leadership core across the ministries, based on a competency framework that sets out a core set off skills; and to ensure that leadership positions are based on merit, which will be critical for the long-term success of the GOTL. Any donor support for the managerial capacity building

recommended elsewhere in this report will need to be coordinated with the CSC, and should be aligned with their priority areas.

4.6 Overall HRH Recommendations

Based on these challenges in HRH management, the following set of recommendations arises for the facility and the governance level:

1. Establish a national health workforce plan, based on a national needs assessment;
2. Improve staffing plans in hospitals, allowing for staffing flexibility;
3. Develop standardized and performance based job descriptions;
4. Adopt use of e-management software and electronic medical records; and
5. Harmonize the Indonesian model, *Saúde de Familia* (family health) model, and Cuban model

Further recommendations, based on our assessment and key informant interviews were:

- Conduct a staffing diagnosis (starting with management/ leadership core);
- Make all leadership positions merit-based;
- Institutionalize leadership courses across the health sector; and
- Continue the CSC-imposed recruitment freeze until the fiscal impasse is resolved. (The freeze does not prevent staff being recruited on temporary contracts to delivery services under donor funding, for example, GAVI and Global Fund.)

4.7 Recommendations for Strategic USAID Engagement

One area of low-cost, high-impact support would be the implementation of HRH reforms based on the HRH functional analysis, including embedding an HRH implementation expert in the MOH. Both the MOH and development partners support this strategy. A second high-impact reform would be to increase and sustain support for managerial capacity building, especially at the mid-management level in the MOH and at the district level. These efforts should be coordinated with other development partners, to both transfer capacity and sustainability to Timor-Leste. Specific supported strategies could include technical and financial support of career workshops and management training programs as well as coordinated activities and improved curricula by the INS. Such support could be coordinated with other development partners, in particular with DFAT, which is already supporting the CSC.

5. IMPROVEMENTS IN HEALTH SERVICES AND PROCUREMENT

5.1 Procurement System Challenges

SAMES is a legally autonomous entity but functions as a department within the MOH. Due to reports/ speculation of corruption in the procurement processes, a Temporary Committee of Management and Operation was established for SAMES in 2014. After the committee's report, which was released late 2015, SAMES re-gained its financial autonomy in the first quarter of 2016.

SAMES faces several challenges, primarily drug stock-outs, distribution, management, human capital, and quality control. Essential medicines stock-outs were frequent in 2014; 33 percent of facilities reported a stock-out of essential medicines in 2014. Only 4 percent of health posts have pharmacists. The procurement is painstakingly slow: there are disbursement delays from the government, delays for clearance at the port, and delays in distribution to health facilities.

Another important issue is drug quantification: there is no accurate or standardized method for quantification at the district or hospital level. Further, inventory control in public facilities is poor. Inventory is kept manually, there is no collation of consumption at the district level, and consumption data between SAMES and the Pharmacy Department is mismatched. Emergency orders occur frequently, and district-based pharmacists are at times unable to supervise drug management and monitor drug consumption. Also, expired drugs are regularly found mixed with in-date drugs.

In the Health Improvement Project's focus districts, stock-outs of drugs were found to be common in the latest facility readiness supervision cycle. Out of the 31 health posts supervised, less than half had a full stock of emergency drugs and essential drugs, and almost one fourth did not have IFA tablets. Health centers were better stocked; however, more than one third did not have the full stock of emergency drugs and 36 percent lacked some essential drugs (World Health Organization, 2015).

Table 4: Results from Latest Drug Readiness Supervision, Jan-Mar 2015

Drugs Checked	Availability (%)	
	Health posts (31 assessed)	Health centers (11 assessed)
Labor room drugs	94%	91%
Emergency drugs	45%	73%
Essential drugs	45%	64%
Iron Folic Acid (IFA)	77%	100%

Source: (World Health Organization, 2015)

Warehousing remains inadequate (no barcoding system in place, no contingency cold rooms and/or freezers) and the entire national supply system has only four trucks for delivery, all without a pre-installed fridge. The first-in, first-out system is not well established. In 2012, SAMES reported about 1.6 million of expired drug doses. In 2014, this was reduced to 400,000, which indicates good progress. Still, further training on the use of the m-Health system is needed. The procurement process also suffers from lack of wide advertisement for purchasing orders, there are no pre-purchase agreements, and drug quality is not assessed nationally. Few framework contracts exist and management contracts are not well done. Lastly, there is no/ very little working capital at SAMES itself (though it is the Prime Minister's vision that SAMES has its own working capital).

5.2 Overall Recommendations for Procurement

A 2012 WHO report on the drug procurement process in Timor-Leste recommended that SAMES publish distribution data annually and that all pharmacy technicians and assistants be trained in drug management and quantification (World Health Organization, 2012). An additional recommendation was to put in place adequate budgeting processes, that funding be distributed in a timely manner, and that there are adequate processes to monitor inventory levels and process orders on time. Further, it was suggested that SAMES should consider entering into mainframe contracts and/or have an approved list of suppliers for drugs. These WHO recommendations align very closely with the findings of this rapid assessment.

Further, interviews with SAMES officials identified the following high-priority needs:

1. Clearly defined core functions of SAMES
2. Improved supply chain management
3. Improvement in quality and training of human resources
4. Increased expertise in procurement
5. Sufficient financial resources to maintain quality staffing

5.3 Recommendations for USAID Support for Procurement

The procurement system will benefit greatly from need-based purchasing, the development of framework contracts, wider international advertising of drug orders, and a reduction in drug stock-outs by allowing SAMES greater autonomy over an operating budget.

High-impact donor investments may involve the support of a trusted technical advisor, and help to build institutional capacity and need-based procurement of drugs and supplies via SAMES. USAID could support this, but other development partners (World Bank, World Food Program) might have a comparative advantage in providing primary support. As SAMES gets only piecemeal institutional support, the World Food Program might be optimally positioned to provide capacity building to SAMES.

6. CONCLUSION AND NEXT STEPS

The rapid literature review and in-country key informant interviews that informed this assessment of the Timor-Leste health system have revealed that it has made remarkable progress since 2002,[5] but that it faces a financing and human resource crisis.

Notwithstanding Timor-Leste's status change from low- to lower-middle-income country, health indicators such as chronic malnutrition reflected in the 58 percent stunting rate, high fertility rates, and high maternal mortality rates across the socio-economic spectrum paint a dire health and human resource picture.

While technically sound health system strategies abound, the rapid assessment revealed that averting the impending crisis will demand strategic investment in institutional capacity building (in particular of mid-level management) and increased financial efficiency to establish and execute a novel health financing strategy. Continued co-investment by development partners in these areas could help Timor-Leste's long-term progress toward a stronger health care system and a healthier population.

We recommend further strategic investment by USAID in Timor-Leste's health care sector overall and, specifically, to:

1. Support/co-support a health financing champion in the MOH Directorate of Finance
2. Provide implementation support for more efficient financing mechanisms and support mid-level management capacity building in the Directorate of Finance
3. Support/ co-support a pre-identified HRH implementation champion. This strategy would be both supported by the MOH as well as donor partners
4. Build managerial capacity, especially at the mid-management level in the MOH and at the district level
5. Support a trusted technical advisor, and help to build institutional capacity and need-based procurement of drugs and supplies via SAMES

[5] The World Bank's 2011 World Development Report (World Bank, 2011) estimates that it takes a country that has experienced a conflict 15–30 years to transition out of fragility. Thus, the World Bank calls Timor-Leste's development remarkable.

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