

EVALUATION OF RURAL INCENTIVE SCHEMES FOR HEALTH WORKERS IN TIMOR-LESTE

USAID Health Systems Sustainability Activity

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Local Health System Sustainability Project

The Local Health System Sustainability Project (LHSS) under the USAID Integrated Health Systems IDIQ helps low- and middle-income countries transition to sustainable, self-financed health systems as a means to support universal health coverage. The project works with partner countries and local stakeholders to reduce financial barriers to care and treatment, ensure equitable access to essential health services for all people, and improve the quality of health services. Led by Abt Associates, the five-year, \$209 million project will build local capacity to sustain strong health system performance, supporting countries on their journey to self-reliance and prosperity.

Submitted to: Scott Stewart, COR

Office of Health Systems Bureau for Global Health

Teresa Miller
General Development Office Director
USAID/Timor-Leste

Dr. Teodulo Ximenes Activity Manager/Project Management Specialist - Health Governance USAID/Timor-Leste

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ACRONYMS

CHC community health center

CHC I community health center level I

CSC Civil Service Commission

ESP essential service package

GoTL Government of Timor-Leste

HR human resources

HRH human resources for health

INS Instituto Nacional da Saúde (National Health Institute)

LHSS Local Health System Sustainability Project

МоН Ministry of Health

NDHR National Directorate of Human Resources

NHSSP National Health Sector Strategic Plan 2011–2030

NHSSP II National Health Sector Strategic Plan II 2020–2030

NSPHRH National Strategic Plan for Human Resources for Health

SAMES Serviço Autónomo de Medicamentos e Equipamentos de Saúde (Autonomous

Service for Medicines and Medical Equipment)

SISCa Serviço Integrado da Saúde Comunitária (Integrated Community Health Service)

SOP standard operating procedure

TLHIS Timor-Leste health information system

UNTL University of Timor-Leste

WHO World Health Organization

BRIEF HISTORY OF HEALTH WORKERS

The violence provoked by the independence referendum in 1999 displaced about 300,000 Timorese (Bertone et al. 2018). This includes the emigration of foreign-born clinicians; most of the 135 doctors working in Timor-Leste left, with only 26 remaining in the entire country. The social, economic, and administrative structures as well as the infrastructure in Timor-Leste were destroyed (Tulloch et al. 2003).

By 2001, the Ministry of Health (MoH) had succeeded in recruiting 724 health workers, but high vacancy rates persisted in Dili (59 percent) and the National Hospital (96 percent) because of the lack of higherlevel trained specialists (Civil Service and Public Employment Office 2001, Bertone et al. 2018). Health posts and community health centers also lacked competent and qualified health personnel to deliver the basic services needed. With high rates of maternal mortality, maternal and newborn tetanus, malnutrition, and communicable and noncommunicable diseases, the government prioritized the acquisition of sufficient numbers of highly trained health workers.

A diplomatic agreement between Timor-Leste and Cuban leadership in 2003 resulted in a game-changing increase in the number of medical doctors: by the end of 2004, the Cuban Medical Brigade had agreed to train 1,000 local doctors in Cuba and deploy 300 Cuban doctors to do the training (Bertani 2014). Medical students in Timor-Leste were selected for a scholarship based on the need in their Suco (village), though preference was also sometimes given to children of veterans. The students were required to return from Cuba to their village after completing training and be absorbed into the public sector, working for at least six years for the government before moving to the more lucrative private sector if they so wished. By mid-2018, 934 doctors had completed this Cuban-supported program (Bertone et al. 2018). This effectively increased the ratio of doctors to population from 0.03 to 0.71 doctors per 1,000 people, making the ratio the highest in Southeast Asia (though still below the World Health Organization (WHO)-recommended ratio of 1:1,000).

In 2007 the Cuban-supported program was amended to train health professionals simultaneously both in Cuba and the National University of Timor-Leste (UNTL). From 2008, the program then shifted to train exclusively in UNTL in cooperation with the Cuban Medical Brigade. From 2010, other accredited private institutions - such as Universidade Oriental de Timor-Lorosa, Universidade da Paz, Universidade de Dili, Instituto Superior de Cristal, and Instituto Ciencias de Saúde – also began to train several hundred Timorese students as nurses, midwives, and other public health practitioners. The output of these accredited health institutions is presented in Table 1. As a result, the number of health workers has increased substantially over the past 15 years, doubling in the past five years alone. By August 2017, there were 4,911 public servants on the MoH payroll, compared with just 900 in 2002 (National Health Sector Strategic Plan II 2020-2030 [NHSSP II] 2021).

With the growing number of new medical graduates joining the workforce has come a great opportunity for the government to deploy them to rural areas. The massive number of new graduates from the Cuban program, augmented by smaller numbers of others who received training from overseas countries other than Cuba, has given the ministry a sufficient pool of health workers to meet the government's human resources (HR) targets: to staff each of the 498 villages in the country with one generalist doctor, two nurses, two midwives, and a laboratory technician, as set forth in its Strategic Plan 2011-2030.

Table 1. Output from Accredited Health Training Institutions

Institute	Cadres produced	Annual Average Output
	Specialist doctors (through partnership with Cuba)	10
	General doctors	60
UNTL	Nurse	95
J	Midwives	80
(public)	Nutritionists	30
	Pharmacy technicians	30
	Biomedical scientists	30
Universidade	Nurses	100
Oriental de	Public health specialists*	10
Timor-	Nutritionists	15
Lorosa (private)	Biomedical scientists	35
Universidade da Paz (private)	Public health specialists*	455
Universidade de Dili (private)	Dental therapists	50
Instituto	Nurses	15
Superior Cristal (private)	Midwives	15
Inations	Nurses	45
Instituto Ciencias de	Midwives	150
Saúde	Nutritionists	24
Saude	Pharmacy technicians	60
TOTAL		1,309

Source: extracted from National Strategic Plan for Human Resources for Health (NSPHRH) (2021).

However, this opportunity comes with great challenges. The increase in the country's financial burden from a growing health workforce is unavoidable. As of 2016, about 80 percent of the health budget went to health workers' salaries. The relative size of this investment in human resources for health (HRH) indicates the need to ensure that those funds are effectively and efficiently spent. In addition, there is a need to retain those professionals who will soon be freed from their six-year contract that requires them to work in the public sector. While opportunities outside the public health sector are limited, the MoH can build on existing incentives, such as training scholarships, and devise and effectively implement additional ones to retain these health professionals.

The MoH also needs to respond to lack of motivation of health workers in the rural areas, where absenteeism has been reported. Evidence also suggests that many health workers prefer to work in urban areas because the rural areas lack infrastructure and basic services. In response, the government has made a great effort to retain health workers in the remote areas by developing incentive mechanisms, such as recruiting students from rural areas, providing scholarships for health students, and providing motorbikes and fuel subsidies for doctors in rural areas.

To evaluate existing rural incentive mechanisms, the USAID Health System Sustainability Activity conducted a review focusing on their effectiveness and impact and providing a situational analysis of their implementation. The Activity also proposes opportunities for further improvement.

^{*} Public health specialists typically obtain other qualifications and undertake this course as additional training. Thus, they do not adjust the total output of new graduates.

METHODS OF THE REVIEW \mathbf{L}

The USAID Health System Sustainability Activity first reviewed existing literature and analyzed available secondary data. In weighing the effectiveness and impact of Timor-Leste's existing incentive schemes, the Activity used the 2010 WHO report Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention, and an update on that report, WHO guideline on health workforce development, attraction, recruitment, and retention in rural and remote areas (2021). The government of Timor-Leste (GoTL) has applied some of these recommendations to retain its health workers in rural and remote areas, such as admitting students from rural backgrounds and reviewing national curricula to reflect rural health issues, although as of 2021 this process is not complete due lack of funding as a result of political impasse (NHSSP II 2021). This study introduces information collected from discussions and interactions with health workers who are affected by such policies, and the Director General of Corporate Services of the MoH. It also incorporates information from research and journal articles pertaining to rural incentives in Timor-Leste and other countries, and publications from the government, especially the MoH.

ORGANIZATIONAL CONTEXT

This section explains the organizational structure of the National Directorate of Human Resources (NDHR), which manages rural health worker retention, and how the Directorate relates to other institutions; the roles and functions of each of these institutions; and the capacity of the NDHR to plan, budget for, and manage health services at both the national and municipal level.

2.1 **STRUCTURE**

Health services are organized into the following groups:

- Management Support Services: These include Central and National Services, Regional and Municipal Health Services, Sub-district Health Services, and Community Health Services. Central Services (known as Serviço Centrais) is located in Dili. It is made up of two Directors General supported by four Offices, eight National Directorates, the Litigation and Legal Support Unit, and the Liaison and Support Unit of the Municipal Health Services. The Central Services is in charge of policy development, health regulations, health service standards, priority determination, planning, budgeting, and donor coordination.
- Hospital services: Hospital services include one regional hospital in Baucau and four referral hospitals located in Oecusse, Maliana, Maubisse and Suai (with the capacity to provide some surgical services, including appendectomies and cesarean section deliveries). The central hospital for referrals is the Guido Valadares National Hospital in Dili.
- Community services: Based on the latest Timor-Leste Health Information System (TLHIS) data (2021), 71 Community Health Centers, 318 health posts and 7 treatment posts that serve as mini health posts with only one doctor and one midwife working in them, and outreach activities serving geographically defined populations incorporating 600 integrated community health service or Serviço Integrado da Saúde Comunitária (SISCa) Posts (Timor-Leste Health Information System database 2021). To ensure access to quality and equitable primary health care throughout the country, the government established an integrated program that delivers health services called Saúde na Família. This program performs regular home visits to individuals and their families located within defined geographic areas (NHSSP II 2021)
- Specialized services: Specialized services in Timor-Leste include the Instituto Nacional da Saúde

(INS; National Health Institute), Servico Autónomo de Medicamentos e Equipamentos de Saúde (SAMES; Autonomous Service for Medicines and Medical Equipment), the National Laboratory, and the National Ambulance and Emergency Medical Service.

Policy, planning, budgeting, procurement, and the management of health workers is centralized in the Central Services in Dili. The NDHR is the directorate under the Director General for Corporate Services in the Central Services designated to manage and attend to all of the HR management and development needs of the MoH except for INS, SAMES, and the National Ambulance and Emergency Medical Service. These three specialized services have the autonomy to manage their own HR. Figure I shows the health service configuration in Timor-Leste.

MANAGEMENT SUPPORT CLINICAL SUPPORT AND TRANSFER SYSTEM **SERVICES** CENTRAL AND NATIONAL National National Hospital S Diagnostic Services SERVICES Ρ Ε C REGIONAL AND MUNICIPAL Referral Hospital ı HEALTH SERVICES Α Community Health Community Health L REGIONAL AND MUNICIPAL Centers with bed Centers without I HEALTH SERVICES S Ε Health Posts - Suco (Village) Level D REGIONAL AND MUNICIPAL SERV HEALTH SERVICES **ICES** Integrated Community Health Services

Figure 1. Current Health Service Configuration in Timor-Leste

Source: NHSSP II, 2021.

While it is mandated to manage the health workers at all levels, the NDHR does not have the autonomy to implement both strategic and administrative HR management activities. Instead, it is required to comply with instructions from both the Minister (through the Director General of Corporate Services of the MoH) and the Civil Service Commission (CSC), provided the instructions are compliant with Parliamentary and Decree Laws. The CSC2 is an independent agency charged with ensuring a politically neutral, impartial, merit-based public sector, with high standards of professionalism, that offers quality service to the state and the people of Timor-Leste. The mandate of the CSC in relation to the public sector is to make decisions, give direction, establish standards, develop policies and procedures, apply penalties, and conduct reviews.

In terms of HR development, especially training and professional development, the Directorate closely coordinates with the INS. The INS is an autonomous body within the MoH, with the main mandate of

¹ The NDHR was established by the VIIIth Constitutional Government Organic Structure (Decree Law No. 52/2020, of 21 October, first alteration of Decree Law No. 3/2019, of 3 March).

² The CSC's mandate is defined in Parliamentary Law No. 7/2009.

conducting and managing in-service training for health professionals; and coordinating health and medical research in Timor-Leste. Its responsibility is to ensure that health professionals have the knowledge, skills, and competency to deliver health care, through a competency-based training program. The NDHR has the mandate to prepare individual and institutional capacity development plans, while the INS as the training center implements these plans. (See Figure 2.)

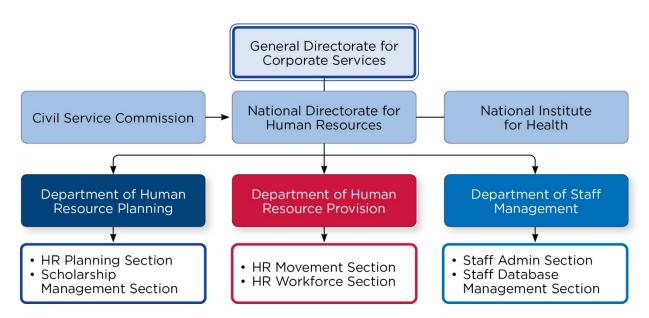


Figure 2. Administrative Relationship between the NDHR, INS, and CSC

2.2 RECRUITMENT AND SELECTION UNDER GENERAL AND SPECIAL CAREER REGIME

The NDHR has just published its Strategic Plan, NSPHRH 2020–2024. However, neither operational nor implementation plans for specific HR activities are in place. There is no evidence of workforce planning in the MoH, except for the projections of staffing increases required over the next five years, as stated in the Plan's Staffing Profile; this is a significant opportunity for improving HRH in Timor-Leste. Furthermore, there does not appear to be any linkage between the existing Human Resource Development Plan and the strategic workforce planning.

The Timor-Leste Primary Health Care Essential Service Package 2020 (ESP), promulgated in 2019, has dictated the number of health workers in certain job categories to be placed in the hospitals, various Community Health Centers, and health posts. However, the numbers are too normative and often not relevant, as proven by the allocation of health workers in the CHC level I (CHC I). In the ESP, CHC I are staffed with 3 general doctors, 4 midwives, 3 nurses, I laboratory technician, I pharmacy technician, I nutritionist, and 5 general ancillary staff (total 18), irrespective of whether the number of the population of the CHC is only 7,500 or 15,000³. Job descriptions for the positions in the hospitals, Community Health Centers, and health posts were developed with a special focus on finding candidates with special technical knowledge. For management support services staff in the Central Services, most job descriptions were developed years before and have never been updated. They also are not

³ CHC I are located in most administrative posts ("posto administrativo") of the country to provide ambulatory health services to a population of between 7,500 and 12,000 in rural areas and to around 15,000 in urban settings

standardized in relation to types of professional cadre; they appear to have been developed for specific individuals based on what these people report doing each day.

Prior to 2012, all MoH staff, including health workers such as doctors, midwives, and nurses, were regulated under the general career regime,⁴ whereby the terms and conditions of employment applied equally to everyone. In 2012, a separate Decree Law was approved, Decree Law No. 13/2012, Career Paths of Health Professionals, known as the Special Career Regime for Health Professionals, or Special Career Regime, for short. This regime is tailored to the unique needs of the health workforce, such as working evening hours to keep the hospital constantly open, and the unique nature of the services provided by the health workers compared to other civil servants. This new law covers physicians or doctors, nurses, midwives and public health technicians, and diagnostic and therapeutic staff. They have different pay structure and terms and conditions of employment compared to other management and administration staff under the general career regime.

2.3 APPRAISING AND REMUNERATING EMPLOYEES

A generic performance evaluation form is used to evaluate the performance of the management and administration staff under the general career regime. Under the Special Career Regime, each year, the MoH is required to complete and submit evaluations for all health workers. This is supposed to be coordinated by the NDHR and supervised by the General Directorate of Corporate Services. However, since the approval of the Special Career Regime in 2012, there has not been any proper performance evaluation form and procedure for physicians or doctors, nurses, midwives and public health technicians, or diagnostic and therapeutic staff. The Special Career Regime law has anticipated a need to have competency-based performance evaluation procedures and tools, including an evaluation form, but the MoH has yet to develop one. Health workers under the Special Career Regime have instead been evaluated using the same procedure and form as the staff under the general career regime. Most of the health workers under the Special Career Regime see this annual evaluation as merely a bureaucratic exercise to comply with civil service regulations; it has no linkage with training, professional development, nor pay raises.

2.4 IMPROVING EMPLOYEES AND THE WORK ENVIRONMENT

The INS provides the in-service training for health workers under the Special Career Regime. Most of these trainings are linked to the workplace and are competency-based. The Director of HR is particularly interested in capacity-building approaches to training and development for staff working on the ESP. The staff targeted by these programs are mostly from health centers, health posts, referral hospitals, municipal hospitals, and the National Hospital.

General management and administration training for health staff is provided by the National Institute of Public Administration; the institute also offers a standard induction training program for newly recruited staff, although this service often is not timely. Evidence shows that some health staff received induction training only after two years of work as permanent staff within the public administration, although the law requires training six months after joining the services. Staff within the MoH are aware of these programs, but accessing this training requires confirmation with the institute through the NDHR on a "first come, first served" basis. No internal policies or procedures cover the development of staff,

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⁴ Decree Law 20/2011, 1st Amendment to Decree Law 27/2008, General Career Regime for Civil Servants and Administrative Agents. It is the career regime corresponding to common areas of activity of public administration services, with development and educational or professional requirements.

expectations following training, or any reporting requirements when training is undertaken, except for scholarships. No policies specifically address productivity or the physical work environment. The Civil Service Act does specify working hours, and an attendance register ensures compliance.

2.5 RESOURCING

2.5.1 BUDGET

The Directorate of Human Resources currently manages salaries and subsidies of all the health workers through the National Directorate of Administration and Finance, which provides payment notice instructions to the CSC. Budget preparations are controlled by the General Directorate of Corporate Services. Annual budgets including for training and development are submitted to the GoTL Human Capital Development Fund.

The MoH also receives funding support from other development partners for training and development, such as the WHO, the United Nations Children's Fund, the Department of Foreign Affairs and Trade (Australia), USAID, the United Nations Fund for Population Activities, and the Japan International Cooperation Agency.

2.5.2 STAFFING

The following diagram identifies the staff within the NDHR, and the division of their work tasks and responsibilities as they serve the Directorate and respond to the ministry and the CSC (Figure 3).

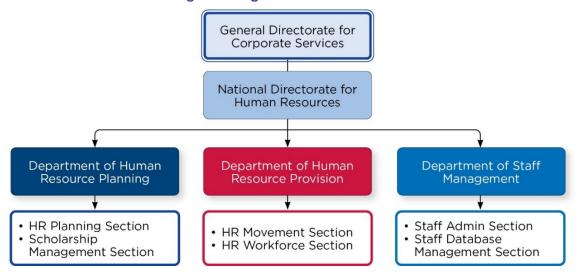


Figure 3. Organic Structure of NDHR

The NDHR is supported by three departments with a total staff of 40. Of these departments, the Department of Human Resources Provision is the technical unit that deals with staff mobility and transfer and/or movement between work units.

3. RURAL INCENTIVE SCHEMES

Timor-Leste has had particular attention from many students of HRH, because of its rapid mobilization of resources to address the shortage of primary care doctors in a very short period. Because of the

cooperation with the Cuban government and scholarships arranged jointly with several other countries, the number of health workers has increased substantially over the past 15 years, doubling in the past five years alone (NSPHRH 2021). By August 2017, the total supply of health personnel in Timor-Leste was estimated to be over 7,000, of whom 4,911 were public servants on the MoH payroll, compared with just 900 in 2002. The health workforce in Timor-Leste is classified in two categories: health staff (doctors, nurses and midwives) and other cadres known as allied health professionals (i.e., physiotherapists, pharmacy technicians, and laboratory technicians; NSPHRH 2021). These groups make up 75 percent of the total supply of health personnel and are deployed to various municipalities throughout Timor-Leste. The remaining 25 percent are administration and support staff (NSPHRH 2021). (See Table 2).

Table 2. Public Sector Health Staff, Timor-Leste, August 2017

Cadre Group	Available Number
Medical specialist	35
General doctor	889
Allied health professional*	648
Midwife	618
Nurse	1,267
Nurse's aid	230
Administration and support staff	1,224
Total	4,911

^{*} Includes pharmacy and lab technicians, nutritionists, physiotherapists, etc. Sources: NSPHRH 2021.

With this increase, the government has increased the overall presence of health workers in Timor-Leste but not in the rural areas. The geographic distribution across municipalities shows substantial variation: The NHSSP II (2021) reported a higher concentration of health workers in larger cities, where some Community Health Centers have more than 30 staff, while in smaller cities some Community Health Centers have fewer than 5. At the administrative post level, the extremely remote villages are understaffed compared to those in urban areas.

The NHSSP II (2021) set a new standard to have 47 staff for health centers based in each of seven municipalities (the six other municipalities have hospitals in their coverage areas); 38 staff for each health center that serves other administrative posts; and 10 staff for each health post in the villages. However, statistics shows that fewer than half of all MoH staff (42 percent only) are health professionals working outside of Dili at the primary and secondary levels – below that quota.

Keeping existing staff in rural areas is also difficult. Many health workers, especially medical doctors, prefer to move to other municipalities and/or urban areas. The desire to move is generally underpinned by the end of these people's six-year service contracts (Hou et al. 2016; Smitz et al. 2016). But other factors also affect workers' choices to relocate to, stay in, or leave the rural area, such as wanting to return to their place of domicile or origin, provision of schooling for children, compensation, shortcomings of rural health facilities, working and living conditions, and career-related concerns, such as access to education, and lack of supervision and professional development opportunities (WHO 2010). Considering all these factors, an analysis of the existing incentive schemes is crucial to address the management of HRH in rural areas.

In 2010 the WHO launched global policy recommendations on increasing access to health workers in remote and rural areas through improved retention (WHO 2010). This WHO policy document aims to increase understanding on this issue, and provides recommendations to countries on how to overcome these problems. Recently, after a decade, the WHO provided updates on its 2010 document (WHO 2021), including, but not limited to, guidance for successful planning, implementation, and monitoring and evaluation of rural health workforce development; and attraction, recruitment, and retention strategies as fundamental elements of a policy process. However, the management of HRH varies among countries. Local context and conditions should be considered when developing such policies to take cost-effective measures.

This desk review classified the existing incentive mechanisms in Timor-Leste into two main categories, financial and nonfinancial incentive schemes. This review selected some of the recommendations from WHO (2021) that are being implemented in Timor-Leste and evaluated these based on evidence and their implementation status.

NONFINANCIAL INCENTIVES 3.1

There are six nonfinancial incentives mechanisms that were evaluated in this review. The following subsections cover the implementation and progress of these six mechanisms.

3.1.1 ENROLL STUDENTS WITH A RURAL BACKGROUND IN HEALTH **WORKER EDUCATION PROGRAMS**

Following its vision as set forth in the NHSSP II, the government through the MoH has been striving to increase the number of health workers and ensure their distribution to the rural areas. To start off, the government initiated what has been a historical success: the Cuban Medical Brigade program, where many young high school graduates were recruited and trained to be medical doctors under the scholarship program in Cuba and/or Timor-Leste, funded by the government of Timor-Leste. The first group of scholarship students from 2004 through 2006 were trained exclusively in Cuba, then the next batch in 2007 were trained simultaneously in Cuba and Timor-Leste. Students enrolled in or after 2008 were trained exclusively in Timor-Leste by the Cuban Medical Brigade in cooperation with the UNTL (Asante 2014, Cabral et al. 2010).

Admission to these scholarships to become medical doctors was based not on an exam but on place of origin, as determined by the letter of recommendation from the village heads (Asante et al. 2014, Hou et al. 2016, Smitz et al. 2016). Rural origin was used as a strong determinant for selecting medical students to be trained. The aim of this admission method was to attract high school graduates from rural areas and later employ them to work in the area they came from. The scholarship program did not, however, cover nursing, midwifery, and other health professional programs, and admission to these programs is determined differently. Admission of high school graduates to the UNTL nursing, midwifery and other health professional programs is decided by the Ministry of Higher Education, Science and Culture based on the student's score on their high school certificate, irrespective of their place of origin. UNTL announces the number of available seats for each school year in the nursing, midwifery and other health professional programs. Potential candidates may apply to health professional programs of interest to them, however, the Ministry of Higher Education, Science and Culture will ultimately admit students based on their final examination grades.

In its report, the WHO (2021) proved a moderate certainty of linkage (at a global level) between enrollment of medical students with a rural background and recruitment and retention in rural postings. For Timor-Leste, enrolling students with a rural background has proven to be effective for recruitment and allocation. A large majority of the graduated doctors were assigned to GoTL health posts and

Community Health Centers in rural areas, mostly in the areas they came from. Once they had been integrated into the health system, the government also helped them with transportation, housing allowances for those who worked somewhere other than in their home village, and outreach support. There is still lack of opportunity for training, and development for these rural doctors. The last batch of the scholarship program returned in 2017 and the program has then been discontinued due to political impasse.

For the successful implementation of rural retention by enrolling students with a rural background, WHO (2021) suggested that governments bundle other incentive mechanisms to keep doctors and other health staff in rural areas, such as locating health education facilities closer to rural areas, bringing students in health workers education programs to rural and remote communities, and aligning health worker education with rural health needs. From these suggestions, ensuring that the health education program is available in or closer to the rural communities is neither a feasible nor an affordable option in Timor-Leste; however, the other suggestions may be feasible. To date, all the pre-service training for health professionals is centralized at the national level such as at the UNTL, Universidade Oriental de Timor-Lorosa, Universidade da Paz, Universidade de Dili, Instituto Superior de Cristal, and Instituto Ciencias De Saúde (Institute of Health Science).

Nevertheless, in alignment with WHO's global recommendation, the government is working on updating the existing curriculum to ensure that it is aligned with rural health needs (NSPHRR, 2021). The government is also making efforts to ensure more exposure of health students to the community during their study. For example, the UNTL's current medical, midwives, and nursing program includes sending the trainees out to the subnational level for practical training. However, they are mostly distributed among the referral, regional, and national hospitals, not to rural facilities. More on these interventions will be covered in the following sections.

Based on the discussion with the Director General of Corporative Services, enrolling students from rural backgrounds has been rated highly by the MoH and as successful for recruiting health workers for rural areas. However, to retain them in the rural posting for the longer term, there is a need for the MoH to develop supporting policies. This includes bringing students in health workers education programs to rural and remote communities, improving the existing curriculum in the pre-service training education, and providing sufficient support for improving hands-on experience for health students in the rural areas.

3.1.2 BRING STUDENTS IN HEALTH WORKER EDUCATION PROGRAMS TO RURAL AREAS

One of WHO's global recommendations it to bring students in health worker education programs to rural areas. It is widely experienced that most education and training of health workers around the world is based in urban areas due to lack of rural resources (WHO, 2021) and Timor-Leste is no exception.

In the absence of rural-based education and training, WHO suggested that governments around the world can still make an effort to ensure health worker students have practical experience in rural areas. The exposure to the rural community will facilitate students' hands-on experience with the primary health care delivery model, and thus increase the competence and confidence of students, and potentially lead to improved quality of care and preparedness for working in rural postings (WHO, 2021).

In Timor-Leste, the MoH introduced initiatives to provide health students with practical experience. In order to maximize the learning process, the current programs include sending the trainees for practical training to referral, regional, and national hospitals and settings that do not reflect rural practice realities and service conditions (NSPHRH, 2021). Rural health facilities have not been used for conducting handson training due to lack of trainers and tutors, supplies, and additional equipment. Many health workers reportedly graduate with limited practical clinical skills for rural settings, which discourages them to work at the rural facilities where infrastructure and facilities are still poorly equipped compared to those in the urban areas (NSPHRH, 2021).

The discussion with the Director General of Corporate Services implied that the initiative to include hands-on training in the current curriculum is still inadequate, resulting in a lack of competent health workers and contributing to the provision of poor quality, unsafe services and waste of valuable resources. The NHSSP II (2021) listed capacity development for training and education institutions in Timor-Leste as one of the priority goals for 2030. This includes enhancing the curriculum of the existing training and education institutions to ensure community exposure of the health worker students. Implementing this intervention with an improved curriculum along with the other interventions such as aligning health worker education with rural health needs and enrolling students with rural background will yield a more positive impact.

3.1.3 ALIGN HEALTH WORKER EDUCATION WITH RURAL HEALTH **NEEDS**

Health needs in the urban areas are generally different than in rural areas. Health students who are exposed more to urban health training tend to build competencies and confidence in areas that are more frequently applied in urban areas (WHO, 2021). WHO suggested developing rurally oriented curricula incorporating skills, knowledge, and attitudes necessary for rural practice, taking into account the lack of resources in the rural areas and periodically evaluating and revising the curricula to ensure their continued relevance and continuous improvement.

Timor-Leste health training institutions, especially the UNTL, are still developing and revising their curricula to focus on community health services. Other private health education institutions are far less developed compared to the UNTL. While development and revision are ongoing, the UNTL is currently offering an adapted curriculum from the Latin American Medical School, which includes community health, social medicine, curative medicine, and public health, with an emphasis on preventive medicines (Asante et al, 2014). Because of a lack of supply and capacity among local educators and clinical tutors, the classes are mostly offered by Cuban faculty doctors, often using interpreters (NSPHRH, 2021). Anecdotal evidence shows that these doctors tend to lack first-hand rural experience in Timor-Leste, and are ignorant of the cultures, customs, traditions, and health-seeking behavior of the rural community. Rural health topics and an emphasis on primary health care and generalist practice will be included in the curriculum and continuously reviewed. The WHO report's findings suggest that doing this could combine the initiative of enrolling students with a rural background in health worker education programs and the initiative of bringing students in health worker education programs to rural areas to positively affect rural retention.

3.1.4 TIE EDUCATION SUBSIDIES FOR HEALTH WORKER AGREEMENT TO **RETURN TO RURAL AREAS**

In addition to the enrolling students with rural backgrounds, ensuring community exposure and aligning health workers education with rural health needs, and ensuring scholarship recipients work for the government, the medical doctors who received training from the Cuban Medical Brigade had to sign a binding contract with the government for six years of service, and were automatically absorbed into the public health sector, in accordance with Government Decree No. 38/2012 of July 2012. Absorption was automatic and immediate upon graduation (NSPHRH, 2021), as the country does not have a formal

mechanism or body to perform standardized national examinations due to the absence of standardized national curriculum, nor a system of licensing based on competencies among individual health staff. Data is lacking on the effect of the absence of a licensing system on use of services and the productivity of health workers.

As of 2021, the government has financed 689 pre-service scholarships. A large majority of the graduates were assigned to GoTL health posts and Community Health Centers in rural areas, mostly in the areas they came from (NSPHRH, 2021). However, thus far no analysis has been done to understand how many graduated doctors with rural backgrounds returned to their respective rural health facilities.

This compulsory service scheme worked well in the beginning of its implementation. However, because of poor rural infrastructure and services such as schools, water and sanitation, lack of transportation, poor living and working conditions in rural areas, poor access to continuous professional development, and lack of rural relevant training curricula prior to their rural posting, some doctors opt to transfer to urban areas at the completion of the rural mandatory service. Concerns regarding lack of supervision and unclear career development paths for those working in rural areas are also a problem (Hou et al, 2016).

The Director General of Corporate Services has expressed that the policy for compulsory service needs further revision by the MOH. The MoH needs to follow the WHO recommendation and take a holistic approach rather than simply locking health staff into place for a set period. Specifically, the MoH should train health workers within rural areas, adapt rural training curricula, and facilitate access to continuous career development and to various financial benefits specifically designed for rural health workers. In cooperation with the INS, the NDHR of the MOH needs to develop career development plans for health workers. Additionally, the MOH needs to improve living conditions and working condition, create a safe work environment, and provide good supportive supervision (WHO, 2021).

3.1.5 OUTREACH SUPPORT AND SUPPORTIVE SUPERVISION TO RURAL **HEALTH WORKERS**

Studies from other countries suggested that outreach support and supervision improve competence and job satisfaction of rural health workers, especially doctors (Gruen et al. 2003, Gagnon et al. 2006, Gagnon et al. 2007). In Hou's (2016) study, the new doctors in the rural area felt they were "cared for" when they had outreach visits and supportive supervision from other doctors in rural areas. This assistance also improved their job satisfaction and increased the quality of their health care.

In Timor-Leste, the government through the MOH provides outreach support and supportive supervision to doctors in rural areas including doctors working at the rural health posts, advising them and assisting them with patient care. Occasionally the doctors in rural areas have received visits from more senior doctors to help motivate staff and improve performance, although the frequency varies among the programs. For some programs, such as Integrated Management of Childhood Illness, the outreach support is performed every three months, while for some others it is every six months. In the absence of institutionalized standards for competencies to guide the assessment, the supportive supervision visits employ checklists with a set of questions developed by the team of senior doctors within the national program areas in the MoH.

The Director General of Corporate Services says that some of the health workers in the rural areas have given positive ratings to the outreach visits and supportive supervision. The combination of these interventions did not directly contribute to rural retention, but there is sufficient evidence that they increase motivation and improve performance of rural health workers. Other benefits include

supervisors, mostly from the municipality level, having a chance to learn more about the needs, progress of work, and performance of subordinates in rural areas.

From the point of view of the MoH as an institution, the Director General expressed the view that the visiting process still needs to be improved to include follow-up action from the MoH after each visit. The visits are often considered a formality and good for rural health worker morale, but little has been done to address any gaps and issues identified during those visits.

3.1.6 TRAINING AND PROFESSIONAL DEVELOPMENT

Health workers need access to training and professional development (WHO, 2010). The INS has been important in providing in-service training in management and clinical and non-clinical training to health professionals. Some of these trainings are supported by the development partners, such as the WHO, Asosiasaun Maluk Timor, National Program in the MOH, the Australia Department of Foreign Affairs and Trade, Marie Stopes Timor-Leste, UNFPA, UNICEF, USAID, and St. John of God.

The rural health workers in Timor-Leste have rated training and professional development as the main factor contributing to job satisfaction (Smitz et al. 2016). The government also stressed the importance of training and professional development for the health workers (NHSSP II, 2021). However, the national budget for training is very limited. Based on INS data, in 2018 there were only 28 training sessions for 1,183 trainees of the 4,911 from the whole territory, or 24 percent of the health workforce (NSPHRH, 2021). The INS provided these sessions. At the same rate and assuming no repetition or expansion of the workforce, the health workforce can expect one episode of in-service training from the INS every five years.

The municipal health officer is the one who nominates staff for training, and this process is inefficiently managed, with the result that some staff get to participate in training more than once and some never participate at all. Health workers in the Community Health Center at the municipality and administrative post level have more access to training in the INS than those at the health post at the village level. This is because there are not enough back-up personnel at the health posts to cover for someone who must travel to attend the training, which is mostly performed at the municipal level and attended by health workers from various Community Health Centers and health posts (when the latter staff can get away), or at the INS office at the national level. Based on the discussion with the National Director for HR, the MOH also still lacks policies and procedures for staff mobility and/or transfer from one facility to another facility within the municipality to provide temporary coverage from other health facility while a health worker is away at training. The INS is planning to develop clear policies and procedures for staff mobility in 2021.

On-site trainings are not feasible at the time of writing due to the small number of health workers in each rural health post. Most rural health facilities have at least one medical doctor, one nurse, and one midwife. There are also no health training schools nor rural campuses of schools in rural centers that can help facilitate health workers training. Most health training institutions are centralized in Dili, the capital city of Timor-Leste.

Another factor is that per diem does not cover training in a health worker's municipality. Attending training in Dili or other municipalities rather than the municipality where the health worker works offers more financial incentive. Coupled with lack of health workers in the rural areas, the lack of financial incentive for training in a health worker's municipality negatively affects training participation rates.

USAID through its HRH2030 Program has recently helped the INS develop and implement a Training Management Information System to manage the training process, including the selection of the training participants; this system should soon solve the problem of people being assigned twice to the same training. The INS is in the process of rolling out user training to the municipality health officers.

Hou et al. (2016) and Smitz et al. (2016) found that practicing doctors in Timor-Leste are keen to acquire degrees in medical specialties. Discussion with the Director General of Corporate Services in the MoH confirmed this finding. Although the management at the Central Services and municipal health services often see the demand for specialist training and continuing professional development as a threat to Timor-Leste's rural retention of doctors (Asante 2014), the long-term benefit of having more specialists will outweigh the short-term negative effect. Currently the country has only 35 specialist MDs NSPHRH (2021).

Overall, the provision of training and professional development as an incentive for rural health workers has not been very effective, mainly due to poor implementation and unclear procedures for selection of participants. Further analysis also revealed the lack of competency standards and well-established performance management as reasons for the shortfall, and this was echoed by the Director General for Corporate Services in a July 2021 meeting, as well as by the management of the INS. The forms used to assess performance annually are generic, and their criteria are not job specific but focus on personality traits and other such soft measures. On each of these parameters, the supervisor rates the person from I to 4, from lowest to highest. The criteria include:

- ١. Sense of responsibility and resource management
- 2. Relations and communications at work and with the public
- 3. Zeal, maintenance of confidentiality, and exemption
- Loyalty and obedience 4.
- 5. Respect and honesty
- 6. Initiative, creativity, and productivity
- 7. **Teamwork**
- 8 Punctuality and attendance at work
- Achieving work objectives 9.

In addition, the performance management forms lack the tools to guide supervisors to assess the performance of staff. With no tools to guide the supervisors and the lack of capacity of supervisors in filling up the forms, training and capacity development opportunities and needs are not properly identified during the assessment process.

Proper performance evaluation by informed supervisors of health workers in rural areas would have assisted in identifying the skills, knowledge, and attitudes required for further development to perform better. Competency standards could guide the specification of the knowledge, skills and attitude required for success in the workplace, and thus the training and capacity-building required. Nomination of training participants would have been more equitable if it had been based on an assessment of competency and on the recommendation from the performance evaluation.

3.2 FINANCIAL INCENTIVES

Financial incentives have been the most studied factors to influence health workers' decision to stay in or leave a rural workplace (Dieleman et al. 2003, Ipinge et al. 2006, Mangham et al. 2008, Martineau et al. 2006, Kotzee et al. 2006). Most studies found a positive relationship between financial incentives and retention in rural areas in both the short and medium term, although the size of the desired effect depends on the incentive package itself, the occupational groups, and the scope of the incentive package (i.e., whether it is bundled with other nonfinancial incentives).

3.2.1 REMUNERATION PACKAGE

In addition to nonfinancial incentives, the GoTL also has also made some efforts to provide financial incentives to health workers. Earlier, all the health workers received the same salary as general civil servants in Timor-Leste: an average monthly salary of \$350. In 2012, a Special Career Regime Decree Law was approved, Decree Law no. 13/2012 of March 7, Careers of Health Professionals, that provides not only terms and conditions for entry to the health workforce but also a remuneration package for different categories of health professionals. With the new Decree Law, health professionals receive a much higher salary compared to general civil servants. The starting monthly base salary for doctors is \$610, and over time if they perform well it may increase to a maximum of \$2,300. Nurses' and midwives' monthly salaries start with \$450 and could be up to \$1,325 over time.

Anecdotal data shows that there were some changes in health workers attitude towards patients, leading to patient satisfaction after 2012. The change has also reduced the number of complaints from the rural doctors that their salary is too low. But in the long run, the increased remuneration incentive has had little effect on rural health worker retention. Further increases beyond the maximum threshold in the health workers' remuneration as specified above are not an option, as CSC has resisted requests for general salary increases for health staff due to the long-term effect on the economy. In fact, increased health worker remuneration will render the health sector budget unsustainable (NSPHRH, 2021).

While some studies (Ipinge et al. 2006, Mangham et al. 2008, and Martineau et al. 2006) consider financial incentives as an important element in persuading health workers, especially those in poorer countries, to choose a rural posting, others (Hou et al, 2016, Smitz et al, 2016) revealed the opposite in Timor-Leste. Smitz et al. found that in Timor-Leste, practicing doctors, especially female, put very low absolute importance on wages, though wages mattered more to nurses and midwives. Practicing doctors say the opportunity to get a degree in a medical specialty is the most important factor in job satisfaction. Most of the doctors in Timor-Leste are at an early stage in their career, but still make more money than other civil servants.

3.2.2 TRANSPORTATION SUPPORT

Rural areas in Timor-Leste are either remote or very remote, with mountainous topography. Some areas have very poor infrastructure, especially roads connecting villages to the GoTL health posts and/or centers. Doctors in those remote areas used to be equipped with a motorbike and a monthly subsidy for fuel. From the beginning, some doctors reported that the transportation support through motorbikes and fuel subsidy was a problem. Some complained that the subsidy for fuel for motorbikes always arrived late, and that it was difficult to maintain a motorbike in places that had no skilled mechanics (Hou et al, 2016). The Director General and the Director for Public Health report that by 2015 most of the motorbikes had broken down and could not be fixed, and that the fuel subsidy had stopped being provided.

The government provides at least 50 horses throughout the country to help carry patients across rivers and in places where there are no roads (NSPHRH 2021).

In general, transportation subsidies are helpful to practices in rural areas, and their absence in areas where road conditions are bad increases dissatisfaction among rural health workers. It is not clear to what extent this transportation support can affect doctors' decisions to leave or remain in the rural areas. This intervention is usually part of a larger retention package intended to improve living conditions in rural areas, so its individual and specific effect on rural retention can be hard to assess. WHO (2021) recommends intersectoral coordination to improve rural infrastructure, such as water, sanitation, electricity, housing, telecommunications, internet access, schools for dependents, employment for spouses, and safety and security, along with other contextually relevant improvements.

3.2.3 ACCOMMODATION OR HOUSING ALLOWANCE

Studies in Zambia (Goma et al. 2014), Tanzania (Mkoka et al. 2015), and Bangladesh (Joarder et al. 2018) found that free housing and better living conditions contribute greatly to health workers' satisfaction, thus reducing absenteeism and increasing the chance of them serving longer in the rural areas. In these countries, health workers did not receive such accommodation nor a housing allowance while serving in the rural areas, and the housing they paid for was substandard. This, coupled with lack of water and electricity, and the absence of good schools for their children and employment opportunity for their spouses, led many health workers to quit and/or move.

Unlike these countries, Timor-Leste does provide a housing allowance to civil servants who move to a new location, following a Government Decree Law that regulates supplementary remuneration.5 However, when rural doctors in Timor-Leste receive such an allowance (often late, which they do not like), it is generally only if they have moved to the area, not if they were there in the first place, however remote and rural it may be. Most rural workers are in their place of origin, so they do not receive the subsidy. Since 2011, when the government began paying housing allowances, some rural doctors who did not move have felt they are being unfairly treated and put at a financial disadvantage. In the past, as per discussion with the Director General of Corporate Services, the ministry has responded by trying to procure some basic accommodation for some of these doctors instead, to show the ministry's appreciation, but these accommodations are mostly connected to the health facility building, and often have no access to clean water and electricity. The Director General reported that some of these accommodations are shared among the health workers, with two or more workers living in the same room. While this arrangement minimizes absenteeism and helps make the health workers accessible 24/7 for health consultation, it does not improve job satisfaction, performance, nor retention.

Additionally, as Smitz et al. (2016) report, some of this housing is in bad condition, with weak or damaged walls and roofs and poorly secured doors. The free accommodation does not make up for poor working conditions and health facility infrastructure coupled with lack of medical equipment. The Director General of Corporate Services revealed that some doctors said the condition of these lodgings made them feel abandoned and forgotten, and that they had trouble concentrating on their patients and their jobs because they were too worried about their own unsafe living conditions, particularly during heavy rains.

The MoH reported that quite a few doctors had left rural areas as soon as they finished their six-year contract with the government, but there is no specific evidence that they left because of delayed or insufficient housing allowances or poor government-provided accommodations. Too many other factors, as mentioned above, are at play.

3.2.4 SUBSIDIES FOR WORKING IN REMOTE AREAS

Parliament approved a Decree Law, DL No. 20/2010 of 1 December, Supplementary Remuneration Regime in the Public Administration, that applies to all civil servants working for the GoTL, including health professionals under the MoH. (See also footnote 4.) According to Article 14 of the Supplementary Remuneration Law, civil servants are entitled to a transportation fee when exercising

⁵ Decree Law No. 20/2010 of 1 December, Supplementary Remuneration Regime in the Public Administration, establishes transportation costs, housing allowance and supplementary remuneration for staff working in remote areas.

their functions in another location that requires a change of residence. This one-off payment can range from \$200 to \$400 depending on the distance between the employee's usual residence and the new residence. This article also provides for a monthly rent allowance of \$100, if the GoTL does not provide housing in the new residence. The law also specifies a supplementary payment for all civil servants, including health professionals, working in a remote or difficult-to-access location. An additional 15 percent of the total salary is to be paid to staff who live in the remote areas, 25 percent to those in very remote areas, and 40 percent to those who live in the extremely remote areas. The law defines the degree of remoteness6.

Although this law has been in effect since 2010, the Director General for Corporate Services says the MoH has not paid any of the specified subsidies excepts the one-off payment and monthly rent allowance of \$100 for health workers who move. The subsidy for living in remote areas has never been applied, because the ministry has not conducted a mapping exercise to properly classify the areas in question. Such a subsidy, were it actually provided, has potential to influence health workers' decision to stay in or leave the rural areas. Meanwhile, the MoH is interested in implementing a more performancebased financial incentive within the next few years. The NSPHRH 2020-2024 briefly discussed the need to provide commendations and rapid promotion opportunities for health staff with good performance in rural and remote areas.

CONTRIBUTING FACTORS FOR SUCCESSFUL 3.3 IMPLEMENTATION OF RURAL INCENTIVE SCHEME

The NHSSP 2011-2030 (2011), and the revised version of the NHSSP II 2020-2030 (2021), emphasize HR as one of the critical factors in achieving health outcomes. HR are recognized as key to improving the quality and effectiveness of health services (NHSSP II 2021). Many efforts have been invested in this area: money, in-country and overseas training, infrastructure, and planning; and this has increased the numbers of all types of health professionals. To keep health workers in rural areas, several incentive packages have also been introduced, but they have not worked, for at least three reasons that are interconnected: the lack of oversight bodies in the health sector, competency standards for health workers, and proper performance management for health workers.

3.3.1 OVERSIGHT BODIES IN THE HEALTH SECTOR

The MoH as the government's central entity for health is supposed to be made up of a National Health Council and a Health Profession Council as its two main oversight bodies. In addition, it also has a Coordination Council called the Health Ministry Consultative Council (NHSSP II, 2021). While the Health Ministry Consultative Council is in operation and meets monthly for consultation and coordination of health issues, the first two oversight bodies were never established.

⁶ DL No. 20/2010 of 1 December art 15 defines the criteria for remoteness as follows:

a) Remote location - A location where its access is not easy and has limited presence of commercial establishments, healthcare facilities and other public facilities.

b) Very remote location - A location that can only be reached by using private transport and with little or no access to commercial establishments, healthcare facilities and other public facilities.

c) Extremely remote location – A place that can only be reached on foot or by using animal transport for more than an hour of travel and where it is difficult to access basic needs for food, shelter, medical care and other public facilities

The National Health Council is envisaged to play an important role in overseeing reform and addressing systemic health care issues, while the Health Profession Council is supposed to play an important role in setting standards, holding a register ensuring that the statutory requirements for the registration and reregistration of doctors are met, and ensuring that the quality of education and professional development are upheld. The absence of both councils has been a problem. Without these councils there is no regulatory entity oversees the implementation and impact of these rural retention schemes. Discussions with the Director General of Corporate Services revealed that the absence of these two oversight bodies also is implicated in the government's failure to develop competency standards for health professionals.

3.3.2 COMPETENCY STANDARDS FOR HEALTH PROFESSIONALS

A Senior Director in the MoH said that discussions to develop competency standards have been held a few times during the past five years and have involved development partners such as WHO and the United Nations Children's Fund. However, these efforts have been put aside because there are no oversight bodies guiding the discussions. Nevertheless, further discussions with other stakeholders such as the INS, the NDHR and Quality Cabinet Office in the MOH revealed that at least the midwifery association has already developed draft competency standards for midwives in Timor-Leste. The draft is yet to be approved by the Council of Directors of MOH and issued with a Ministerial decree prior to the implementation. INS, with assistance from development partners, has also developed similar standards in the form of checklists for various training areas. These checklists are used to assess the competence of the health workers after they attend training. The next step is to institutionalize these drafts and ensure their implementation.

The absence of competency standards means that there has been no competency exam before people take up any health professional role, and no formal examination board to adjudicate a final unified examination based on the competency areas for each profession. In the area of training and professional development, there has been no clear guidance for nomination of participants for training based on health workers' competence.

Competency standards could help set the standard for financial bonuses and incentives to be provided to staff in rural areas. They could also guide the nomination of participants for training and professional development and could be used in evaluating the competencies of training participants after training.

3.3.3. PROPER PERFORMANCE MANAGEMENT FOR HEALTH WORKERS

The Special Career Regime law has clearly stated the need to have a separate performance procedure and evaluation form for doctors, nurses, midwives, public health technicians, and diagnostic and therapeutic staff. Performance evaluation for these groups will be performed by the director for municipal health services. However, the MoH has not provided these, and the generic performance evaluation procedure and form remain irrelevant to these medical staff. The NHSSP II (2021) has envisioned the development of a results-oriented performance management approach linked to competency standards; there is an urgent need for such an approach. The performance evaluation should also be linked to subsequent training and development of staff. Once the performance management approach for health workers is in place, the ministry also "recommend for [sic] rapid promotion opportunities for health staff with good performance in remote rural areas." (NSPHRH 2021, p.76)

The existence of such a performance management approach will assist the management to consider social recognition and financial incentives such as bonuses for best performers or facilities in rural areas.

The proper performance evaluation approach will also inform further training for health workers to improve their skills, knowledge and ability, an incentive that is highly valued compared to others.

CONCLUSION AND RECOMMENDATIONS

Rural retention of health workers such as doctors, nurses, and midwives has been a challenge in most countries around the world, since most of trained health workers prefer to work in urban areas where living and working conditions are better. Timor-Leste also faces the same issue, where most of the existing health workers prefer to work in the most urban health facilities at the municipality, administrative posts, and national levels. While the GoTL has implemented policies to encourage health workers to live and work in rural areas, such as providing preference for students from rural areas to take pre-service training under full scholarships, some of them still prefer to work in urban areas after their required six years of rural service.

The government further attempts to retain these health workers in rural areas by providing various financial and nonfinancial incentives beyond mandatory service. Experience has shown that these efforts have limited effects, especially given that some mechanisms are in place but have never been implemented. Health workers do not base decisions to go to, stay in, or leave rural areas on one single factor. The adopted bundled interventions need to be strengthened as a whole package instead of focusing on an intervention in isolation. For example, focusing the strategy to admit students from rural areas will have limited effect if the GoTL neglects other complementary strategies, such as bringing students in health worker education programs to rural areas, aligning health worker education with rural health needs, and ensuring health facilities and health workers' accommodations are provided with utilities such as clean water and electricity. Another important complementary strategy is to decentralize the recruitment of health workers to the municipality level to facilitate identifying health workers who are based in their respective areas.

Proactive whole-of-government, multisectoral collaboration involving health, education, state administration (local government), finances, and different stakeholders is required. A long-term vision, effective and sustained political commitment, and a political will are important for successful implementation of the rural incentive program.

KEY RECOMMENDATIONS TO BOLSTER THE RURAL 4.1 **HEALTH WORKFORCE**

The following are the key recommendations for the GoTL, with details on how the Activity may support the GoTL in these actions:

I. Establish a National Health Council and Health Profession Council

The MoH has been eager to establish both a National Health Council and a Health Profession Council as key oversight bodies in the health sector. These oversight bodies will set the standards and oversee the implementation and impact of the rural retention scheme and provide recommendations for improvement. Once these bodies have established competency standards for health professionals, the NDHR will use these to develop standards for recruitment, placement, performance management, and training and development.

Actions: The Activity will provide technical assistance in developing terms of reference for both the National Health Council and the Health Professional Council, co-develop a process to draft health worker competency standards with the MoH, and co-develop a concept note for the Health Professionals Board. Existing standards of the Health Professionals Associations such as midwifery will provide a starting point for this exercise. The MOH and key partners should initiate discussion and spur approval of the terms of reference through an intersectoral working group that will discuss the groundwork for the establishment of both the National Health Council and the Health Professional Council.

Once the standards are established, the Activity will provide necessary technical assistance to ensure the councils liaise with the MoH, the INS and other health training institutions, and development partners to facilitate pre-service and in-service clinical training in rural settings aligned to the competency standards.

2. Develop competency standards

The NHSSP II (2021) has dictated the need to establish competency standards for health workers. These standards will influence the content of the competency exam for health professionals and of the formal board to adjudicate a final unified examination for each profession. Over time, the competency standards could also inform metrics for rural health workers' performance linked to awards and financial incentives. They could also guide the nomination of participants for training and professional development, and finally could be used in evaluating the competency of participants after training.

Actions: As stipulated in the NHSSP II, using the Special Career Regime Decree Law as a basis, the Activity team will provide technical assistance to develop a process to draft health worker competencies by coordinating with relevant stakeholders such as the Quality Cabinet, MoH NDHR, and the Office of Planning, Policy and Cooperation. The Activity team will also provide technical support to help develop terms of reference and establish both the National Health Council and Health Profession Council in the previous recommendation.

The team will explore existing documents from Health Professional Associations as a starting point to help develop a contextualized standard that fits with health workers' categories and conditions in Timor-Leste. The Activity may also explore other countries' competency standards as references. For the first year, the Activity team will provide technical support in revising the existing draft of the competency standards for midwives. Competency standards for other groups of health workers will be done in following years. Further analysis needs to be done to identify which health worker groups should become the priority focus of competency standard development. Once finalized and approved,

these competencies will inform the creation of a professional examination and licensing system. As part of this work, the Activity will provide technical support to the GoTL in establishing a Health Professionals Board to institutionalize these processes for better regulation and oversight of clinical practice, with a mandate and membership that take a gender-sensitive and inclusive approach.

Additionally, in coordination with the MoH and CSC, and using the competency standard as a base, the Activity will help develop job descriptions for different positions in rural areas to provide more clarity on what is expected from the health workers to improve their performance.

3. Develop a training strategy and improve training and professional development

To date, the INS as the main provider for in-service training for the health workers does not have a training strategy to define and guide training and professional development of health workers. Its training activities have been based on practices of previous INS trainers and experience gained overseas, as well as trainings provided by the development partners. As a result, career progression through professional training and development activities is poorly managed. A training strategy would help identify skill gaps, prioritize training, and diversify the modality of trainings to make them more accessible, available, and relevant to rural practice.

Actions: The Activity will provide technical assistance to the INS and other stakeholders, such as the NDHR from the MoH, to identify health workforce training priorities, with an emphasis on rural health workers. The Activity team will work with the INS to co-develop a costed health workforce training strategy and implementation plan based on these priorities and ensure it is aligned with the competencies and standards developed.

4. Improve performance evaluation system

There has been growing concern among the health workers about the existing performance evaluation system and tools. There is a need for a more results-oriented performance evaluation linked to competency standards. A proper performance evaluation tool will help the MoH develop incentives targeting best performers in rural areas and help support the rational allocation of training resources. It will also help build a relationship between the supervisor and health worker whereby they can jointly set goals for performance and professional development/training to address gaps in required competencies.

Actions: The Activity, in coordination with both the NDHR and the CSC, will provide technical assistance to develop performance management tools and processes, including templates for performance evaluation for clinical health workers and staff under the special regime. Managers of health facilities would be able to use these to manage their staff and their performance.

5. Strengthen existing bundled interventions

The MoH should cooperate with local authorities to ensure that health workers who work in locations other than their usual residence are provided with decent housing, separate from health facilities. Health facilities and workers' accommodation should be provided with appropriate utilities, such as clean water and electricity.

Strengthened and more frequent supportive supervision should also be provided to health workers in rural areas to boost health professionals' performance and help identify challenges for professional development. For example, supervisors could build their capacity to work with providers to jointly identify areas of strength and gaps, and develop goals, solutions, and training priorities linked to competency standards and local and national health priorities. Performance-based incentives could also be provided, such as commendation, bonuses, and rapid promotion opportunities for good performers in the rural areas (NSPHRH 2021).

The government should initiate the development of rules and procedures to implement the remote area subsidy pursuant to the Decree Law for Supplementary Remuneration Regime. This includes conducting a proper mapping to identify rural areas that are classified as remote, very remote, and extremely remote as per the Decree Law. Additionally, the government should initiate a study in the rural areas involving rural health workers to identify what incentive they need the most. Feedback can also be obtained from rural health workers on how to retain them in their rural posting.

Additionally, the government also needs to improve regulatory framework, policies, and standard operating procedures for recruitment, selection, placement, and retention of the staff, the development of staff, expectations following training, or any reporting requirements when training is undertaken.

Actions: The Activity can assist the NDHR to conduct a discrete choice experiment and focus groups study to evaluate the current incentive mix and further identify options that best suit the rural health workers' needs. The Activity will provide technical support to the GoTL to adopt changes to the incentive package based on health worker feedback, implementation feasibility, and financial sustainability considerations. The Activity will support implementation of the incentive package.

REFERENCES

- Anderson T. Solidarity aid: the Cuba-Timor-Leste health program. Sydney: University of Sydney; 2008. Available from: http://artsonline.monash.edu.au/mai/files/2012/07/timanderson.pdf, accessed 31 May 2021.
- Asante, Augustine D, Martins, Nelson, Otim, Michael E & Dewdney, John. (2014). Retaining doctors in rural Timor-Leste: a critical appraisal of the opportunities and challenges. Bulletin of the World Health Organization, 92 (4), 277 - 282. World Health Organization. Available from: http://dx.doi.org/10.2471/BLT.13.123141, accessed 31 May 2021.
- Bertani MTL. Two distant islands united by a common goal: improvement of the public health system. Geneva: WHO/PAHO; 2014. https://apps.who.int/iris/bitstream/handle/10665/206069/B5098.pdf?seguence=1&isAllowed=y, accessed on 10 June 2021
- Bertone MP, Martins JS, Pereira SM, Martineau T, Alonso-Garbayo A. 2018. Understanding HRH recruitment in post-conflict settings: an analysis of central-level policies and processes in Timor-Leste (1999–2018), Human Resources for Health, Open Access.
- Cabral J. Critical appraisal: human resources for health to improve service delivery. 2010.
- Civil Service and Public Employment Office (CISPE) 2001 DHS Division of Health Services, NCHET National Centre for Health Education and Training.
- Dewdney J, Martins J, Asante A, Zwi A. Strengthening human resources for health in Timor-Leste: progress, challenges and ways forward. Sydney: University of New South Wales; 2009.
- Dieleman M, Cuong PV, Anh LV, Martineau T. Identifying factors for job motivation of rural health workers in north Viet Nam. Human Resources for Health. 2003;1(1):10 (http://humanresourceshealth.biomedcentral.com/articles/10.1186/1478-4491-1-10, accessed 23 January 2021).
- Gagnon M-P, Duplantie J, Fortin J-P, Landry R. Exploring the effects of telehealth on medical human resources supply: a qualitative case study in remote regions. BMC Health Services Research. 2007;7:6.https://www.researchgate.net/publication/6583178 Exploring the effects of telehealt h on medical human resources supply A qualitative case study in remote regions, access on 4 August 2021
- Gagnon M-P, Duplantie I, Fortin I-P, Landry R. Implementing telehealth to support medical practice in rural/remote regions: what are the conditions for success? Implementation Science. 2006;1(1):18 (http://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-1-18, accessed 10 June 2021).
- Goma FM, Tomblin Murphy G, MacKenzie A, Libetwa M, Nzala SH, Mbwili-Muleya C et al. Evaluation of recruitment and retention strategies for health workers in rural Zambia. Human Resources for Health. 2014;12:S1 (https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-12-S1-S1, accessed 29 July 2021).
- Grobler L, Marais BJ, Mabunda SA, Marindi PN, Reuter H, Volmink J. Interventions for increasing the proportion of health professionals practising in rural and other underserved areas. Cochrane Database Syst Rev. 2009 Jan 1.
- Gruen RL, Weeramanthri TS, Knight SSE, Bailie RS. Specialist outreach clinics in primary care and rural hospital settings. Cochrane Database of Systematic Reviews. 2003;CD003798 (http://doi.wiley.com/10.1002/14651858.CD003798.pub2, accessed 10 June 2021).

- Hou X, Witter S, Zaman RU, Engelhardt K, Hafidz F, Julia F et al. What do health workers in Timor-Leste want, know and do? Findings from a national health labour market survey. Human Resources for Health. 2016. In Press. https://human-resourceshealth.biomedcentral.com/articles/10.1186/s12960-016-0164-1 accessed on June 2021
- lipinge SN, Hofnie K, van der Westhuizen L, Pendukeni M. Perceptions of health workers about conditions of service: a Namibian case study. Regional Network for Equity in Health in Southern Africa (EQUINET); 2006 (http://www.albacharia.ma/xmlui/bitstream/handle/123456789/31905/DIS35HRiipinge.pdf, accessed 23 June 2021).
- loarder T, Rawal LB, Ahmed SM, Uddin A, Evans TG. Retaining doctors in rural Bangladesh: a policy analysis. International Journal of Health Policy and Management. 2018;7(9):847–58 (http://ijhpm.com/article_3495.html, accessed 29 July 2021).
- Kotzee TJ, Couper ID. What interventions do South African qualified doctors think will retain them in rural hospitals of the Limpopo province of South Africa? Rural and Remote Health. 2006;6(3):581.
- Mangham LJ, Hanson K. Employment preferences of public sector nurses in Malawi: results from a discrete choice experiment. Tropical Medicine and International Health.2008;13(12):1433-41 (http://doi.wiley.com/10.1111/j.1365-3156.2008.02167.x, accessed 23 January 2021).
- Martineau T, Lehmann U, Matwa P, Kathyola J, Storey K. Factors affecting retention of different groups of rural health workers in Malawi and Eastern Cape Province, South Africa. Geneva: World Health Organization, Alliance for Health Policy and Systems Research; 2006.
- Mkoka DA, Mahiti GR, Kiwara A, Mwangu M, Goicolea I, Hurtig A-K. "Once the government employs you, it forgets you": health workers' and managers' perspectives on factors influencing working conditions for provision of maternal health care services in a rural district of Tanzania. Human Resources for Health. 2015;13(1):77 (http://human-resourceshealth.biomedcentral.com/articles/10.1186/s12960-015-0076-5, accessed 29 July 2021).
- National Heath Sector Strategic Plan 2011-2030 (NHSSP), Ministry of Health, Timor-Leste, 2011.
- National Heath Sector Strategic Plan II 2020-2030 (NHSSP II), Ministry of Health, Timor-Leste, 2021.
- National Strategic Plan for Human Resources for Health (NSPHRH), Ministry of Health, Timor-Leste, 202 I
- Singh D, Negin J, Otim M, Orach CG, Cumming R. The effect of payment and incentives on motivation and focus of community health workers: five case studies from low- and middle income countries. Human Resources for Health. 2015;13(1):58 (https://human-resourceshealth.biomedcentral.com/articles/10.1186/s12960-015-0051-1, accessed 12 May 2021).
- Smitz M, Witter S, Lemière C, Eozenou P, Lievens T, Zaman R, Engelhardt K and Hou X. (2016). Understanding Health Workers' Job Preferences to Improve Rural Retention in Timor-Leste: Findings from a Discrete Choice Experiment. 10.1596/31378. https://www.semanticscholar.org/paper/Understanding-Health-Workers percentE2 percent80 percent99-Job-Preferences-to-in-Smitz-Witter/584088c98e3f74e486ce95b63b8c852e08742a5d accessed on 10 June 2021.
- Timor-Leste Health Information System database (2021). Organizational Unit Distribution. https://tlhis.org/dhis-web-reporting/displayOrgUnitDistribution.action, accessed 21 Nov 202 I

- Tulloch J, Saadah F, de Araujo RM, et al.; National Research Council (US) Committee on Population; Program on Forced Migration and Health at the Mailman School of Public Health, Columbia University. Initial Steps in Rebuilding the Health Sector in East Timor. Washington (DC): National Academies Press (US); 2003. Available from: https://www.ncbi.nlm.nih.gov/books/NBK221624/ doi: 10.17226/10702
- Watanabe M, Jennett P, Watson M. The effect of information technology on the physician workforce and health care in isolated communities: the Canadian picture. Journal of Telemedicine and Telecare, 1999, 5(Suppl.2):11-19.
- World Health Organization (WHO). Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. World Health Organization; 2010.
- World Health Organization (WHO). WHO guidelines on health workforce development, attraction, recruitment and retention in rural and remote areas. 2021, https://www.who.int/publications/i/item/9789240024229, accessed on 4 August 2021