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Timor-Leste Health Labor Market Analysis

Local Health System Sustainability Project
Task Order 1, USAID Integrated Health Systems IDIQ

November 2023

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 access to 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 project will build local capacity to sustain strong health system performance, supporting countries on their journey to self-reliance and prosperity.

Recommended Citation: The Local Health System Sustainability Project (LHSS) under the USAID Integrated Health Systems IDIQ. November 2023. *Timor-Leste Health Labor Market Analysis*. Rockville, MD: Abt Associates.

Date: November 2023

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USAID Contract No: 7200AA18D00023 / 7200AA19F00014

This publication was produced for review by the United States Agency for International Development (USAID). It was prepared with support from the Local Health System Sustainability Project under the USAID Integrated Health Systems IDIQ.

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ACRONYMS

ASEAN	Association of Southeast Asian Nations
CHC	Community Health Center
CLHAR	Cabinet of Licensing and Health Activity Registration
ESP	Essential Services Package
FDCH	Fundo Desenvolvimento Capital Humano (Human Capital Development Fund)
GDP	Gross Domestic Product
HLMA	Health Labor Market Analysis
HRH	Human Resources for Health
HRIS	Human Resource Information System
ICS	Instituto Ciências de Saúde (Institute of the Health Sciences)
ISC	Instituto Superior Cristal (Higher Institute Cristal)
INSP	Instituto Nacional de Saúde Público (National Institute of Public Health)
LHSS	Local Health System Sustainability Project
MOH	Ministry of Health
NDHR	National Directorate of Human Resources
NSPHRH	National Strategic Plan for Human Resources for Health
NHSSP II	National Health Sector Strategic Plan II 2020-2030
REBAS-TL	Rede ba Saúde Timor-Leste (Timor-Leste Health Network)
TMIS	Training Management Information System
UNDIL	Universidade de Dili (University of Dili)
UNICEF	United Nations Children's Fund
UNITAL	Universidade Oriental (Oriental University)
UNPAZ	Universidade da Paz (University of Peace)
UNTL	Universidade Nacional de Timor-Leste (National University of Timor-Leste)
USAID	United States Agency for International Development
WISN	Workload Indicators of Staffing Need
WHO	World Health Organization

EXECUTIVE SUMMARY

The health labor market in Timor-Leste is dominated by the public sector with the Ministry of Health (MOH) being the primary employer and an estimated 70 percent of health services provided by public health facilities. Since gaining independence in 2002, Timor-Leste has made remarkable progress in the health sector: it has made significant investments in public health, increased institutional capacity for managing the health workforce, and improved population health indicators. Nonetheless, as a nascent health system, there are opportunities for strengthening the education and training institutions, improving MOH capacity to adequately manage and oversee the workforce and service quality provision, and establishing inter- and intra-ministerial governance mechanisms to address cross-sectoral challenges.

The USAID Health System Sustainability Activity, known in-country as the Activity, conducted this analysis to help the MOH understand the current context of the health labor market, primarily in the public sector, to inform the MOH as it develops policy options to address these challenges in the next iteration of the National Strategic Plan for Human Resources for Health (NSPHRH). Although the focus of this report is on human resources for health (HRH), the report also provides insights in support of the Government of Timor-Leste's public health policy priorities, including its constitutional commitment to provide high-quality universal access to health care to all Timorese, with a focus on primary health care. To this end, the report identifies challenges and provides policy recommendations pertaining to health education, training, and licensing as well as health workforce planning and management, including assessing retention, motivation, performance, and productivity; it also paints a picture of the current state of financing for the health workforce.

The health labor market analysis was conducted by a team of experts from the USAID Health Systems Sustainability Activity and counterparts from the National Directorate of Human Resources (NDHR) under the MOH, with close collaboration and participation from relevant stakeholders including other line ministries, higher education institutions, civil society organizations, funders, and implementing partners. The data collection and analysis process included a desk review, an inception workshop to identify priority policy questions, primary and secondary data collection and analysis, and a validation workshop to validate findings, and discuss policy recommendations. The key findings for each topic area are summarized below and outlined in detail in the report.

Key findings:

- **Education, training, and licensing**: A majority, 80 percent, of health professionals are trained in private universities. Twenty percent of health professionals are trained at the University of Timor-Leste. On average, nurses are the highest number of health workers produced, followed by allied professionals and midwives, with specialist doctors being the least number produced. Admission into health programs is not based on a quota system, and there are no coordination mechanisms to align the pipeline of health workers being produced with the demands of the labor market. Consequently, given limited employment opportunities, the labor market is approaching saturation although this does not indicate the availability of an adequate health workforce to meet the population's health demands per the World Health Organization or Essential Services Package guidelines.
- **Health workforce planning and management**: As in most countries, maldistribution within municipalities (rural vs urban) and across health service delivery levels and facility types (primary vs secondary, and community health centers vs hospitals) is a challenge in Timor-Leste. Further, the lack of information management systems, poor data recording, access,

and analytics capacity, with weak management and oversight systems contribute to poor planning and miss the opportunity to optimize health workforce allocation, productivity, and motivation. Competency-based performance management is also a significant gap that needs to be addressed. Overall, attrition is very low due to relatively higher compensation rates for health workers compared to other civil servants as well as limited employment opportunities.

- **Health workforce financing**: Currently, salaries and wages for the health workforce are financed domestically and account for an average of 52 percent of health expenditures. However, complementary financial incentives that are mandated by law, especially for health workers in remote areas, and performance-based merit increases are not consistently implemented. Given limited resources, competing budget priorities, and the need to increase the number of health workers to meet population demands based on currently available estimates, developing a costed HRH strategy with health workforce needs forecasted using reliable data is essential in developing the next HRH strategy and advocating for the prioritization and inclusion of the health workforce in the national financing strategy.

In line with these key findings and with discussions with stakeholders (including policy makers) during the inception and validation workshops held in conducting this study, the MOH should consider the following policy recommendations**:**

- Establish an inter-ministerial working group, led by the MOH, to conduct a comprehensive review of health workforce production by institutions for alignment with the public sector's absorption capacity and population demands, including the introduction of a competitive admissions quota system. Further, establish a system to assess quality standards of pre-service education through the introduction of national certification examinations, a competency-based licensing system, and the establishment of a health professional council. In addition, pre-service education should include increased the capacity to train specialists domestically. In addition, pre-service education should include increased capacity to train specialists domestically, and through channeling scholarship funds for training specialists abroad tied with mandatory service requirements.
- To govern the implementation of strategic HRH priorities, the MOH should develop foundational policies pertaining to workforce planning and management, including to guide deployment, transfer, and mobility decisions; financial and non-financial incentives provision policies for health workers in remote health facilities; and task-shifting and task-sharing policies. Additionally, the MOH should continue to implement existing policies related to recruitment, performance management, and implementation of community-based service delivery programs that aim to optimize the existing workforce (Family Health (Saúde na Familia) and Community Health Services (Serviço Integrado da Saúde Comunitária, or SISCa, programs).
- The availability of reliable, accurate, and timely data is an essential enabling factor for evidence-based policy making. Timor-Leste's health system struggles with fragmented data systems. Assessing the functionality and governance of existing data systems, including redesigning to ensure interoperability between different systems or centralization of information systems should be a priority. Systems recommended for review are the MOH's training management information system and human resource information system, with significant investments in building institutional and individual capacity in data analysis and reporting.
- To address the burgeoning wage bill while addressing workforce shortages in remote areas, NDHR, in close collaboration with relevant units, should consider the implementation of

flexible contracting mechanisms for new recruits. Additionally, to advocate for the necessary financing, streamline workforce distribution, and align workforce needs with population demands, the MOH should undertake demand-based workforce planning using existing tools that incorporate global promising practices. Findings and recommendations should demonstrate multiple scenarios considering the feasibility and timeline of implementation to inform the development of cost elements of the next NSPHRH.

- Lastly, in recognition of emerging private sector providers, the MOH should spearhead a regulation system to ensure appropriate oversight mechanisms are in place. The current small size of the private sector makes the timing ripe to institutionalize regulation as the sector continues to evolve. This is especially important to safeguard public health and anecdotal evidence of dual practice, which is illegal in Timor-Leste unless prior approval is obtained. Additionally, the MOH should consider partnership mechanisms with private sector providers to explore the potential of filling the need for specialist doctors.

The following sections of this report elaborate on the analysis and recommendations outlined above and provide additional context, including macroeconomic conditions and the status of the health labor market and workforce dynamics.

INTRODUCTION

COUNTRY CONTEXT AND DEMOGRAPHICS

Timor-Leste is a lower middle-income Southeast Asian nation with a resident population of 1,340,434 and an area of 14,954 square kilometers (Timor-Leste National Institute of Statistics 2023). Most of the population (63.2 percent) live in small, isolated villages surrounded by mountains and poor infrastructure, while 36.8 percent live in urban areas (Timor-Leste National Institute of Statistics 2023). There are 14 municipalities, with 65 sub-districts, 442 sucos (villages), and 2,225 aldeias (hamlets). Dili and Ermera are the two most densely populated urban centers and home to 29 percent of the population.

Since gaining independence in 2002, Timor-Leste has made remarkable progress in the health sector, demonstrating significant financial and political commitment to provide free health care to all Timorese. The country has witnessed notable achievements in the health sector, leading to substantial improvements in the health indicators. Life expectancy has increased from 62.7 years in 2000 to 69.6 in 2019 (WHO 2023). The mortality rate for children under the age of 1 has declined from 87 deaths per 1,000 live births in 2000 to 43 deaths per 1,000 live births in 2021, while the mortality rate for children under 5 has decreased from 111.3 deaths per 1,000 live births to 50.5 deaths per 1,000 live births in the same period (UNICEF n.d.). Additionally, maternal mortality has significantly reduced from 1,080 deaths per 100,000 live births in 1990 to 215 deaths per 100,000 live births in 2016 (WHO 2018). Furthermore, infectious diseases such as polio, measles, and maternal and neonatal tetanus have been successfully eliminated (MOH 2020).

OBJECTIVE OF THE HEALTH LABOR MARKET ANALYSIS

One of the key challenges after independence was a severe shortage of health professionals, with approximately 1,500 health workers, of which only 120 were medical doctors (Alonso and Brugha 2006). Over the past 15 years, Timor-Leste has made significant improvements to establish human resources for health (HRH) through partnerships with countries like Cuba to train medical doctors and investments in national universities, thereby showcasing the government's commitment to building a robust health care workforce. However, although the number of health workers has increased significantly, to a total of 4,214 medical professionals including 949 medical doctors, the distribution of the workforce and quality of services provided remains a challenge. Additionally, the public sector is the main employer of health workers, and although the current workforce does not meet the World Health Organization (WHO) standards of health worker-to-population ratio, the number of nurses and doctors produced is higher than the vacancies available to absorb them, leading to a saturated health labor market. Conversely, the number of specialist doctors produced is less than the number of vacancies. The country also faces other challenges in the absence of foundational human resource management structures and policies that enable effective planning and distribution, resulting in challenges with aligning the health workforce pipeline with demand, cumbersome recruitment processes, ineffective performance management systems, gaps in implementing incentives, and lack of standardized competency standards. Further, initiatives that require multi-stakeholder collaboration, such as addressing the quality concerns with pre-service training, establishing regulatory mechanisms to manage an emerging private health sector, and establishing a health professional council, are priority policy focus areas.

To better understand and devise effective policy and management approaches to address these health workforce challenges, the Ministry of Health (MOH) initiated the health labor market

analysis (HLMA) in collaboration with the USAID Health Systems Strengthening Activity. The HLMA aims to provide an overview and analysis of the current status of the health workforce in Timor-Leste. The findings will serve as an essential resource for the MOH in building and managing a health workforce that is fit-for-purpose and fit-for-practice, as it develops the next iteration of the multi-year NSPHRH.

LABOR MARKET AND MACROECONOMIC FACTORS

MACROECONOMIC FACTORS

Although the health labor market has its own specificities, it is important to understand it within the context of the general labor market and the broader economic environment. Labor market dynamics are closely linked with economic growth, with studies showing a positive, bi-directional correlation between economic growth and job creation (Basnett and Sen 2013; Melamed, Hartwig and Grant 2011). Studies by the International Monetary Fund have also shown that low levels of unemployment are linked to high levels of growth, with output largely dependent on the amount of labor used (Oner 2010).

From 2011-2022, Timor-Leste has sustained an average gross domestic product (GDP) growth rate of 1.8 percent, except for 2020, when GDP contracted by 8.3 percent due to COVID-19 (Ministry of Finance 2023). The economy is heavily dependent on oil and gas exports, which account for around 90 percent of GDP (Martins et al. 2021). The non-oil economy is relatively small and underdeveloped. Further, public expenditure in construction and public services is the main driver of economic activity, which raises concerns about maintaining sustainable economic growth. In recognition of concerns with the current economic model, Timor-Leste has developed a coherent medium-term Strategic Development Plan that leverages the country's unique endowments and emerging opportunities to diversify the economy, including investing in agriculture, downstream oil and gas industries, and tourism (Government of Timor-Leste 2011).

The Government of Timor-Leste has over time demonstrated steady political commitment to sustain financial investments in the public health sector. For the 2023 fiscal year, the government aligned spending with the priority goals set in the Strategic Development Plan. The social capital sector, which includes health, education, and social services, is deemed a priority, and received the largest proportion – 36 percent – of public funds (Government of Timor-Leste 2022). The prioritization of the social capital sector from a strategic direction and budget perspective presents an opportunity for investments in HRH, including meeting staffing targets (Office of the Prime Minister 2021). Overall, as a percentage of health expenditures, the government spent an average of 52 percent on salary and wages and technical assistance.

LABOR FORCE PARTICIPATION

The working-age population (15 years and above) in Timor-Leste is estimated at 809,300, with an unemployment rate of 9.6 percent in 2021 (General Directorate of Statistics 2022). The unemployment rate is higher relative to similar countries such as Laos (2.6 percent), Cambodia (0.4 percent), Myanmar (1.5 percent), Tonga (3 percent), and Vietnam (1.9 percent) (World Bank 2023). However, the unemployment rate for those with intermediate and advanced education, which includes doctors, nurses, and midwives, was 2.4 percent in 2021 (General Directorate of Statistics 2022). The MOH has expressed concerns about the lack of vacant positions to hire recent graduates from health training institutions. This situation prompts a need to analyze the alignment between the number and type of health workers produced relative to the population’s demands and available vacancies in the public sector and the budding private sector through coordination

between the Secretary of State of Employment and Professional Training, Ministry of Higher Education, Science, and Culture, educational institutions, and the MOH.

HEALTH CARE SERVICES IN TIMOR-LESTE

Health services in Timor-Leste are primarily managed and delivered by the public sector under the stewardship of the MOH and complementary autonomous agencies. There are 71 community health centers (CHCs), 318 health posts, and 7 treatment posts that serve as mini health posts with only one doctor and one midwife working in them. Additionally, through the Integrated Community Health Services program (Serviço Integrado da Saúde Comunitária, or SISCa), community health workers provide outreach services in more than 600 posts (Timor-Leste HMIS 2021). Further, through the Family Health Program (Saúde na Família), a team of community-based health professionals, which could include a doctor, midwife, or nurse, visit households, mostly for surveying and at times to provide services.

As shown in Figure 1, the public sector is structured to provide diagnostic, treatment, and rehabilitative services at primary and secondary levels, with disease prevention and control and health promotion activities implemented at the community level. Regional hospitals and one national hospital provide advanced care and have the capacity to provide some surgical services, including appendectomies and cesarean section deliveries. Health care service delivery is further supported by autonomous agencies including the National Institute of Public Health (Instituto Nacional de Saúde Público, or INSP), National Laboratory, National Medical and Drug Supply Store, and the National Ambulance and Emergency Medical Service.

Figure 1: Health Service Delivery Structure by 2030

Source: Government of Timor-Leste (2011)

There are a few for-profit, private sector clinics, polyclinics, and specialized health centers managed and operated by doctors, nurses, midwives, and dentists, mainly in the capital city, Dili (Government of Timor-Leste 2011). Although current private sector data from the MOH were not available to enable a detailed analysis during this study, the private, for-profit sector is estimated to provide about one-fourth of the health services in Timor-Leste, with several stakeholders interviewed during

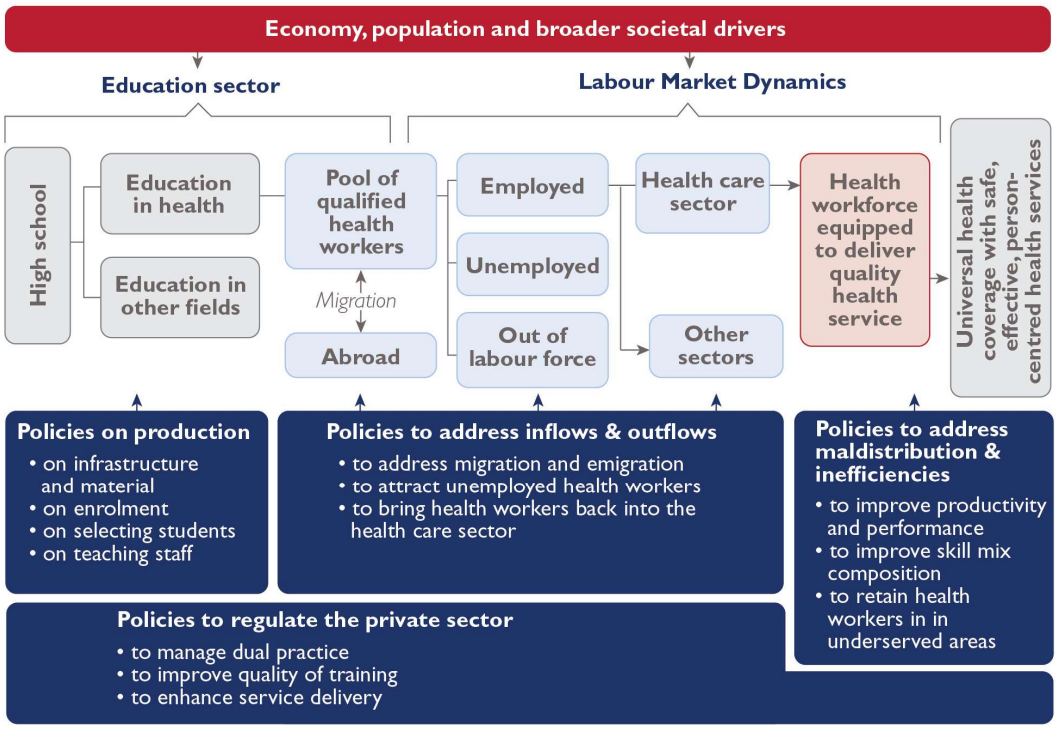
the HLMA process stating there is an increasing trend in the number of private providers who engage specialist doctors. There are also an estimated 83 clinics (59 fixed and 24 mobile) run by non-governmental organizations and religious organizations (Government of Timor-Leste 2011). The lack of legislation to adequately regulate private sector providers is increasingly a concern that the ministry and other relevant agencies need to address to safeguard the public and ensure private providers meet the requisite medical safety and compliance standards.

FRAMEWORK FOR HEALTH LABOR MARKET ANALYSIS

The health labor market can be defined as a dynamic system comprising two distinct but closely related economic forces: the supply of health professionals and the demand for such workers. The Timor-Leste HLMA used the WHO's HLMA framework for universal health coverage. To illustrate this concept, Figure 2 depicts the Health Labor Market Framework, which comprises the production of health professionals through the education system, the absorption capacity of health professionals by the health system, and policy levers to influence and improve the functionality of the health active labor force in the health sector including, productivity, performance, skill mix, and geographic distribution.

The analysis focused on six thematic policy areas that include health labor education and training, health labor planning and management, health labor retention and turnover, health labor performance and productivity, health labor financing, and health labor regulation and licensing. The findings and recommendations were developed based on pre-identified policy questions during an inception workshop attended by policy makers, funders, program managers, and implementing partners. Further, the same group of stakeholders were gathered for a validation workshop where the recommendations were discussed to confirm relevance and implementation feasibility.

Figure 2: Health Labor Market Framework for Universal Health Coverage



Source: WHO (2021)

METHODS

The study employed qualitative and quantitative data collection and analyses to explore the policy questions prioritized by the MOH.

Stakeholder engagement

The study required significant stakeholder engagements with main actors in the health labor market. The lack of timely and accurate data availability placed prime importance on gaining insight from key stakeholders through workshops, focus group discussions, and semi-structured interviews. Stakeholders engaged through the study represented higher education institutions, the MOH (national and subnational representatives), the FDCH, the Ministry of Higher Education, the Ministry of Finance, the National Directorate of Statistics, UN agencies, implementing partners, civil society, health professional associations, private clinics, and the Disability Association.

Desk review

The Activity conducted a desk review of the Government of Timor-Leste and MOH policy and strategy documents, funding and norm-setting agency publications, and administrative data related to HRH. Further, published studies and reports from peer-reviewed journals and global institutions were referenced and incorporated into the report. The desk review informed the development of the draft policy questions.

Data analysis and validation sessions

The Activity focused data analysis methods on descriptive statistics, demand and supply analysis, thematic analysis of qualitative data, and comparative analysis. Validation meetings were held with key stakeholders including the MOH (National Directorate for Human Resources (NDHR) and Licensing Office) and educational institutions. This was to confirm the accuracy of documented processes and challenges, investigate issues further, generate solutions to existing challenges, and validate the proposed process improvement options. A final HLMA validation workshop was held with the attendance of the Minister of Health and all HLMA stakeholders to discuss the policy recommendations.

LIMITATIONS OF THE STUDY

The limited availability of data from the health, education, and employment sectors was a significant challenge. For instance, admission rates for medical school students were not attainable, nor was the vacancy rate for positions at primary health care facilities. Moreover, data on community health workers who support service delivery were not included in this analysis as they are not formally integrated into the health system. Where data were available, data sets lacked standard formatting, unique identifiers, and consistency in reporting from month to month, and included significant gaps that made it impossible to analyze trends and synthesize findings. Consequently, it was not possible to provide answers and recommendations to all the predetermined policy questions. Additionally, the study was conducted during national election campaigns and an impending change of government. Therefore, some senior MOH staff had limited availability while others could not be reached.

HEALTH LABOR MARKET ANALYSIS FINDINGS

The findings and recommendations in this section answer policy questions identified under each thematic policy area and discussed during the inception and validation workshops.

HEALTH LABOR EDUCATION, TRAINING, AND LICENSING

Pre-service education is a central component of the pipeline that provides health workforce requirements for the country. This thematic area focused on understanding the current policies and practices for pre-service education, assessed opportunities to integrate health workforce education and training with broader health system planning, and adapting curricula to meet the changing population's needs.

SITUATIONAL ANALYSIS

Health professional production rates by private and public higher education institutions

The supply of health professionals in Timor-Leste is mainly generated from domestic private and public higher education institutions, that is, one government-owned university, the National University of Timor-Leste (UNTL), and six private institutions.[1] Between 2018 and 2023, a total of 3,969 health professionals graduated from all the higher education institutes, as shown in Table 1. The health profession with the highest rate of production is nursing, followed by public health and midwifery. Conversely, there are very few specialist doctors being trained domestically – a total of 29 during the period 2019-2023. UNTL and ISC are the only institutions that train medical doctors, and their curricula is based on the Cuban method of medical training, with a majority of the lecturers provided by the Cuban Government (Cuban Brigade). Collectively, a majority (80 percent) of health professionals are trained in private institutions, with UNTL training an average of 20 percent of the health workforce.[2] Tuition rates for private universities are considered affordable, ranging from US$200-400 per semester. This makes attaining a health professional qualification in private universities affordable, and, based on interviews and focus group discussions, dropout rates are minimal.

Table 1: Number of Health Professional Graduates by Institution and Degree Program (2018-2023)

Health Profession	ICS	Health Profession	ICS	Health Profession	ICS	Health Profession	ICS
Specialist doctors	0	0	0	0	0	29	29
General doctors	0	27	0	0	0	89	116
Midwives	149	238		84	0	269	740
Nurses	249	538	145	330	123	290	1675
Allied professionals	35	12	116	274	632	67	1136
Grand Total	433	815	261	688	755	744	3696

Source: Jornal da República (2023)

If the current trends for health staff production by education institutions continues, and a relatively low (2-3 percent) annual attrition rate is assumed, the MOH projects the number of health professionals to increase to more than 17,700 by 2030. At the current production rate, the health labor market may be approaching the point of saturation, as evidenced by unemployment among the most recent batch of graduates (MOH 2020). However, it is important to note saturation does not mean that Timor-Leste has a sufficient number of health professionals to cover the population based on WHO's recommendation and estimates provided in the Essential Services Package (ESP). This presents the issue of a health labor market that

1 Instituto Ciências de Saúde (ICS), Instituto Superior Cristal (ISC), Universidade de Dili (UNDIL), Universidade Oriental Timor Lorosa'e (UNITAL), Universidade da Paz (UNPAZ), and Universidade Catolica Timorense (UCT).

2 Based on graduation data that were available for the period 2018-2023. Note there are data gaps in reporting and the total number of graduates may not be captured in the official publications and thus in this report.

is dominated by the public sector; thus, the demand for health professionals is based on available public resources as opposed to market dynamics.

Effectiveness of pre-service institutions and training programs

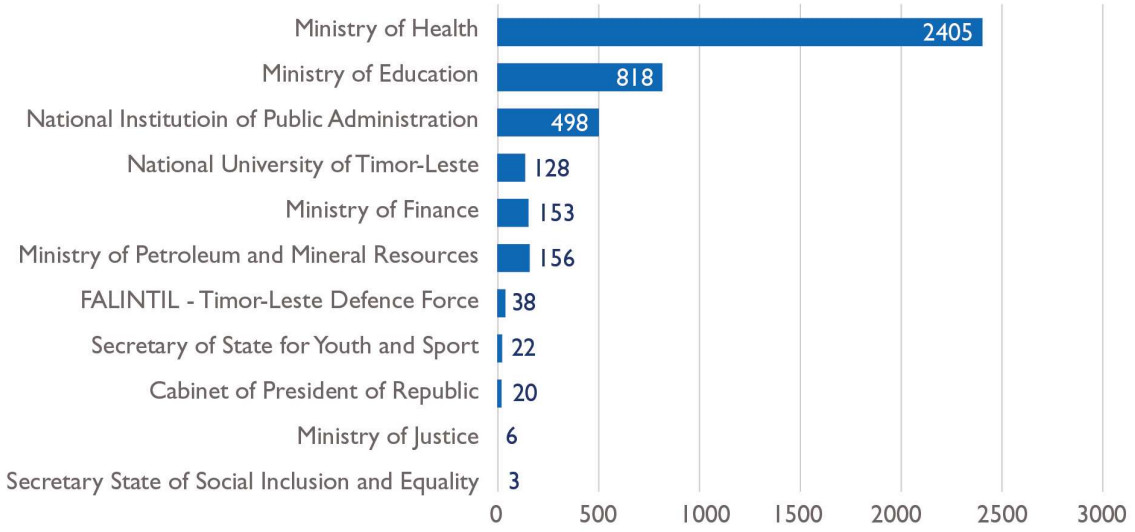
Higher education institutions are supervised under the strategic coordination of the Ministry of Higher Education. The National Agency for Academic Assessment and Accreditation provides oversight on the quality of education and adherence to established standards. However, the accreditation process focuses on ensuring operation and administrative aspects, such as facility standards and presence of curricula, and does not assess the relevance or quality of the training content or student performance. Additionally, there is a lack of national guidelines and curricula framework that align training and examinations with competency standards for the relevant profession. Timor-Leste also does not have standardized exams to certify health professionals at the completion of their pre-service education programs.

Due to the lack of national examination pass rate data, key performance indicators, and national competency standards, it was not possible to assess the competencies and readiness of graduates to provide quality health services. University admission data were also not available and competitiveness and effectiveness of entry requirements to attract high-performing students could not be assessed.

Domestic education drives the growth in health professionals, complemented by significant investments in study abroad scholarships funded by the Government of Timor-Leste through the FDCH

Timor-Leste has a significant number of Timorese graduates who have attained medical degrees from international universities. In comparison to other sectors, the government has significantly funded pre-service education scholarships for overseas studies through the FDCH, amounting to US$3.7 million in 2017 (FDCH 2016b). The FDCH is an entity under the Ministry of Planning and Strategic Investments with a mission to “contribute to the development of national human resources in various strategic development areas through funding of multi-annual training programs and projects, including programs to increase the training of Timorese professionals.“ Other Timorese have attended pre-service education through bilateral agreements and operational arrangements in Fiji, Papua New Guinea, Portugal, China, Australia, Indonesia, United States of America, and Mozambique. Figure 3 shows the comparison of the government’s allocation of FDCH funds across different sectors, with health receiving the highest proportion. The scholarship program has been successful, with all graduates returning to Timor-Leste upon completion of their studies (FDCH 2016b).

Figure 3: Number of Scholarships Awarded by Ministries and Agencies (2011-2015)



Source: FDCH (2016b)

Despite this heavy investment in pre-service education scholarship program, there is lack of strategic recruitment and deployment of returnees, with some waiting more a year for vacant positions to become available (FDCH 2016b). Although the FDCH has not conducted a detailed study to analyze the number of scholarship recipients who have assumed intended roles, interviews with the FDCH confirmed that some returnees transitioned to other professions and trades.

Licensing and regulation of health professionals

Health workers fall under the category of professionals who are regulated by the state. The parliamentary law for the National Health System, Law No. 10/2004, of September 24, amended by Law No. 24/2021 of November 19, article 8, establishes the indispensable requirements that govern the performance functions, rights, and duties of health professionals, especially those of a deontological nature. Decree Law No. 13/2012 of March 7, 2022, Health Professional Career, widely known as the Special Career Regime for Health Professionals amended by Decree Law No. 86/2022 of December 14, elaborates on the performance requirements, rights, and duties of health professionals. Despite these existing laws that provide guidance on regulating health professionals, Timor-Leste does not have an established institution mandated to oversee health care professionals. Though there have been several discussions at the ministry level between the ministers and health professional associations to establish a health professionals council, this has not yet happened due to conflicting ideas on governance structure and scope, as well as political transitions.

Health professionals are required to register and obtain a license from the Cabinet of Licensing and Health Activity Registration (CLHAR), which serves as the central MOH service for licensing pharmaceutical activities and private health units, and issuing the necessary licenses to practicing health professionals. Its mandate also includes processing the registration of health professionals and maintaining an updated database of all registered health professionals. The CLHAR is a newly established unit with three staff members who were transferred from other units and are in the process of establishing the responsibilities and scope of the unit. The existing professional associations such as the medical association, nurse association, and midwifery association, do not have the legal obligation and authority to regulate their peers.

The current registration process for health professionals is based on meeting academic requirements as per the criteria in Table 2. The licensing requirements for international health professionals are the same as the minimum requirements for national health professionals.

Table 2: Minimum Education Requirements for Licensing

Cadre	Qualification / Training	Observation
Medical Specialist	6 years education equivalent to bachelor's degree plus 3-4 years of post-graduate education	Needs to have a master's degree Senior clinician
General Doctor	6 years education; equivalent to a bachelor's degree	Variations depending on the graduates from different countries: Indonesia: 6 years plus 2 years attached in a clinic with a senior doctor - Curriculum requirements. Cuba: Medical degree, no clinical experience required to become a doctor
Midwife	4 years of education; equivalent to a bachelor's degree	Diploma IV is currently required as the minimum requirement. Diploma I course no longer exists. This was initially for those with experience, including nurse/midwife, from Indonesian times. This has been closed and those in the system who have Diploma 1 have been encouraged to attend Diploma IV.
Nurse	4 years of education; equivalent to a bachelor's degree	Includes dental nurses and (occasionally) public health specialists (4 years)
Allied health professionals	Various/ 3–4 years	Include pharmacy technicians (at level 5), lab technicians, nutritionists, physiotherapist

Source: Democratic Republic of Timor-Leste MOH (n.d. accessed November 17, 2023)

Licensed national and international health professionals in the Timor-Leste

Data obtained from the CLHAR show a total of 5,814 national and 125 international registered specialist doctors, general doctors, nurses, midwives, and allied professionals as of 2023. The registration has kept on increasing, with the exception of one year, as shown in Table 3. The requirement for the health professional registration is generic for all cadres. There are no standards that prescribe certain competencies to be eligible for registration and obtain a license to practice. All graduates of health studies can register and obtain license to practice as long as they can provide a curriculum vitae, legalized academic diploma related to a health profession, two national identifications, passport pictures, a certificate from an accredited university, a copy of academic transcript legalized by the Ministry of Higher Education, Science, and Culture, and an internship certificate from the MOH along with a request letter.

Health workers are required to renew their licenses every two years. The renewal process includes submitting a letter and completed performance evaluation for the past two years. International health workers are mostly from Cuba, China, and Nepal and most provide specialty care. There is a significant increase in the number of health workers from fiscal 2021-2022 to fiscal 2022-2023 due to the massive recruitment of temporary contractors due to COVID-19 pandemic. However, it must be noted that though an individual might have an active license, it does not infer that the individual is actively providing health services.

Table 3: Registered and Licensed Health Professionals

Year	Distribution	
	National	International
2018-2019	771	39
2019-2020	415	18
2020-2021	456	8
2021-2022	1166	12
2022-2023	3006	48

Source: Cabinet of Licensing and Health Activity Registration, Ministry of Health (2023)

Health professionals' council and current associations

Timor-Leste has associations for doctors, nurses, midwives, and pharmacists although they are not governed under one health professional council. The associations are volunteer-based and do not have a permanent or full-time registrar or office. Consequently, their power and influence is limited. For example, the midwives and nurses' associations submitted formal applications to establish councils for their respective professions to parliament in 2012 and 2013 but they were rejected because the government preferred an umbrella council. In 2014, the Government of Timor-Leste reached a consensus with the associations to establish a single professional council with chapters for each profession. As a next step, the associations were requested to prepare standard competencies, standards of practice, and codes of conduct for their respective cadres to ease the establishment process of the health professional council. However, this process has stalled, with the competency standards still being in draft form. Consequently, Timor-Leste's current licensing and regulation policies and programs are not set up to promote continued professional development and career advancement opportunities for health professionals. Once competency standards are finalized and formally adopted, the MOH anticipates that the health professional council will collaborate with the ministry and the INSP to institutionalize competency standards through training and performance management.

Globally, health professional councils play a foundational role in regulating public and private health care professionals. In Timor-Leste, the MOH anticipates the scope for the council to include managing a register of health professionals and setting quality assurance standards for education and service delivery. The council is also envisioned to serve as a body that investigates malpractice complaints.

DISCUSSION AND POLICY RECOMMENDATIONS

Need for inter-ministerial coordination to align health workforce production with demand

Over the past decade, there has been a significantly large increase in the quantity of health care workers in Timor-Leste, creating oversaturation. Consequently, there is an oversupply of health workers relative to current demands in the market. This has been driven mainly by significant government, development partner, and private sector investment in scholarships and educational institutions in the sector. Lack of a competitive quota in admission into general doctor, midwifery, nursing, and allied professional courses, coupled with affordable tuition, have also spurred this growth. This increase has also happened in a context of a lack of coordination between the Ministry of Higher Education, Science and Culture, MOH, and Secretary of State for Professional Training and Employment to identify demand-driven job opportunities in the health labor market.

Recommendation 1: Set up a technical inter-ministerial working group (MOH, Ministry of Higher Education, Science, and Culture, Ministry of Finance, and Secretary of State for Professional Training and Employment) led by the MOH to:

- Conduct a comprehensive review of health workforce production by education institutions to align with the ability of the public health sector to absorb new graduates as well as the population's demand and needs; and
- Study and put in place a policy on a competitive education quota system to manage the number of admissions for each profession per year. Instituting a quota system should consider alternative higher education areas that youth can be redirected towards.

Recommendation 2: Increase the capacity to train specialists domestically, and through channeling scholarship funds for training specialists abroad tied with mandatory service requirements.

Measure the quality of health professional graduates prior to licensing and registration

Timor-Leste does not have a national examination to measure quality and competence of health professionals upon completion of pre-service training, even though there are multiple systems of both domestic and international pre-service education that follow different curriculum standards. Passing a standardized national examination should be a minimum qualification requirement, in addition to existing ones, for obtaining a license to practice. Establishing this will enable Timor-Leste to monitor the competency of health professionals and ensure they have the requisite levels of knowledge, skills, and practices to meet the needs of the health labor market. In the absence of a health professionals council, the national competency-based examination can be developed by a technical committee established under the leadership of the MOH and administered by INSP.

Recommendation 2: Advocate and identify funds to support the development of competency standards and for competency-based curricula adoption by educational institutions. Further, the MOH should engage with the Ministry of Higher Education to establish a national standard to measure the quality of graduates through national examinations for the different professional cadres.

Recommendation 3: Allocate the necessary resources to establish a health professionals council, and initiate discussion with all the stakeholders and partners through a steering committee tasked with developing terms of reference for the council and working with the applicable government entities to draft a decree law to submit to the council of ministers for adoption.

PLANNING AND MANAGEMENT

Data-informed health workforce planning and management is necessary to manage the efficient allocation of health workers. Understanding the composition and distribution of health workers actively employed in the sector, and the vacancy rates by cadre and level of the health system, are necessary data points for comprehensive planning and management. This thematic area focuses on analyzing the recruitment and current distribution of health professionals across municipalities, implementation of financial and non-financial incentives to increase motivation and productivity, and opportunities for optimizing the existing workforce.

SITUATIONAL ANALYSIS

Staff recruitment, transfer, and mobility

Recruitment of health workers in the public sector is a highly manual, paper, and Excel-based process that is managed by a short-staffed department under the NDHR. Findings from a functional task analysis conducted by the USAID Health System Sustainability Activity identified the need for organizational and individual capacity development. NDHR staff are expected to manage workforce planning and distribution based on norms set in the ESP and annual recruitment need plans prepared by municipal health directors. However, findings from focus group discussions demonstrated that input and recommendations from the municipalities do not influence recruitment decisions at the central level.

Further, due to the manual, paper, and Excel-based data recording processes and lack of policy guidance, data related to vacancies, recruitment, retirements, turnover, transfers, and redeployments are not communicated to the central level in a timely manner, rendering the data at the central level unreliable and outdated. The lack of a functional human resources information system (HRIS) and a centralized management approach whereby NDHR manages recruitment for all health care facilities (excluding autonomous agencies), compounds the issue. All these factors contribute to significant delays in the recruitment process, which can sometimes last a year or longer.

Moreover, the MOH does not have a policy or guidance document to manage staff transfers or mobility. Allocation and transfers are managed on an ad hoc basis by the municipal health director. Staff movement is not tracked or reported centrally, so the information that is available at NDHR is usually not up to date. Consequently, some health professionals can remain in remote health posts for a long period, while new graduates are assigned to more desirable urban CHCs, referral hospitals, or the national hospital.

MOH's recruitment data between 2017 and 2022 show a total of 952 doctors, nurses, and midwives were hired under the special career regime scheme and an additional 1,328 doctors, nurses, and midwives were recruited as contractors between 2020 and 2022. Only 26 specialists were recruited in the same time period. In 2018 and 2021, the MOH recruited only allied professionals and nurse, respectively; there were no recruitments in 2019. The number of vacancies for allied professionals showed a significant decrease from 2017 (89) to 2018 (35). These findings suggest varying levels of demand for different professions within the health care sector.

The ministry has several open vacancies that were undergoing recruitment at the time of this analysis. Based on the information provided by NDHR, a trend observed in the data is that ongoing recruitment efforts are hindered by budget unavailability. Several positions across different categories for positions in regional and referral hospitals have not been filled due to budget constraints with some paused in the document review stage and others where candidates have been identified, but budget limitations prevent further progress.

Additionally, in 2023, the MOH, at the central level, led the transfer of 87 medical doctors from primary health care facilities to tertiary health care-level positions at the Guido Valadares National Hospital The rationale to transfer the doctors from primary health care facilities was to reward good performance with an opportunity to advance in their career (Martins 2023) This caused a significant number of experienced medical doctors to leave the rural health facilities, resulting in 120 vacant posts without a clear plan on how to fill these positions. The ministry has also deployed temporary contract doctors in the municipalities due to the COVID-19 pandemic. These contracts will terminate when COVID-19 funding ends in December 2023, further

increasing the number of open vacancies for medical doctors. The combination of these factors exacerbates the maldistribution issue.

ESP for workforce planning and management

The ESP recommends 9,383 health professionals for the MOH to achieve universal access to health care. The current total health workforce is 5,542, that is, those employed under the Special Career Regime (4,214) and temporary contractors (1,328), as shown in Table 4. Therefore, using the ESP standards, the HRH needs would be 4,296 professionals for the regional hospital in Bacau, 4 referral hospitals in Maliana, Maubise, Covalima and Oecussi, 72 CHCs, and 346 health posts in the municipalities.

Table 4: Workforce Analysis Against PHC ESP Recommendation

Category	ESP Recommended Workforce	Current Workforce (SCR)	Current Workforce (Temporary Contracts)	Total Current Workforce	ESP Workforce Needs Analysis
Doctors, Specialists	490	74	-	74	416
Doctors, General	1372	949	36	985	387
Nurses	3482	1655	478	2133	1349
Midwives	2122	680	242	922	1200
Allied Professionals	2372	856	572	1428	944
Total	**9,838**	**4,214**	**1,328**	**5,542**	**4,296**

Source: MOH (2023). This information was obtained through a direct data request.
Note: SCR=Special Career Regime

However, as shown in Table 5, further analysis of the current distribution of health professionals in the regional hospitals shows a more than adequate number of doctors overall with uneven distribution leading to understaffing in Baucau and overstaffing in Maubisse, Oecusse, and Suai. The regional hospital at Suai currently has the highest percentage of overstaffing, at 68 percent for nurses and 167 percent for doctors, compared to the established staffing norms per the ESP. Focus group discussions with municipal health directors also raised concerns of overstaffing in regional hospitals and understaffing in some CHCs, health centers, and health posts.

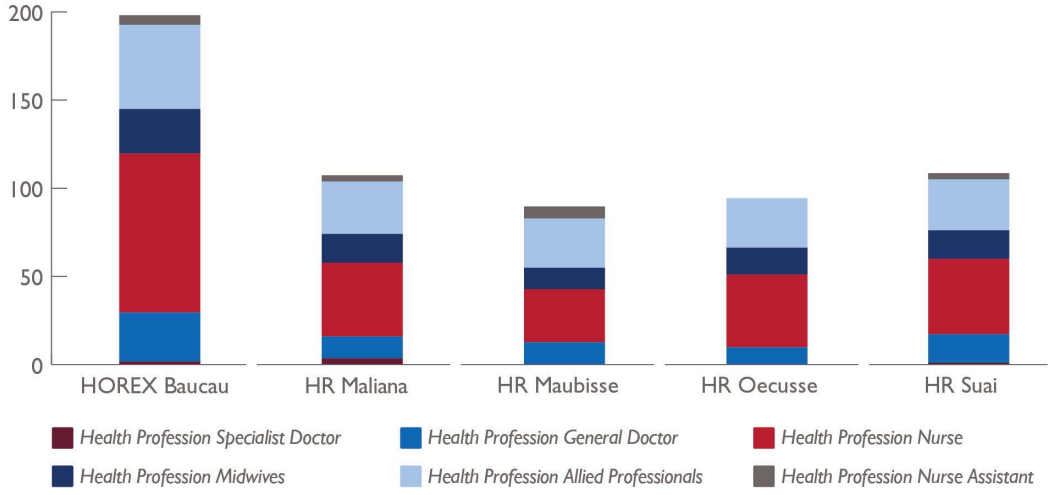
Table 5: Percentage Overstaffing in Regional Hospitals

Regional Hospitals	Nurses	Doctors
Baucau	32%	-33%
Maliana	61%	100%
Maubisse	32%	117%
Oecusse	46%	83%
Suai	68%	167%

Source: MOH (2023). This information was obtained through a direct data request.

Further analysis of data for health workforce distribution in the regional hospitals shows nurses are the highest number and proportion of health professionals and specialists are the lowest, which is in line with the ESP recommendations, as shown in Figure 4. Oecussi does not have specialists.

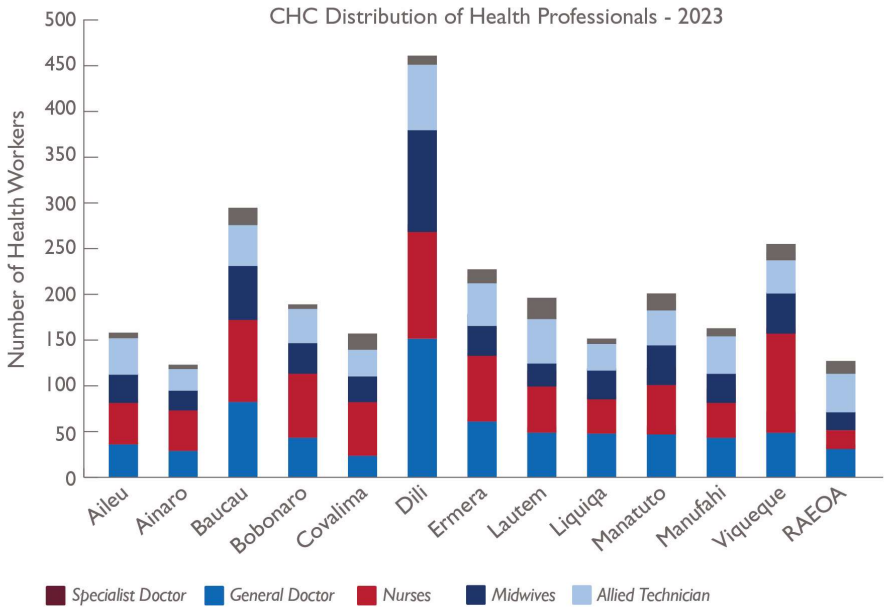
Figure 4: Regional Hospital Health Workforce Distribution 2023



Source: MOH (2023). This information was obtained through a direct data request.

Among the CHCs, Dili, Baucau, Manatuto, Viqueque, and Ermera have the highest number of health professionals. This is likely due to the higher population density in those areas and an indication that health professionals prefer to work in urban locations rather than in remote ones. The analysis is shown in Figure 5.

Figure 5: Health Professionals' Distribution by Municipality 20233



Source: MOH (2023). This information was obtained through a direct data request.

[3] There are four specialists at the CHC level - two in Dili and one each Manatuto and Viqueque.

Uneven distribution per 1,000 population ratio of health professionals at regional hospitals and community health

The WHO estimates that at least 4.45 medical staff (doctors, nurses, and midwives) per 1,000 population are needed to provide adequate primary health care coverage (WHO 2016a).The number of physicians (i.e., generalist and specialist medical practitioners) increased from 0.08 per 1,000 population in 2010 to 0.72 per 1,000 in 2018. This ratio is higher than many countries with similar income levels, although it is still below the East Asia and Pacific average (1.57) and somewhat lower than the lower middle-income country average (0.80). The number of nurses and midwives also increased significantly, to 1.67 per 1,000 in 2018. This has been achieved through sustained political commitment and financial investments in the public health sector. Overall, Timor-Leste has a ratio of 2.4 medical staff (physicians, nurses, and midwives) per 1,000 population, which is below the WHO recommended level of 4.45 per 1,000 population (World Bank 2021).

An analysis of the health workforce distribution based on the recommended WHO 4.45 health professionals per 1,000 population showed significant maldistribution with overstaffing and understaffing in the regional hospitals, CHCs, and health posts as shown above in Table 4. Dili is the highest populated municipality, and correspondingly has the highest concentration of health professionals. Note, in addition to the numbers presented below, Dili has private sector providers that would further improve the health profession-to-population ratio. Nonetheless, Dili, Ermera, Liquica, and Ainaro have the highest demand for health professionals due to their high populations, a result of rural-to-urban migration. Atauro is the least-populated municipality and only received municipality status in 2022; it does not have any CHCs or regional hospitals.

Aileu is the only municipality that has achieved the required 4.45 health professionals per 1,000 population ratio. Overall, including the 1,328 temporary contractors initially recruited for the COVID-19 response and are still employed by the MOH, Timor-Leste needs an additional 1,322 health professionals to meet the per 1,000 population targets. When the temporary contractors leave, the number of required health workers to meet WHO's recommended targets will increase to 2,645.

Table 6: Workforce Needs Analysis Against the WHO 4.45 Health professionals per 1,000 Population

Municipality	Population Size	Recommended Number of Health Workers per WHO Guidelines	Number of Physicians, Nurses, and Midwives Currently Employed by the MOH	Number of Additional Health Workers Needed to Meet WHO Guidelines
Baucau	133,881	595.77	493	103
Dili	324,269	1443.00	461	982
Aileu	54,631	243.11	250	-6.89
Ainaro	72,989	324.80	124	201
Liquica	83,689	372.42	152	220
Lautem	69,836	310.77	197	114
Manatuto	50,989	226.90	202	25
Manufahi	60,536	269.39	164	105
Ermera	138,080	614.46	228	386
Oecusee	80,726	359.23	223	136

Viqueque	80,054	356.24	256	100
Covalima	73,909	328.90	267	62
Atauro	10,302	45.84	0	46
Bobonaro	106,543	474.12	298	176
Total	1,340,434	5,965	3,315	2,645
Temporary workers	-	-	1,328*	-
Overall total		**5,965**	**4,643**	**1,322**

** Temporary contractors' exact municipality allocation is not provided. The number of required health professionals will change as temporary workers exit.*

Source: MOH (2023). This information was obtained through a direct data request.

Task shifting in remote, very remote, and extremely remote locations

Task shifting involves a strategic redistribution of health care tasks among different members of health workers in a given health facility. This reallocation is done in a rational manner, moving specific tasks from highly qualified and trained health professionals to those with shorter training and fewer qualifications. The goal is to optimize the use of available human resources and improve overall efficiency in health care delivery. Focus group discussions with the municipal district health managers showed that task shifting is already taking place informally in some CHCs and health posts, with nurses and midwives performing tasks that would otherwise fall under a doctor's scope of practice. For example, Ermera's Baboe Leten health post, which covers a population of 3,180, is staffed with one midwife who performs tasks beyond her scope of practice due to the lack of a nurse or doctor (PHD 2023). The MOH does not have a task-shifting or task-sharing policy in place and is not monitoring current practices in health facilities. This lack of tracking hinders the identification of targeted training opportunities and maximizing existing resources to potentially reduce the total number of new health workers that must be recruited to achieve universal health coverage goals.

DISCUSSION AND RECOMMENDATIONS

Review the NSPHRH and the ESP suggested workforce plan against demand-based workforce planning models

While various initiatives have been undertaken to ensure equal distribution and retention of the health workforce, disparities remain. The lack of human resources staff capacity, data-informed and demand-driven workforce planning, and incongruent recruitment and staff transfer processes that run in parallel by different actors in the health system, have resulted in extraneous recruitment processes, lack of alignment between budget availability and open vacancies, and maldistribution across health levels and municipalities. Further, the lack of foundational policies, job aids, and tools to support staff capacity building and day-to-day back-office management requirements are currently not in place. To address some of these concerns in the short and medium term, the MOH should consider implementing the following recommendations:

Recommendation 1: Develop and implement the following policies:

- Workforce planning and management policy
- Deployment, transfer, and mobility policy to guide redistribution according to staffing needs
- Task-shifting policy for remote, very remote, and extremely remote locations.

Recommendation 2: For the next review of the NSPHRH in 2024, the ministry should consider doing demand-based health workforce planning, using tools such as Workload Indicators of Staffing Need (WISN) to review the staffing norms and standards by type of health facilities. WISN can help the MOH plan and deploy the right people, with the right skills mix, in the right place. The WISN analysis should be led by a seasoned expert with a medical background to ensure the process is informed by expert professional opinion.

Recommendation 3: In the short-term, the ministry should consider optimizing service delivery to manage HRH needs while reducing the ballooning wage bill through task shifting (recommendation 1) and setting up hub-and-spoke models where doctors rotate among CHCs and health posts to provide health care services

Recommendation 4: Consider a temporary policy to suspend external recruitment processes for a period of five years and allow for internal redistribution and transfer after staffing needs assessment using the WISN model. During this period, the ministry should use short-term employment mechanisms, such as time-limited contracts, to ensure critical posts do not remain vacant for extended periods of time, and to the extent possible, to absorb new graduates.

Recommendation 5: Strengthen the NDHRs' organization and individual staff capacity to effectively lead workforce planning and management at the national level, including leading inter-ministerial working groups and advocating for the necessary policies and funding to support administrative functions as well as frontline health workers. This must include investments and training in HRIS and data analysis and management.

RETENTION AND TURNOVER

This thematic area focuses on identifying the factors contributing to health professionals' turnover rates, analyzing the impacts of salaries, and working conditions on recruitment and retention, investigating the availability of incentives and benefits for health professionals, and assessing the trends in health workforce migration and their implications for the local health system.

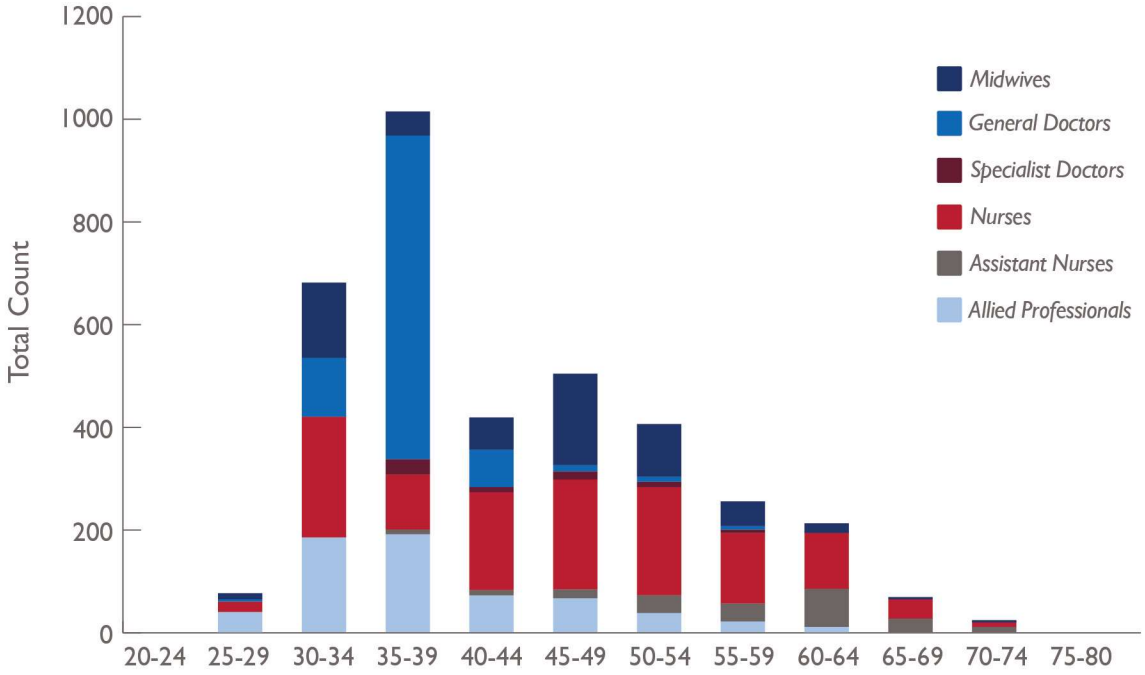
SITUATIONAL ANALYSIS

Exit from the health labor market through resignations and retirement

Health professionals can exit the health labor market through retirement, resignation, migration, and death. The retirement age in Timor-Leste is 60 years, and civil servants, including health professionals above the retirement age, must request additional years of service or work in the private sector. Based on 2023 HRH data, 9 percent of health professionals are working past the retirement age, and 13 percent are due for retirement in the next 10 years. The turnover rates in the last five years are very low, with an average attrition rate of less than 1 percent. Figure 6 illustrates the age distribution of health professionals practicing in Timor-Leste in 2022. Most of the health professionals (76 percent) are between the ages of 30 and 50. Given the production capacity of universities, and the average production over the past five years, it is unlikely that the ministry will face supply issues for any cadre except specialist doctors, for at least the next 15 years. For example, a total of 349 nurses are due to retire in the next 10 years, and UNTL, UNITAL, and ISC graduated 506 nurses in 2022 and 2023. For specialist doctors, however, 46 percent are set to retire in 15 years. Given the existing shortage of specialist doctors and the limited domestic capacity to train specialists, the MOH should explore options to establish a pipeline of specialist doctors to backfill the retirees. It suggests that exits from the market attributed to retirement will likely not be an issue until 2025-2035, with nurses at the highest

number due for retirement. However, given the production data discussed in the first section of this report, nurses are the cadre produced in highest numbers, it is unlikely that the MOH will face supply issues for nurses.

Figure 6: Permanent Health Professionals' Age Distribution, 2022



Source: MOH (2023). This information was obtained through a direct data request.

Salaries scales and health worker motivation

Rural retention of health professionals such as doctors, nurses, and midwives has been a challenge in most countries around the world, as most trained health professionals prefer to work in urban areas where living and working conditions are better. Timor-Leste faces a similar challenge, where most of the existing health professionals prefer to work in urban health facilities, at the Guido Valadares National Hospital or in Dili. Ninety-two percent (39 out of 42) of the stakeholders interviewed shared this is caused by having the same salary scale for health professionals working in urban and rural CHCs and health posts.

According to Civil Service Commission policy on remuneration, the starting monthly base salary for doctors is US$610. Based on performance, it may increase to a maximum of $2,300 over time. Nurses and midwives' monthly salaries start at $450 and could increase to $1,325 over time (MOH 2021). Table 7 provides a comparison to other civil servants' pay in Timor-Leste. The salary for doctors, nurses, and midwives is considered fair and adequate and the higher than those of other civil servants. Findings from discreet choice confirm this assertion: doctors found the salary an attractive attribute of their job (Smitz 2016). However, the last revision of the salary scale was done 10 years ago, in 2013, and has not kept up with the increased cost of living over the last decade. Moreover, the absence of a performance evaluation system for Special Career Regime employees (Jornal da República 2022a), which is required by law to form the basis for promotion eligibility, has hindered promotion opportunities. It should also be noted that although the ceiling for medical professionals is relatively high, current compensation rates are closer to the salary floor. For example, a junior general doctor hired with a starting salary of $610 will need to wait two or three years to progress to the next salary grade of $625

depending on the performance assessment rating. The law requires a rating of "very good" for two consecutive years or a combination of “very good” and “good” for three consecutive years for health workers to become eligible to progress on the salary scale (Jornal da República 2022a). However, due to the absence of performance evaluation specific to health workers, progression has not taken place. The non-functioning career progression system and lack of adherence to laws that entitle health workers to allowances, coupled with the increased cost of living, undermines health worker motivation and thus productivity.

Table 7: Comparative Analysis of Salaries of Health Professionals and Other Public Service Professionals

Institution Name	Basic Salary	
	Minimum	Maximum
Ministry of Health - Doctors	$610.00	$2,300.00
Ministry of Health - Nurses and Midwives	$450.00	$1,325.00
Timor-Leste Defense Force (FDTL)	$89.00	$938.00
Timor-Leste National Police (PNTL)	$225.00	$1,875.00
National University of Timor-Leste (UNTL)	$264.00	$600.00
Court: Magistrate, Defender, and Attorney	$100.00	$2,000.00
General Public Administration	$135.00	$742.00
Ministry of Education	$264.00	$600.00

Source: Civil Service Commission Decree Laws. Jornal da República (2017); Jornal da República (2022a); Jornal da República (2021); Jornal da República (2010a); Jornal da República (2022b); Jornal da República (2010b).

Implementation of rural incentive mechanisms

An assessment of rural incentive scheme for health professionals in Timor-Leste found that some doctors leave rural areas as soon as they finish the six-year contract with the government (USAID Health System Sustainability Activity 2022). Although health professionals in remote areas are entitled to supplemental pay at a percentage of their salary (i.e., 15 percent for those in remote areas, 25 percent for those in very remote areas, and 40 percent for those in extremely remote areas), interviews with the MOH confirmed that these subsidies are not implemented even though it is included in their contracts and mandated by law (LHSS 2021). Other incentives, such as housing and transportation allowances, are also not implemented consistently. During interviews, central-level MOH officials cited budget constraints and lack of official mapping that designates certain facilities according to their level of remoteness for proper implementation of these incentives.

DISCUSSION AND RECOMMENDATIONS

The MOH, in collaboration with members of Timor-Leste Health Network (Rede ba Saúde Timor-Leste, or REBAS-TL), should advocate for sufficient funding to implement the rural supplemental payments as required by law

Rural supplemental payment is a key retention benefit for health professionals and the communities they serve. Implementation of the rural incentives will be a necessary component in trying to reallocate health professionals from overstaffed to understaffed facilities and make rural posts more attractive. To implement this incentive effectively, the MOH will need to improve its HRIS to gain visibility of staffing by location and remoteness designation. Moreover, once the ministry engages with the National Institute of Statistics to complete the mapping and

designation of CHCs and health posts that are remote, very remote, and extremely remote, these data will also need to be captured in the HRIS and updated as and when needed.

Recommendation 1: The MOH needs to engage the National Institute of Statistics to support mapping of remote, very remote, and extremely remote locations to ensure uniform implementation of rural retention incentives within the guidelines.

Recommendation 2: The MOH and Government of Timor-Leste may not be able to afford sustained salary increases and incentive payments under the current budgetary circumstances and should consider flexible contracting mechanisms for targeted deployments to address rural allocation challenges in the short term while exploring long-term solutions for sustainable HRH financing mechanisms.

Recommendation 3: The MOH, in collaboration with local governments, REBAS-TL, Office of the President, and inter-ministerial working groups, should consider implementation of non-financial incentives to support health worker motivation such as:

- Municipality appreciation and public recognition days for high-performing facilities
- Presidential medals of honor for outstanding health professionals who support advancements to improve service delivery and progress in priority key performance indicators
- Allocating investments to improve working conditions such as facility infrastructure and availability of medical equipment and supplies
- Supportive supervision and mentorship for rural health professionals to enhance their clinical skills, boost their morale, and foster their professional growth

PERFORMANCE AND PRODUCTIVITY

Health labor performance and productivity refers to the ability of medical professionals to provide quality health care services in the execution of duties and responsibilities to produce outputs such as patients seen per doctor or number of procedures. This policy area analysis focused on identifying effective strategies to improve health worker performance through effective management, supportive supervision, training, and implementation of financial and non-financial incentives.

SITUATIONAL ANALYSIS

Hours of work and absenteeism

Absenteeism, the amount of scheduled work time lost due to unscheduled absence from work, is a key data point to determine productivity. In Timor-Leste, the process of documenting hours of work is a highly manual process, with health professionals using paper sheets to sign in when they report for duty. The regional hospitals and CHCs then submit their attendance registers to Municipality Health Services directors, who compile the information into an Excel document for submission to NDHR. The data shared by the MOH showed haphazard reporting whereby the number of health workers per facility did not stay consistent from month to month, the number of facilities that reported each month was different and never comprehensive, and attendance was not recorded against a master staff roster to measure absenteeism by health worker. For example, attendance data for a CHC in Dili shows a total of 59 health workers in January, 70 in February, 89 in March, 123 in April, 71 in May, 135 in June, and 116 in July.

Although unreliable and inconsistent, the data that are available show high levels of attendance for the facilities that have submitted reports. However, focus group discussions raised the challenges of staff absence due to deaths of relatives, sickness, and unexplained absence. This emerging theme from the discussions aligns with findings from other lower- and middle-income countries. Globally, about 7 percent of health care workers are reported to experience at least one absence each week. Unannounced visits made to health facilities with the intention of discovering what fraction of medical professionals were present at their assigned posts showed absence rates of 35 percent in Bangladesh, 37 percent in Uganda, and 40 percent in India and Peru (Kisakye et al. 2016).

Performance management process is generic and does measure key performance indicator results

The Special Career Regime law explicitly requires a distinct performance procedure and evaluation form for medical professionals, including doctors, nurses, midwives, public health technicians, and diagnostic and therapeutic staff. Further, the National Health Sector Strategic Plan II (NHSSP II) emphasizes the importance of implementing a results-oriented performance management approach based on competency standards. The performance assessment results can fall under four categories – insufficient, sufficient, good, and very good. An analysis of the sample data from the current performance appraisals conducted by regional hospitals, as shown in Figure 7, indicates that almost all health professionals received “very good” and “good” ratings, based on the qualitative data collected during this study. However, this is not always reflective of actual performance and not aligned with indicators relevant to assess performance. Although the health workers were using the generic performance evaluation forms for civil servants, as opposed to specific forms for health workers, the MOH, in collaboration with the USAID Health Systems Strengthening Activity, introduced a performance evaluation manual for The Special Career Regime in late 2022. The manual was developed with complementary tools, including forms with competency-based assessment areas with scores linked to key performance indicators. As of the writing of this report, the manual is awaiting approval from the Council of Ministers before it can be submitted to the Parliament for adoption as a Decree Law and implemented.

Figure 7: Regional Performance Evaluation Analysis 2021

Source: MOH (2023). This information was obtained through a direct data request.

However, the ministry still needs to develop competency standards to integrate key performance indicators and performance-based incentives with annual performance evaluations and training needs identification to improve health workers' skills, productivity, and motivation.

Supportive supervision practices to support productivity and performance

The MOH has established supportive supervision for improved performance and productivity of health professionals, with health program-specific checklists, such as maternal-child health, family planning, tuberculosis, and HIV. However, the ministry has not fully implemented this process and health workers seldom receive visits from supervisors at the municipal, regional, or national level.

Distribution of health professionals in the private sector and engaged in dual practice

The private health sector in Timor-Leste is still small but is gradually growing, with current private practices mostly located in Dili. The Civil Service Commission Decree Law No.5/2009, article 9, does not allow for dual practice[4] or for various remunerated civil service jobs unless approved by the oversight minister or secretary of state directly answerable to the Prime Minister. The approval for dual practice can be sought for a consultancy assignment or an advisor to different public bodies, or to act as a lecturer in his or her area of study, and to carry

4 For the purpose of this analysis, dual practice means where a medical professional under the Special Career Regime holds another role outside, in a completely separate private environment.

out scientific research. Despite this law, findings from the stakeholder interviews showed that some health professionals, particularly specialists and medical doctors, are currently engaged in dual practice. Some private clinics sampled during the stakeholder engagements have a policy not to hire doctors who work for the ministry, and some noted low salary levels in the public sector as the driving factor for doctors to engage in dual practice. Comparative analysis of the compensation and incentives for health professionals from sampled private health sector providers indicated that salaries for health professionals are benchmarked against the public sector salary scale under the Special Career Regime (apart from the specialists who were compensated US$20 per medical consultation). Nurses who work in the private sector do so full-time and are not engaged in dual practice. Information for other cadres was not available during the period of the study.

In-service training provided by INSP

INSP is the primary institution that manages, delivers, and monitors training for health professionals as the accredited, in-service training provider. In-service training is mainly donor-funded through partnerships with non-governmental organizations, WHO, USAID, the United Nations Population Fund, Australia's Department of Foreign Affairs and Trade, the Japan International Cooperation Agency, and other partners. Training may be delivered by INSP staff or subject matter experts from partner organizations. Between 2018 and 2022, INSP trained 7,585 health professionals, as shown in Table 8. The highest training registered was in 2021 and 2022, due to the COVID-19 pandemic, which required vaccine management training for health professionals. A total of 64 different courses, of varying duration, were delivered.

Table 8: Number of Health Professionals who Received In-Service Training

Year	Doctors	Nurses	Midwives	Allied and Administrative Professionals	Grand Total
2018	355	208	286	117	996
2019	65	29	104	22	220
2020	156	71	61	40	328
2021	644	693	481	477	2295
2022	849	1,024	688	1,215	3776
Total	**2069**	**2925**	**1620**	**1871**	**7,585**

Source: INSP Data (2023). This information was obtained through a direct request.

The ministry, with support from USAID Human Resources for Health in 2030 (HRH2030), developed a training management information system (TMIS) in 2021. The TMIS was designed to collect information related to training needs identification, training calendars, participant nominations, historical record of training attendance by health worker, certificate generation, pre- and post-training evaluation, and so forth. However, the TMIS is currently not functioning at full capacity, and municipal health directors in charge of participant nomination do not have access to it to review training attendance history. This lack of data access and visibility exacerbates the unequal access to training opportunities, especially for health professionals in remote areas. As a result, while some health professionals may attend four training sessions per year, others may not have the opportunity to attend one training course during that same year.

DISCUSSION AND RECOMMENDATIONS

Institute flexible contract opportunities for part-time work and develop a leave management policy to mitigate absenteeism

Health professionals who are posted in remote areas usually live apart from their families, and they must travel to spend time together. For those who have a family, the need to live in separate locations is not optional because of limited availability for spouse employment and education for their children. Research in Timor-Leste shows that health professionals with more than two years of work experience and those who are married are less likely to take an extremely remote position (Smitz et al. 2016). Consequently, NDHR has observed issues with absenteeism and health professionals reporting to their post late, leaving early, and not fulfilling their duties as expected.

Recommendation 1: NDHR, in close collaboration with municipal health directors and CHC chiefs, should explore the implementation of flexible contracting mechanisms to address workforce shortages and absenteeism in remote posts. Flexible contracting, including the ability to work on a part-time basis, may enable efficient allocation of health professionals to complement full-time staff. This option allows health professionals the flexibility to spend time with their families as well as serve remote areas.

Recommendation 2: Develop and implement a leave management policy and update the attendance tracking reporting system to enable the implementation of mechanisms to monitor and address absenteeism, as well as accurately track and report health care professionals' working hours.

Prioritize coordinated and systematic HRH data collection and reporting

Availability and credibility of data obtained from the MOH and other stakeholders was a significant limitation to this analysis. This shows poor data management practices and lack of data analytics for evidence-based decision-making. The ministry has in the past used an HRIS; however, it is no longer functional due to challenges with implementing a required systems upgrade. Information systems in the ministry are also fragmented with multiple offline and online data sources that are not interoperable.

Recommendation 3: Develop a data and information management policy. Assess system compatibility to procure and implement an HRIS including the training of users on data entry, data management, data analytics, and data protection.

Recommendation 4: Conduct an analysis to understand the enabling factors and barriers to the maintenance and use of the new or revamped HRIS and ensure user-centered design principles are applied in the design or upgrading process.

Align training offerings with health workforce needs

The MOH does not have training and capacity-building policy to guide in-service training offerings. INSP and the ministry do not conduct regular skills audits or a routine training needs assessment. Training that is delivered by INSP is usually inaccessible to health professionals in remote areas because it is conducted in urban centers. Municipal health directors, who are responsible for nominating staff in their purview to participate in training, usually select staff in CHCs and urban areas because of staffing shortages in remote posts, and the inability to temporarily fill a doctor, nurse, or midwife’s position for the duration of the training, when the incumbent will be away from their post.

Recommendation 5: Formulate and implement an in-service training and capacity-building policy that addresses the ongoing professional development needs to improve health workers' competence and productivity.

Recommendation 6: Conduct training needs assessments and develop a training plan to ensure targeted capacity-building initiatives are aligned to priorities and equitably accessible to all health workers, including delivering some training in locations that are accessible for health workers in remote locations.

Recommendation 7: Fully implement the TMIS to ensure training offered by INSP and development partners is recorded, participant information is tracked, and training courses are coordinated and streamlined to minimize duplication. As with the HRIS, conduct an analysis to understand the barriers to sustained implementation and use of the TMIS to institute necessary processes for maintenance and generate buy-in from the users of the system.

HEALTH LABOR FINANCING

The objective of analyzing health labor financing is to assess the current funding models, sources of funding, and financial sustainability of the health workforce in the public sector. The analysis focused on understanding the current landscape to recommend opportunities for more efficient use of resources and improved financing strategies to support sustainability.

SITUATIONAL ANALYSIS

Government of Timor-Leste's commitment to HRH financing

The government adheres to Budget and Financial Management Law no.13/2009, Article 3, when preparing and allocating budgets. This legislation stipulates that budgets must be distributed in accordance with programmatic objectives and the provision of services. Health financing plays a fundamental role within health system, serving as a key mechanism to advance progress toward universal health coverage by enhancing service coverage and providing financial protection. The Government of Timor-Leste has a non-contributory national health service system in which health services are publicly financed and provided. The government depends on external sources of funding to finance a third of the total health expenditure in the public sector. However, in the last few years, donor health spending has notably declined, and this trend is projected to continue in the medium term. This will place significant pressure on the total health budget, as the MOH will be forced to fund priority health projects previously funded by donors (World Bank 2022). Compared to other Association of Southeast Asian Nations (ASEAN) low- and middle-income countries (see Table 9), Timor-Leste has the second highest total health expenditure, at 7.6 percent of GDP (World Bank 2022).

Table 9: Current Health Expenditure (% of GDP) in ASEAN Region

Country	Total Health Expenditure (THE)		Current Health Expenditure (CHE)		Government Health Expenditure (GHE)		Out of Pocket Expenditure (OOP)		External (EXT)	
	% of GDP	Per Capita (US$)	% of GDP	Per Capita (US$)	% of GDP	Per Capita (US$)	% of GDP	Per Capita (US$)	% of GDP	Per Capita (US$)
Cambodia	6.6	99.3	6.0	90.6	25.8	23.3	57.5	52.1	20.5	18.6
China	5.8	576.4	5.4	501.1	56.4	282.7	35.8	179.1	0.0	0.0
Fiji	3.4	214.6	3.4	214.6	69.3	148.7	14.2	30.4	2.2	4.7
Indonesia	3.1	120.6	2.9	111.7	49.5	55.3	34.9	38.9	0.4	0.4
Kiribati	11.8	199.8	12.1	196.8	86.7	170.6	0.1	0.2	23.5	46.3
Lao PDR	2.6	67.3	2.2	57.1	48.9	27.9	48.5	27.7	12.5	7.1
Malaysia	3.9	444.2	3.8	427.2	51.2	218.7	35.1	150.1	0.0	0.1
Papua New Guinea	2.3	63.8	2.4	63.8	76.4	48.7	9.7	6.2	20.2	12.9
Philippines	4.4	142.3	4.4	136.5	33.4	45.6	53.9	73.5	0.8	1.0
Solomon Islands	4.6	98.8	4.5	95.0	94.1	89.3	2.1	2.0	18.8	17.9
Thailand	3.8	275.9	3.8	275.9	76.4	210.8	11.0	30.4	0.3	0.9
Timor-Leste	7.6	93.7	4.3	93.7	77.0	72.1	7.1	6.6	28.0	26.2
Tonga	5.6	242.8	5.1	236.9	80.1	189.7	10.2	24.2	22.7	53.9
Vanuatu	3.4	106.7	3.4	105.4	79.3	83.5	9.0	9.2	23.4	24.6
Vietnam	5.9	151.7	5.9	151.7	47.1	71.4	44.9	69.1	1.8	2.8
Lower Middle Income	**5.3**	**127.7**	**5.1**	**125.4**	**49.1**	**69.6**	**39.0**	**41.6**	**12.7**	**19.1**
East Asis & Pacific	**6.3**	**248.8**	**6.5**	**268.9**	**67.0**	**203.3**	**23.2**	**41.6**	**15.7**	**48.3**

Source: World Bank (2021)

Forecasting and costing of HRH strategies

Asamani (2022) defines fiscal space for the health workforce as the ability of governments to direct resources toward health workforce investments without unduly compromising the short- to medium-term ability of the government in other functions or substantially crowding out expenditure in other areas of the health sector or other sectors. The government's commitment to HRH financing has been supported by the development of the NHSSP II and a Health Financing Strategy. However, it is crucial to note that these strategic plans lack cost estimation and fail to provide clear indications of the budgetary implications necessary for guiding investments, expenditures, and resource allocation to the health workforce. To enable planned budget allocations and costing for the next NSPHRH, the ministry should prioritize conducting an HRH forecasting exercise using demand-based models and available tools such as WISN or other readily accessible resources. These tools will facilitate the assessment of HRH needs, inform priority areas, and provide valuable insights into resource requirements. By conducting comprehensive HRH forecasting and using appropriate demand-based models, the ministry can effectively align its investments, expenditures, and resource allocation strategies with the evolving needs of the health workforce.

Payroll and wage bill management

The government's commitment to HRH financing is evident in its efforts to manage the payroll and allocate a significant portion of the budget to health care personnel. Fair and timely remuneration is also a factor that motivates health care professionals and retains their services in the public sector. On average, based on data from 2019 through 2022, salary and wages account for 52 percent of the overall MOH expenditures, as indicated in Table 10.

Table 10: Salary and Wage Expenditures in Health as Percentage of Total Government Expenditures on Salaries and Wages

Description	Year			
	2019	2020	2021	2022
Total government expenditures on salary and wages, and technical assistance	**289,362,553**	**281,215,509**	**315,234,121**	**366,056,036**
Salary and wages	203,239,456	206,443,445	226,357,533	256,621,103
Professional services	86,123,097	74,772,064	88,876,588	109,434,933
Health expenditures on salary and wages and technical assistance	**34,275,109**	**33,486,991**	**36,908,450**	**40,699,827**
Salary and wages	29,989,166	29,861,464	31,883,625	34,371,247
Professional services*	4,285,943	3,625,527	5,024,825	6,328,579
Health expenditures on salary and wages and technical assistance as % of total gov't exp. on salary & wages and technical assistance	*12%*	*12%*	*12%*	*11%*
Total government expenditures in health	65,426,218	59,513,180	74,533,093	81,476,863
Expenditures on salary and wages and technical assistance as % of total health expenditures	*52%*	*56%*	*50%*	*50%*

Source: Ministry of Health, Health Financing Unit (n.d. accessed November 17, 2023). ** Contractors are included in this budget line item.*

The increase in salaries and wages was driven by: 1) the increase in the number of frontline health workers under the Special Career Regime and recruitment of new administrative and management staff due to health service decentralization; 2) the increase in overtime salary retroactive payment for administrative and management staff career progression, overtime and allowances, subsidies for health professionals' monthly re-allocation, and transport; and 3) significantly, the increase in subsidies for management positions (directors, chiefs, and heads of sections, including health professionals in managerial positions) introduced in 2016.

Further, as shown in Table 11, a majority of salaries and wages (56 percent) is allocated to frontline health workers at the primary health care level, followed by wages for hospitals and emergency services (32 percent). Over the last three years, the MOH has been applying program-based budgeting approach which includes revising and rationalizing the annual budget and expenditures to ensure alignment with the MOH's program and administrative priorities. From 2019 to 2020, there was a significant decrease in the institutional development and general administration budget line in part due to investments in improving PHC and hospital services.

Table 11: Salaries and Wages Disaggregated by Program Area

Program Area	2019	2020	2021	2022
Hospital and emergency services	8,271,475	11,478,206	8,450,391	11,038,456
Human resource training and development	281,459	287,613	299,264	340,869
Institutional development and general administration	4,042,515	1,685,561	1,017,819	1,059,372
Laboratory services	286,356	312,476	287,253	357,175
Pharmacy, medicine, and medical equipment and supplies	381,160	477,207	462,252	558,378
Primary health care administration	1,779,994	1,675,495	1,735,875	1,586,113
Primary health care frontline health workers	14,946,207	13,944,906	19,630,771	19,430,885
Grand Total	**29,989,166**	**29,861,464**	**31,883,625**	**34,371,247**

Source: Ministry of Finance of Timor-Leste, Government Resource Planning System (n.d. accessed November 17, 2023). The information was obtained through a direct data request.

Decreasing development partner funding

Vertical disease programs, such as malaria, HIV/AIDS, and tuberculosis, are funded by donors. These programs play a significant role in funding HRH-related activities, such as training to staff of Family Health and Integrated Community Health Care Services (SISCa), serving as the second largest source of HRH funds. However, over time, the amount of development assistance allocated to the health sector has been decreasing, with data from 2018 showing development partners contributed a total of $33 million for the health financing alone, which accounted for approximately 27 percent of current health spending (World Bank 2022). The partners include the Global Fund, GAVI, Australian Aid, USAID, and the European Union. However, this funding has not been disaggregated to the percentage amount that was allocated for specific HRH activities. In comparison to other lower- and middle-income countries in the region, such as Vanuatu, Tonga, the Solomon Islands, Cambodia, and Lao PDR, Timor-Leste relies heavily on external financing for its health sector (World Bank 2022). Similarly, the funding for the majority of in-service training conducted by INSP and the training of national specialists primarily relies on external sources.

DISCUSSION AND RECOMMENDATIONS

Incorporate sustainable HRH financing strategies and practices

The allocation of government funds to the health sector, especially for HRH investments, demonstrates a combination of fiscal capacity and commitment to health care in comparison to other sectors. In consideration of an increasing wage bill with the anticipated implementation of incentives, performance-based merit increases, and, as available, increases in the health workforce in the public sector, the MOH needs to explore opportunities to increase the fiscal space through innovative financing mechanisms. Improving the data recording, management, and analysis will also be crucial for the MOH to advocate for the necessary HRH budget in the coming years, including implementing demand-based workforce forecasting models to account for and allocate sufficient resources for HRH in the national budget.

Recommendation 1: As part of developing the next NSPHRH, forecast health workforce needs using a demand-based model with cost estimates that accommodate multiple scenarios considering the number of health workers required to provide various levels of access to health services, as well as the quality of services that can feasibly be provided.

CONCLUSION

Timor-Leste has made significant headway in rapidly producing health workers, thereby increasing universal health care access to all Timorese in line with its constitutional promise. Although the current number of health workers falls short of ESP and WHO recommendations, meeting the required targets from a production standpoint is within reach. However, given the public sector's dominance as the primary employer in the health labor market, there is a tension between what is feasible given the current fiscal space constraints and what is needed from a health equity perspective. As the MOH develops the next NSPHRH, it is paramount to take into consideration financing, including advocating for earmarked funds for HRH to meet the population's demands for health care.

Another key point for consideration is ensuring intersectoral coordination to manage production and establishing quality assurance mechanisms for pre-service education as well as service delivery. As outlined in this document, there is a need to institutionalize a competitive quota system for admission into health care professional studies to help align the supply of graduates with the demands of the public sector, establish national certification exams as one of the preconditions for licensing, and establish a health professional council to support quality initiatives, including developing competency standards.

Lastly, the need for building the organization and individual capacity of NDHR staff at the national level and their counterparts at the municipal level is crucial to ensure the effective implementation of recently developed, foundational human resources manuals and procedures that govern recruitment, staff allocation and transfers, and performance evaluations. As the primary employer of health workers in the country, the managerial capacity of human resources staff and the need for standard operating procedures to effectively manage the health workforce is a necessary step that is required to achieve HRH objectives of the MOH. Relatedly, the need for accurate and timely data and functional and interoperable information management systems is dire. The current state of data and information systems is unreliable and requires prompt attention from the MOH and partners. The findings and recommendations from this report provide helpful insight into the status of the health labor market in Timor-Leste. The report can be used as a key source of input in developing the next NSPHRH. The recommendations can also help inform annual program priorities for the MOH, including advocating for and channeling domestic and partner funds for priority HRH activities.

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